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CONDUCTED BY

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TO OUR CONSTITUENTS.

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THE fortieth Volume being closed, the two Editors offer themselves for re-election; and they trust that you will consider their care for your interests during the last twenty years entitles them to a continuance of the confidence you have hitherto reposed in them.

It is needless, after so protracted a service, for them to enter into minute details of their principles; but there are a few points on which it may at this time be considered desirable that they should be explicit.

They will vote for the proposed inquiry whether a Head Gardener should be established in every parish of Ireland at the parish expense; and they seek for your opinion whether a Gardener should be thus established.

They will oppose uncompromisingly the use of the Ballot in Gardeners' Clubs, because every one voting ought to act upon conviction; and only those who are afraid their conviction is erroneous, or who have promised yet wish to be unfaithful, would resort to secret voting.

If the question is brought before them, whether Gardeners should wear particularly coloured Aprons, they will give that question their earnest attention, and endeavour to divest themselves of any preconceived opinion that the Master's appreciation of a Gardener's services can be or cannot be influenced by the colour of his apron.

All other questions brought to the notice of the Editors will receive their candid and unprejudiced consideration; and where they have any doubt, or where they require fuller information, they will, as heretofore, consult and co-operate with the party with whom they have previously acted, and who deservedly have your confidence and approbation. That party, they rejoice to say, remains not only undiminished but strengthened; and thus sustained, they hope for many future years to appear again before you confident of re-election.

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Gas Oven, Shrewsbury's portable.....	275	Ustilaginei.....	246
Hardenhuish Church.....	170	Vandyke border.....	355
Heating by hot water without a boiler.....	481	Wall, hollow.....	268
Ladder, fruit gathering.....	26	Wall trees, training.....	421
Lever, a handy.....	78	Window garden.....	27

WEEKLY CALENDAR.

Day of Month	Day of Week.	JULY 2-8, 1868.	Average Temperature near London.			Rate in last 41 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year	
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.				
2	TH	Royal Botanic Society's Show closes.	73.3	50.9	62.1	16	50	af 3	17	af 8	1	af 6	19	12	12	3	47	184
3	F	Louth Horticultural Show.	74.1	50.1	62.1	18	51	3	16	8	53	6	58	2	13	3	58	185
4	S	Royal Horticultural Society, Promenade.	76.1	53.3	63.2	14	52	3	15	8	50	7	43	3	O	4	8	186
5	SUN	4 SUNDAY AFTER TRINITY.	77.3	50.6	63.9	17	53	3	14	8	32	8	32	4	16	4	19	187
6	M	Meeting of Entomological Society.	76.3	51.1	63.7	10	54	3	14	8	9	9	27	5	16	4	29	188
7	TU	Royal Horticultural Society, Fruit, Floral,	73.7	50.8	62.3	22	55	3	13	8	40	9	26	6	17	4	38	189
8	W	[and General Meeting.]	73.8	49.9	61.8	20	56	3	13	8	6	10	27	7	18	4	47	190

From observations taken near London during the last forty-one years, the average day temperature of the week is 74.9°; and its night temperature 50.5°. The greatest heat was 97°, on the 5th, 1852; and the lowest cold 35°, on the 7th, 1864. The greatest fall of rain was 0.78 inch.

PLANTS OF PREY.



UNFORTUNATELY a thread of evil runs through all nature, an inherent love of mischief for its own sake. In some it may be said to constitute the whole warp, while in others it only creeps-out here and there among a host of good and noble traits. It shows itself in a thousand forms, many of them harmless, and some criminal in the highest degree. The miss in her teens who tries to break hearts "just for the fun of the thing,"

or the urchin who, reaching his switch through your iron paling, tries to knock off the heads of your Rhododendrons for the same reason, both receive the impulse to do so from the same source as the incendiary or bushranger, who will fire a stackyard or shoot a traveller from no other motive than the gratification of this propensity.

Were it needful, many proofs might also be adduced to evidence that something near akin to this is also inherent in the lower animals; but that plants and flowers, which have for ages been emblems of beauty, purity, and grace, should show traces of this moral perversion is something very hard to believe, yet some species do exhibit traits of character which inevitably lead to this conclusion were there not many reasons for suspecting that there are functions connected with the economy of plants scarcely yet dreamt of in our philosophy.

As instances may be cited the well-known Pitcher-plants, or Nephenthes, found in the tropical swamps of India, China, and elsewhere. *N. distillatoria* may be taken as the representative plant of the order, although upwards of twenty species have been found and described by botanists. After divesting its history of all those fabulous stories which have gathered around it in bygone days, when travellers' tales were not what they now are, it still remains one of the most curious plants in existence. It is of a half-shrubby character, 4 or 5 feet in height, and the flower is a panicle of greenish yellow florets, about which there is nothing remarkable; but the oblong leaf has attached to its extremity by a gracefully-coiled tendril a pitcher-like vessel of chaste and elegant form, furnished with a close-fitting lid, which opens on a membranous hinge when fully developed. This pitcher contains a quantity of sweetish but wholesome water, and is generally found a little less than half-full. It was once thought that this liquid was an accumulation of dew stored up by the plant during the night, and kept to sustain its flagging energies under the next day's sun, or that it was intended for the use of weary, panting beasts and men, from which supposition comes the name Nephenthes, sorrow-soothing. It is now known, however, to be a secretion from the plant itself, though for what purpose has never been clearly explained; but from the fact of the plant never being found except where there is water, we may infer that it is not a provision of nature for quenching the thirst of animals: indeed, from the shape of the vessel, and from its never being full, very few of these, except man, could avail themselves of its contents even if they required to do so.

But perhaps some may say, Do the pitchers not serve for drinking fountains to moths and butterflies, and all the myriad forms of insect life with which those regions teem? and would it not be more in keeping with the order of things in these lands to see a gaily-painted humming bird sipping from a fairy cup growing on a tree, instead of drinking at a muddy pool? Perhaps it would. At any rate we have ample proofs that the contents of these vessels are highly appreciated by flies, moths, and other insects. Attracted by the slightly saccharine nature of the secretion and by the always-open lid, they descend, but it is only to taste the bitterness of death, for they never return. Their egress is prevented by reversed glands placed round the inside of this treacherous pitcher, which pointing downwards, are no obstruction so long as the victim is going in that direction, but when, from fright or satiety, an ascent is attempted—sad thought to bibulous men and moths—it is all but impossible.

The existence, conformation, and arrangement of these glands put a verdict of accidental death altogether out of the question. It has been said that the dead insect when decayed or during decomposition ministers to the health of the plant; but this is also highly improbable, for some of those in this country which grow most luxuriantly in our stoves produce no pitchers at all, and even those which do have comparatively few opportunities of gratifying their insectivorous appetite, yet live and thrive like other honest plants; so that the case seems to stand thus: These dead flies either are or are not necessary or beneficial to the plant; if it be proved that they are not, then most assuredly the fly is not the benefited object, and the only legitimate inference we can draw is that the death of the insect is all that is sought.

Another plant, a bright tiny thing, with a gladsome name, against which a similar charge might be preferred, is to be found growing plentifully on some of our own bogs and marshes; but as the evidence against it is not so conclusive I will not press for a conviction. Minute flies are said to have been often found within its suspicious-looking little tentacles, but they may have got there by accident, and not being able to release themselves have been the means of bringing down the breath of slander upon the pretty little Sundew. In the case of another member of the same family, however, these reasons do not obtain, consequently it cannot be so gently dealt with. The *Dionæa muscipula* is known in this country only as a very tender greenhouse or cool stove plant, difficult to grow, yet well repaying all the care and attention it may receive by its curious structure and habits. The leaf consists of, or rather the true leaf is terminated by, a toothed apparatus composed of two lobes hinged together in much the same fashion as the shells of the mussel or oyster, and in general appearance resembling nothing so much as a common iron rat-trap. The inner surfaces of these lobes are covered with a gummy substance, and on each are placed three or four bristles in such positions that any fly entering must touch them, which springs the trap; for these hairs being highly irritable, they in some way communicate the touch to the nervous system, if such there

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GARDEN.

le, of the plant, and the two lobes instantly close up, the bristly teeth interlock like clasped hands, and the unlucky creature is crushed to death. That they have not the power, however, of distinguishing the touch of an insect from that of anything else is evidenced by the lobes grasping with equal avidity the head of a pin when inserted between them; but the same want of judgment may be seen in the case of the Sea Anemone, which, though possessed of animal life, will unfold within its tentacles a small stone with as much eagerness as it does a piece of the daintiest food. When the leaves of the *Dionæa* begin to grow old, they by degrees lose their irritability, and it is curious, almost painful, to watch one that is fast passing into the "sere and yellow leaf," how it will feebly clutch at a fly that has been put within its reach when the power to kill is altogether gone.

We can understand something about the various means of self-defence with which many plants are provided; why the Thistle presents at every point a threatening spear, and why the Rose stands armed to the teeth with hooked spines ready to lacerate the incautions hand which may try to pluck one of her peerless flowers; but when, instead of these, we find plants fitted up with engines of destruction, seemingly for no other end than to destroy, we are naturally not a little surprised. The two described, together with a few more which present somewhat similar characteristics, have often been commented upon by botanists, without any very definite conclusion having been arrived at concerning their spider-like propensities.

Yet why should they not be accepted for what they really seem to be?—instruments provided by Nature for helping to preserve the balance of insect life. Our world is flooded with vitality in innumerable forms, and "the reaper, whose name is Death," uses weapons of different kinds to cut the strings of life in every form which it assumes; and having fluttered through a life-time—the length of a summer's day—is it not better for the little fly or moth to expire in a cup of nectar, or in the arms of a tiny flower, than to die by disease or starvation? No doubt the number thus destroyed must be very small, compared with that of those which die from other causes; but that variety is the watchword of Nature is a truth illustrated as forcibly by the varied means of death as by the myriad forms and modes of existence.—*AYRSHIRE GARDENER.*

ROSES SUITABLE FOR VARIOUS STOCKS.

"CYRIL" wishes to know the names of the best Roses for budding upon the "Dog Rose, some for Manetti stocks, also for Céline stocks."

Before I attempt to answer this, I must make a few observations. The Dog Rose is an excellent stock for unctuous clays. It will do respectably in light, rich land, provided the owner will go to the expense of mulching and watering copiously in summer. It does not like its roots burned. For bad or moderate-growing varieties it is the only suitable stock. For those of strong growth, with the rarest exceptions, Manetti and Céline stocks are adapted. Moreover, the Dog Rose likes strong-growing kinds, and is kept healthy by the strong growth of the Rose. Weak growers will in due time destroy the Briar.

1. Roses that succeed extremely well on a Briar, even in light lands, on their own roots, and on Manetti stocks:—*Gloire de Dijon*, *Céline Forestier*, and *Triomphe de Rennes*. These are yellow Roses of the highest excellence.

2. Roses that I know bloom and grow splendidly on Manetti:—*Brilliant Crimson* or its shades.—*Charles Lefebvre*, *Senateur Vaisse*, *Lord Macaulay*, *Maurice Bernardin*, *Alfred Colomb*, *Duchesse de Caylus*, *Madame Victor Verdier*, *Lady Suffield*, *Baronne Adolphe de Rothschild*, *Madame Bontin*, *Jules Margottin*, *Globosa*, and *Maréchal Vaillant*. *Dark Maroons*.—*Prince Camille de Rohan*, *Souvenir de Dr. Jamain*, and *Empereur de Maroc*. *Dark Crimson*s.—*Duc de Cazes*, *Pierre Notting*, *Vicomte Vigier*, and *Souvenir de Comte Cavour*, superb, but not quite full. *Blush*.—*Caroline de Sansal*, and *Marguerite de St. Amand*. *Rose Colour* or its shades.—*Baronne Prevost*, *Comte de Nanteuil*, *W. Griffiths*, *Comtesse de Chabrivant*, *Charles Ronillard*, new and fine, and *Duchesse de Morny*.

The above are here in abundance; they are the *élite* of the Rose kingdom. There are others very good, but I could not recommend them to any but experienced persons. Some are only fit for first-class soils. Some are most splendid under certain conditions—for instance, *Madame Julie Daran* and *Leopold Premier*. The first loses colour under strong sun in the early part of the year, and both open well in a shady place,

where they get heat without the direct rays of the sun. How beautifully are they blooming here under these circumstances now! If "CYRIL" bud these Roses, or any of them, he will be pleased with them. I believe I have here 450 plants of *Charles Lefebvre*, *Senateur Vaisse*, *Prince Camille de Rohan*, *Jules Margottin*, and *W. Griffiths*. One cannot have too many of them. They never go wrong at any time, and charm everybody.—*W. F. RADCLIFFE, Okeford Fitzpaine.*

A FEW HOURS' OUTING.

UNLESS in particular cases, all visits to gardens at this season should be confined to as short a time as possible, that the time of the gardener visited may not be encroached upon. By-and-by, when all is straight sailing, an extra hour will not be of the same consequence as now. The four places I called at have been already described in these pages, and, besides shaking hands with old and new friends, my principal object was to see how the dry weather had affected their gardens. I will not enter into particulars, but chiefly confine myself to that one point of observation.

At STOCKWOOD PARK, standing on elevated ground, there used to be a great want of water in dry summers. Sometime ago a huge brick and cement tank, or rather reservoir, was formed in the park, and part of the park drained into it, and that has never been dry since. Water from this reservoir can be conveyed to other parts of the park by pipes for the service of cattle. I presume this cannot be done in the case of the garden, and I suppose could not be done unless the water was first pumped into an elevated cistern. But for the labour of carting, however, the garden is now well supplied. Except in some cases, in order to apply it to the flower beds in the flower garden, the water is not taken from the cart and used, for in that case there is apt to be either a waste of horse power in keeping the horse standing, or a waste of men's time in coming and going to another job, so as to empty the cart as soon as possible, and when this must be done considerable care must be taken to have other work at hand that the time spent in moving from one piece of work to the other may be as little as possible. In most of the watering at the garden this is avoided at Stockwood by having in the water barrel a large tap which soon runs the water into tanks, and from thence one man may pump and take it away in a small barrel as wanted. This plan also permits of the watering chiefly being done towards the evening, when it has greater effect than when done during the day, when horse power can chiefly be obtained.

Here, considering the season, the flower garden looked remarkably well, and I could not help wondering where the young gardener could manage to keep such multitudes of strong plants. Amongst the many of Mrs. Pollock Pelargonium I was struck with fine beds of a bronze-leaved kind called *Topé*. Some of your readers may recollect of a small enclosed flower garden with glass houses on two sides. Here the beds have been greatly enlarged, and well planted, but for want of being able to look down on them, &c., they will seem too much like one bed in Mr. Robson's style, without showing the same unity in arrangement. As to looking well, there can be no doubt, only I think there would have been a more distinctive beauty if the beds had occupied only some fourth of their present ground.

The weather, thanks to the watering, had not affected either the Strawberries or the other crops; the houses were very neat, the fruit houses well supplied, and in excellent order; and here I noticed a simple thing worthy of record. In a Peach house the chimney passed through the back wall. Near the chimney fruit was gathered some weeks earlier than from the same tree further from the chimney, but the extra heat almost always induced the presence of the red spider. To counteract this, the wall was faced with wood as a nonconductor, and, in addition, a semicircular wire trellis was brought out a foot or so from the chimney, and thus, though the wood trained over it ripened earlier as before, it was not subject, as previously, to the attacks of red spider.

At LUTON HOO I did not see much of how the weather had treated the flower garden, as this is made less a point than formerly, and more effort is concentrated on the kitchen garden, fruit in-doors and out of doors, and house plants of all kinds, hardy flowers out of doors, and fine shrubs and trees. The park in some places seemed much parched, but there was no sign of such being the case in the garden. The whole of the houses, rich with rare plants, and attractive from the fine show

of Grapes, chiefly the Muscats, Peaches, Melons, &c., had a peculiar charm about them in the humid atmosphere that met you so pleasantly after being nearly parched out of doors. This was more particularly the case in the tropical orchard house, where a large tank in the centre was kept supplied with moving water, heated with pipes when necessary, and almost all the houses were shaded with fine tiffany, &c., which contributed to the pleasant sensation, the same rolls of tiffany coming in for covering the Peach and Apricot walls in the spring. Pines, a new feature here, were also doing well in a narrow house, not the best fitted for them.

But whilst giving all due honour to the energy, and the industry, and the intelligence of the gardener, he would own that one cause of his success was the good supply of excellent water. Naturally he was no better situated than many of us, but a water-ram at a fall in the river Lea sent up a good supply of water for house, garden, and farm. If one ram should be insufficient, a second would only involve a fresh set of pipes for a mile or so. What a pleasure it is to be able to dash water along paths, on stages, over foliage, &c., and not be troubled with the thought that if you act so lavishly to-day, you may have plants starving for what you cannot give them to-morrow.

THE HYDE stands equally high, not quite so far from the Lea, but with no cascade or waterfall so near. Its gem of a little flower garden promises to be as fine as in Mr. Donaldson's time, and would only be more pleasing if the huge raised terrace walk in the middle of it were removed.

The want of plenty of water has always been a drawback; and does not the gardener almost dread to use it in this weather, and plumb his tank every day, fearful that he will quite run out and be dependant on carting up a steep hill from the river? And yet much has been done to meet the want; a huge pond, puddled and concreted, near the farm has been made, and it holds the water drained into it well, and held a great body of water in its centre on our visit. A deep large tank about 20 feet deep and 15 feet or more in diameter had been sunk at the back of the garden, and as the ground above it shelves all round like the sides of a basin, the bricking and cementing that ground would nearly double its size. It was considered wasteful to have such a large tank bricked and cemented at first, but on our visit there was not more than 2 feet at the narrowed bottom, and well might the gardener look on every drop used as valuable as the finest vintage. This is supplied by drainage from the garden and park, and the overflow of house cisterns, &c., but large as the tank is, and large as the widening shelving basin around it, it soon gets full and water runs away by the waste-pipe every winter. How valuable that wasted water would be now. I had not seen the pretty old place for some years; its kitchen garden, with its trellises for common fruit, was and is an example of how much can be obtained from little room. I have lived to see the realisation of many a musing dream. Some day we may seek for the much-praised old terrace walk and find no trace of it left. The dream of a comfortable cottage home, close to the garden, for the gardener and his helpmate has already been realised, and most likely when I return there some day I shall find a piece of ground outside the walls appropriated to garden purposes and means secured for even more water than now. Neither in plant houses, fruit houses, nor even out of doors among flowers and excellent vegetables had the drought told very injuriously, but that was a fortnight before this will be read.

KIMPTON HOO.—Spirits of envy and covetousness, stand aloof! I will nought with you. Surely we may admire the blessings that others have without detracting from the value of our own. The mansion and flower garden, like our own and the places mentioned, stand on the highest ground in the neighbourhood. Turning from the dusty road, and through a wood in which Rhododendrons and some of the best Pinuses are growing luxuriantly, we come on the little flower garden in front of the mansion, and every sense of the oppressive heat and the stifling dust leaves you as by enchantment. You might even fancy you were enjoying all the luxuries of a shower bath, as a man, after watering the roots, was sending a shower of spray water over the flower beds. The water comes on turning a tap from a cistern on the top of the house, supplied by a water ram from the lake. Just think of taking hold of gutta percha tubing, and giving what your plants require, and how they require it, with so little wear and tear even to the physical machine. These flower beds showed the perfection of keeping.

There were three things here that were gratifying to me.

When I described the place the flower garden was on three squares of lawn. Now mark! It is concentrated in one square. I do not say but that all three squares might not have been equally good, but the same hands could not have done for the three what they would have done for the one. Secondly, an elegant conservatory has been built, which will be a great acquisition to the house, and more especially as it is intended to keep the bulk of the floor for promenading purposes, the back wall being set out with Derbyshire ragstone for growing Ferns in the interstices. Thirdly, the ugly sunk ditch and wall close to the principal walk have been removed and the lawn extended, which is a great improvement, as anything would have been which would have prevented the ditch, the ha-ha being such a prominent object.

The kitchen garden is near the river, but as the water here had to be carried some crops were showing the effects of the drought; but what surprised me was a quarter of Peas just swelling and showing no distress, though *never* watered. Dr. Hogg and Premier Strawberries were in fine condition; and the late Eleanor was looking well, even though water had to be carried. It was delightful to see the water at the bottom of the garden and over the outside part of it pretty well all round it. In such a position the subsoil could scarcely ever be very dry. It was not on the low part, however, that the fine Peas stood; no mode of preparing the ground would have enabled me to have had them equally good in such a season without watering.

It is pleasant to see improvements. I called on Mr. Cox when he had only a small vinery and a few frames. Now there is the flower garden and the conservatory at the mansion, almost a new gardener's house, numerous suitable sheds, fruit rooms, &c., and a good supply of glass in the shape of span-roofed houses and brick pits and houses; and, as in most other places, most additions show that some other little addition would be desirable.—R. F.

VIOLA CORNUTA AND ITS FAILURE IN DRY SEASONS.

My experience of *Viola cornuta* is exactly opposite to that of Mr. J. Robson. Last year our summer was wet, and my *Viola* hardly flowered at all. This year (the plant has been out all winter) it has been a mass of bloom for the last six weeks, and looks like continuing for weeks. I am satisfied that, if possible, it does better if not moved after flowering.—H. A., *Prestwich, Manchester*.

EARTH HEAT.

MUCH was at one time written about the supposed discovery of a natural means for the preservation of plants from frost, and for enabling us to attain greater perfection in the production of early and late crops. Through its agency many plants treated as half-hardy, or requiring protection by fire heat from frost were to be kept unharmed over winter, and in summer we were to grow many plants and fruits which are only obtained in perfection from heated and costly glass structures. The so-called discovery, however, was recognised in this country as a means well known, and extensively utilised for all the purposes it was to aid in, and about which some of our oldest and best horticulturists were able, retrospectively, to say far more than the discoverer. The new name of the discovery I will not employ, but shall content myself with calling the means earth heat, though this seems to me neither more nor less than the absorption and retention by the earth of the sun's rays. It is absurd to consider the earth, so far as vegetation is concerned, in the light of a heat-supplying medium, for the earth so far as it conduces to the growth of plants, is entirely dependant on the sun for its warmth. The sun being the one great centre of light and heat to the earth, it is evident the earth's internal heat has a very insignificant, if any, influence on the temperature of the earth's surface. It is very interesting, and even desirable, to know that the further we descend into the earth the higher the temperature is. Facts, however, in connection with the earth's upper or surfacial temperature are of far greater consequence to the gardener than the knowledge of the earth's internal formation and heat. We know that coal and other mines have a greater mean temperature than the surface of the earth, and that the temperature increases with the depth. Earth heat proper, then, is distinct from the heat derived by the earth from the sun: the former has no essential

effect on the heat at the surface, and it is entirely the latter upon which the horticulturist is dependant.

Taking the sun as the one great and only source of heat we necessarily must arrive at the conclusion, that to make the sun's heat available in cold and dull periods, it is essential that the heat produced in bright weather be retained, and for its retention it must be absorbed. In general terms, the earth is the only absorber of the sun's rays, but as the sun's rays are direct, and the earth does not present its surface to them vertically in our latitudes, a large percentage of them is not absorbed, but reflected; but walls surrounding a garden would give a slight increase of temperature, for there will be a greater absorbing, and, consequently, radiating surface. An enclosed space, whatever the material forming the enclosure, will necessarily have a higher temperature than an open space, because the heat absorbed is retained longer through the check given to the air passing over the enclosed space; there is shelter, a greater absorbing, and, of course, a greater radiating surface, and a sensible increase of temperature is afforded plants in the area enclosed.

It will have been noticed that trees against a wall invariably push their shoots directly towards the point whence they have the greatest light, or opposite the direct rays of the sun; this is commonly termed the shadow of the wall: or rather the growth of the shoots is induced by the shadow being cast in that particular direction. I simply name this, so that solar light and heat may not be confounded; for solar light, however much it may contribute to a plant's growth, is not to be treated as heat, though it is simultaneously transmitted. Solar light is the governing power of a plant's growth; the plant, whatever it is, will push its growth in the direction of the light, but the light being equally diffused the plant will make equal growths in all directions, subject, of course, to the formation of the plant and its natural habit. Solar heat does not, on the contrary, appear to have any great influence on a plant's direction of growth. It is the great natural stimulant to activity of growth, and upon it depends the perfection of vegetable life. Plants live and grow for a time without light, but never thrive, and it is in that point of view that we must look at earth heat resulting from sun heat being absorbed and radiated—absorbed when the surrounding atmosphere is hotter, and radiated when the atmosphere is colder than the earth's surface.

The surface of the earth is the culminating point, so to speak, of the extremes of heat and cold. The temperature is greater there than higher in the air upon an average of annual means, for though a thermometer will read 3° or more lower at the ground than at 4 feet from the ground by night, it will read several degrees higher by day than one at 4 feet. From a careful register of the readings of thermometers at different heights, I find that the temperature progressively decreases with the height, being led to the experiment from noticing some time ago a statement in a contemporary, that at 10 or 12 feet from the ground frosts, and especially spring frosts, are never so severe as at or near the surface, consequently the blossoms of fruit trees would be less liable to destruction if the trees were cultivated as standards than as dwarfs. Assuming this to be the case (and it is incontestible), there is still a dead loss to the tree of several degrees of temperature by day, and though sensibly warmer at night, in cases of sudden frosts, the trees at that height experience a greater loss on account of their not being immediately within the reach of the heat constantly radiated from the earth. The frosts most destructive to fruit-tree blossoms are those which are of long continuance, and in dull periods the blossoms most distant from the earth are those chiefly destroyed, whilst those nearer the earth, from the constant radiation from its surface, enjoy a higher temperature, and are very often preserved. Hence Pear and other fruit trees, as dwarfs, almost invariably produce fruit, whilst the same kinds cultivated as standards do not yield a crop. Indeed, many kinds of Pears that do not succeed as standards, thrive and produce fruit admirably as dwarfs on the Quince, and even on the Pear stock. It is, then, useless grasping at the air for heat; if we desire it, we must look to the earth.

The temperature of the atmosphere decreases proportionately upwards; that of the earth increases downwards. The mean temperature of the earth at 1 foot from the surface is equal to that of the atmosphere at 4 feet. It never in this country, at 1 foot from the surface, is reduced to the freezing point by the cold of winter, at least not in my experience, and if we descend the temperature is higher, so that nothing further is required than to make an excavation deep enough, and we have at length a temperature sufficiently high for the preservation

of plants from frost. We must bear in mind that in penetrating the earth we have not only a source of heat but of damp, and that the heat thus secured, or I ought in this case to say attained, will be speedily lost unless it be prevented from radiating. We must also bear in mind that plants must have light, particularly when growing, and this is one of the greatest obstacles to the employment of earth heat generally; but it may be more employed as an agent in the preservation of plants than it has hitherto been, for we have in the earth sufficient heat to enable us to winter most, if not all, of the plants known or cultivated as half-hardy, and by that heat we may cultivate successfully the Vine and other fruit trees. With half-hardy plants damp must be avoided, and sufficient protecting material provided to prevent the radiation of the earth's heat and to keep out cold; whilst with fruit trees the points are to provide a medium for absorbing the sun's rays, and to give the plant the full benefit of the heat absorbed and being always radiated.

I hope in subsequent papers to show some of the various uses to which earth heat has been applied, and how mishaps may to some extent be obviated.—G. ABBEY.

(To be continued.)

JUDGING AT THE ROYAL HORTICULTURAL SHOW.

How can "P." call zoneless *Pelargoniums* true Variegated Zonals? The gentlemen named in his letter had an undoubted right to exhibit; but that is no reason why they should obtain a prize if they did not exhibit in accordance with the schedule. If the schedule of any society is not to be the guide for both exhibitors and judges, of what use is it? Undoubtedly there is plenty of room for improvement in the arrangement of the schedules of our horticultural societies; but when the schedule remains unaltered up to the day of the exhibition, it is the duty of both exhibitors and judges to abide by it.—J. W.

ROYAL HORTICULTURAL SOCIETY.

ROSE SHOW, June 30th.—This Exhibition, with which is incorporated the National Rose Show, was a success, both as regards the number of the competitors and the quality of the flowers which they produced at a time when, owing to the great heat and drought which have so long prevailed, the beauty of a Rose is gone in an hour. The majority of the flowers had suffered from these causes, and very many of them were quite different in colour from that which they usually present; still there were trusses, for instance those shown by Messrs. Paul & Son, Messrs. Perkins, of Coventry, Mr. Cant, and the Rev. E. Pochin, such as are rarely surpassed; but even these had greatly deteriorated in beauty before the close of the day, notwithstanding the awning employed to keep off the sun. As regards the attendance of visitors, the Show was also very successful, for the gardens, which are just now in high condition and extremely gay with bedding plants, were thronged with a large and fashionable company; and in the afternoon, besides other eminent personages, their Royal Highnesses the Prince and Princess Christian, the Prince and Princess Louis of Hesse, the Princess Louise, and other members of the Royal Family were present.

Class 1, was for seventy-two single trusses, and for nurserymen only. In this Mr. Cant, of Colchester, took the first prize with, among others, excellent examples of Fisher Holmes, Mrs. Rivers, Comtesse de Chabillant, Horace Vernet, Madame C. Crapelet, Mathurin Regnier, Marie Baumann, very fine; Anna de Diesbach, President, Vicomtesse de Cazès, Senateur Vaisse, Queen Victoria, Maréchal Vaillant, Jean Lambert, Lord Macaulay, fine colour; Paul Verdier, La Boule d'Or, Olivier Delhomme, Rubens, Beauty of Waltham, Dr. Andry, Madame Derreux Douville, Exposition de Brie, Mlle. Bonnaire, Charles Lefebvre, fine, but touched with the sun; Maréchal Niel, very fine; Alfred Colomb, Madame Bravy, Leopold Premier, Mlle. Marie Rady, Souvenir d'Elise, Niphetos, very fine; Duchesse de Caylus, Xavier Ollho, Madame Victor Verdier, Cloth of Gold, Marguerite de St. Amand, and Souvenir d'un Ami.

Messrs. Paul & Son were second, pressing very closely for the first place, and had Exposition de Brie, very fine; Mlle. Marie Rady, Madame Vidot, Madame Furtado, Camille Bernardin, Prince de Portia, Felix Genero, Xavier Ollho, Mlle. Marguerite Dombrain, Alfred Colomb, Horace Vernet, Madame Victor Verdier, Pierre Notting, Black Prince, Maurice Bernardin, Monsieur Furtado, and Leopold Premier, the last very fine. Mr. Fraser, of Lea Bridge Road, who was third, had, among others, Madame Belenden Ker, a pretty white; Gloire de Vitry, small but good; André Leroy, fine velvety crimson purple, but rather open; Jean Lambert, Dr. Andry, Senateur Vaisse, and Duc de Rohan. Messrs. Francis, of Hertford, were fourth, and Mr. Clarke, Streatham Place, Brixton, also exhibited in this class.

In Class 2, for three trusses of forty-eight varieties, Messrs. Paul and Son were first with trusses which for effect and general excellence constituted the finest exhibition seen on this occasion—indeed, there was hardly a truss which was not fine. The most notable were Duke of Wellington, Comte de Nanteuil, Maréchal Niel, splendide, Alfred Colomb, Jean Lambert, Souvenir d'un Ami, Maurice Bernardin, Comtesse de Chabrilant, Victor Verdier, Joséphine Beauharnais, Dr. Andry, Madame Caillat, Monsieur Bonecne, fine velvety crimson, John Hopper, Madame Margottin, Xavier Olibo, very fine, Lælia, Madame Moreau, Mdlle. Bonnaire, Duke of Edinburgh, rich scarlet, Prince de Portia, Duchesse de Caylus, Sénateur Vaisse, Leopold I., Queen Victoria, Baron Gonella, Gloire de Santenay, Antoine Ducher, Pierre Notting, Marguerite de St. Amand, Mdlle. Marie Rady, Triomphe de Rennes, Clement Maret, and Marie Baumann. Mr. Cant, to whom the second prize was awarded, had also a remarkably fine stand, in which were La Brillante, La Boule d'Or, Exposition de Brie, Madame Victor Verdier, Camille Bernardin, Mrs. Rivers, Devonicensis, Maurice Bernardin, Lord Clyde, Mdlle. Bonnaire, Jean Lambert, Madame Verschaffelt, President, Marie Baumann, Xavier Olibo, splendide, Maréchal Niel, beautiful in colour, Niphotos, Duchesse de Caylus, Pierre Notting, John Hopper, Alfred Colomb, Thorin, bright rose, Rubens, Fisher Holmes, Souvenir d'Elise, and Monsieur Bonecne. Messrs. Francis, who were third, had very good trusses of Xavier Olibo, Madame Boutin, Alba Mutabilis, Triomphe de Rennes, Mdlle. Bonnaire, Charles Lefebvre, Pierre Notting, Louise de Savoie, Madame Victor Verdier, Dr. Andry, Duchesse de Caylus, and some others. The fourth prize went to Mr. William Paul, who had splendid trusses, but owing to the hot weather mostly overblown. Still they were very effective, especially Marie Baumann, Lady Suffolk, Black Prince, a splendid Rose, Abel Grand, Maréchal Vaillant with a brilliant glow of scarlet, Lord Macaulay, Louis XIV., François Louvat, and Madame Victor Verdier.

Class 3 was for twenty-four Hybrid Perpetuals, three trusses of each. In this the first prize went to Messrs. Perkins, of Coventry, who furnished fine trusses in beautiful condition, the kinds being *Sonr des Anges*, Lord Clyde, Prince de Portia, Lælia, Beauty of Waltham, Camille Bernardin, Madame Victor Verdier, Mdlle. Marguerite Dombrain, John Hopper, Duc de Rohan, Pierre Notting, Duchesse de Caylus, Baron Gonella, Mdlle. Marie Rady, Mdlle. Bonnaire, Jean Lambert, Sénateur Vaisse, Marguerite de St. Amand, Alfred Colomb, Madame Moreau, Charles Lefebvre, Victor Verdier, Mathurin Regnier, and Madame Charles Wood. Mr. Cant, who was second, and Messrs. Lee, who were third, had fine flowers of several of the above and other varieties. A fourth prize was awarded to Mr. Clarke.

Class 4 was for single trusses of twenty-four kinds. Here Mr. Cant was first with a stand in which were Charles Lefebvre, Rubens, Mdlle. Annie Wood, Madame Rival, Beauty of Waltham, Anna de Diesbach, Maurice Bernardin, Niphotos, Jean Bart, Souvenir d'Elise, Madame Charles Wood, John Hopper, Horace Vernet, Maréchal Niel, splendide, La Brillante, Mdlle. Marguerite Dombrain, Xavier Olibo, Marie Baumann, Mathurin Regnier, Madame Palliat, Madame C. Crapelet, Maréchal Vaillant, Gloire de Vitry, and Dr. Andry. To Messrs. Perkins, of Coventry, the second prize was awarded for a stand in which were Dr. Spitzer, a showy bright red Rose, Rushton Radclyffe, fine, Mrs. John Berners, Antoine Ducher, Alfred Colomb, Pierre Notting, and good blooms of several other kinds. Mr. Clarke, of Brixton, took the third prize.

The best stands in the amateurs' class for forty-eight single trusses came from the Rev. S. Reynolds Hole, Cauntton Manor, Newark, and contained John Hopper, Souvenir d'un Ami, Madame Charles Wood, Mathurin Regnier, the best bloom of the kind in the Show, Fisher Holmes, splendide, Madame Moreau, Sénateur Vaisse, Juno, Maréchal Vaillant, Triomphe de Rennes, Gloire de Vitry, Gloire de Santenay, Leopold Premier, very fine, Lord Raglan, Alfred Colomb, Comte de Nanteuil, Prince Camille de Rohan, Antoine Ducher, Maréchal Niel, Madame Victor Verdier, a splendid Duc de Rohan, Charles Lefebvre, Pierre Notting, Lord Clyde, and Louise Magnus. The second-prize stand of Mr. Hedge contained excellent examples of some of the above, Madame Willermoz, Lamarque, Cornelia Koch, Marie Baumann, &c. Mr. Chard, gardener to Sir F. H. Bathurst, Bart., Salisbury, was third; and Mr. Porter, gardener to P. Hughes, Esq., Walthamstow, fourth.

In Class 6, for thirty-six single trusses, Mr. Keen, gardener to J. G. Sheppard, Esq., Campsey Ash, had a magnificent bloom of Duc de Rohan, by far the largest in the Show. Alfred Colomb, Queen Victoria, John Hopper, Madame Victor Verdier, Pierre Notting, Niphotos, and several others were also good. The Rev. S. R. Hole was second with fine examples of *Sophie de Coquerelle*, Alfred Colomb, and other kinds already named as being exhibited in his stand of forty-eight. Mr. Ingle was third; Mr. Hedge, fourth.

In Class 7, for twenty-four single trusses, the Rev. E. Pochin, Sibely Vicarage, Longborough, gained a well-merited first prize with a stand in which all the trusses were in fine condition. Maurice Bernardin, Alfred Colomb, and Vicomte Vigier, among crimson kinds were remarkably good, so was Charles Lefebvre, though showing a little eye. Xavier Olibo was splendide, and of other kinds we noted Pierre Notting, François Lacharme, Felix Genero, François Lonvat, Devonicensis, Louise de Savoie, Niphotos, Madame Willermoz, Général Pelissier, very good, but not often so; Baron Gonella, Duc de Rohan, Gloire de Vitry, Maréchal Niel, Madame Boutin, Anna de Diesbach, Louise

Peyronny, and Madame Boll. Mr. Postans, of Brentwood, was second, and had excellent trusses; Mr. Skinner, gardener to Capt. Christie, Westerham Hill, and Mr. Stoddart, Wivenhoe Park, being third and fourth.

For twelve trusses the Rev. E. Pochin was again first, exhibiting beautiful examples of Leopold Premier, Louise Peyronny, Charles Lefebvre, Gloire de Vitry, Duc de Rohan, Maréchal Niel, Pierre Notting, Madame Derreux Douville, M. Bonecne, Madame C. Crapelet, Alfred Colomb, and Baron Gonella. Mr. Soder, gardener to O. Hanbury, Esq., Brentwood, took the second prize, the third was withheld, and the fourth went to Mr. Quinell.

The next Class, 9, was for eighteen new Roses of 1865 or 1866. After a continuance of such hot dry weather as we have lately had, very little can with safety be said about them and their colours. Still, as a rule, it may be concluded that varieties which are good under such circumstances will also be good in more favourable seasons. Messrs. Perkins, of Coventry, took the first prize for a stand in which Black Prince, shaded dark crimson, large and full, was conspicuous as one of the finest Roses in the Show. Among others were Gloire de Ducher, bearing, as shown, considerable resemblance to Black Prince, but not so full; Horace Vernet, shaded crimson and scarlet; Jean Lambert, Mdlle. Marie Rady, Camille Bernardin, and Prince de Portia, crimson scarlet; Alfred Colomb, cherry red; Thorin, bright rose; Mdlle. Marguerite Dombrain, Comtesse de Jancourt, Charles Verdier, and Madame Eugène Appert, shades of rose and pink. Mr. Cant, who was second, had besides some of those just named, Madame (George Paul, crimson scarlet; Mdlle. Annie Wood, fine red; Hippolyte Flandrin, salmon rose; Exposition de Brie, Antoine Ducher, Napoleon III., Mrs. Berners, lilac rose with a glow of scarlet in the centre; Mrs. Ward, peach; and others. Messrs. Paul and Son were third; Mr. Coppin, fourth. The first prize in Class 10, for twelve trusses of any new Rose of 1866, was adjudged to Mr. Cant for Antoine Ducher; and extra prizes were awarded to Alfred Colomb, from Messrs. Lee and Mr. Fraser. This Rose from both exhibitors was splendide, and especially the trusses shown by Messrs. Lee, and would have taken the first and second prizes had it not been considered a Rose of 1865.

Of yellow Roses shown in Classes 12 and 13, beautiful trusses came from Messrs. Cant, Fraser, Hedge, and Stoddart. Maréchal Niel from Mr. Cant was remarkable, not only for the size of the trusses, but its rich golden colour. Other kinds well represented were Gloire de Dijon, Céline Forestier, Vicomtesse de Cazes, La Boule d'Or, Cloth of Gold, Solfatere, Madame Falcot, and Narcisse, of which Mr. Hedge had fine trusses. Mr. Cant took first prizes in both classes; Mr. Fraser and Mr. Hedge being second in Classes 12 and 13 respectively.

Of Tea-scented and Noisette Roses the best twelve in the amateurs' class were contributed by Mr. Hedge, and consisted of Souvenir d'un Ami, Triomphe de Rennes, Moiret, Souvenir d'Elise Vardon, Maréchal Niel, Cornelia Koch, Gloire de Bordeaux, Niphotos, Devonicensis, La Boule d'Or, Gloire de Dijon, and Adam. Mr. Stoddart, who was second, had Homer, pale yellow edged with pink, Niphotos, and Adam. In the nurserymen's class for the same Roses Messrs. Paul & Son and Mr. Cant took the first and second prizes, each with very fine examples of varieties just named, Monsieur Furtado, Madame Margottin, Lamarque, Rubens, and Madame Bravy.

The best stand of twelve single blooms, shown in the open Class 16, came from Mr. Cant, and consisted of Charles Lefebvre, Maréchal Niel, Maréchal Vaillant, Anna de Diesbach, Xavier Olibo, Alfred Colomb, Madame Caillat, Madame Moreau, Niphotos, John Hopper, Mad. C. Wood, and Exposition de Brie, all of which were fine. Messrs. Perkins were second, and Mr. Coppin third.

Of vases and baskets of Roses but few were shown. The first prize went to Mr. Chard for a pretty arrangement, along with Ferns, in a March stand, the stem of which was entwined with the young growth of *Bignonia argyrea-violescens*, presenting a very agreeable change from the Japanese Honey-suckle generally employed. The second prize went to Mr. Soder for a similar stand with Japanese Honey-suckle round the stem, and the third to Messrs. Paul & Son, for a large basket on a wickerwork stand.

Several fine bouquets of five trusses of Roses were exhibited, mostly in Hyacinth glasses, the best being from Messrs. Paul & Son, and consisting of Marie Baumann, Pierre Notting, Triomphe de Rennes, Lælia, Alfred Colomb, and Xavier Olibo. Mr. Cant had in his six fine trusses of Niphotos, Maréchal Niel, and Mdlle. Bonnaire. Mr. Hedge was third.

Of miscellaneous subjects but few were exhibited. Messrs. Rollison, of Teoting, sent a collection of Orchids, in which were *Cattleya citrina*, *Calanthe masuca*, *Aerides Lobbia*, with a spike fully 18 inches long, *Barkeria* species with pretty pale lilac flowers, *Dendrobium MacCarthie* with four flowers, *Cypripedium superbiens*, *Phalaenopsis cornuta* with yellow flowers barred with rich cinnamon brown, a fine variety of *Aerides odoratum*, and a seedling *Heath*, apparently the result of a cross between the *Aristata* and *Tricolor* sections. From Mr. Sherratt, gardener to J. Bateman, Esq., Knypersley, came fruit of a species of *Myrica*, under the name of *Yangmae*, and cones of *Abies nobilis*; Mr. Noble sent cut spikes of the beautiful *Spirea palmata*, noticed last week; Mr. Perry, new *Verbenas*; and lastly Mr. Dobson, of St. James' Street, contributed a fine example of dinner-table decoration, in which the centrepieces resemble the March stands, but have gracefully curved twisted glass arms supporting glass pendant

baskets, to be filled with flowers. The effect of these is excellent. Bordering the table were japanned zinc troughs, of course very shallow, with semicircular projections. Flower glasses being attached to these, both at the outside of the parts farthest advanced, and on the inside elsewhere, a double row of flowers or other ornaments is obtained round the table.

FLORAL COMMITTEE.—The Committee was summoned to meet at Chiswick on the 29th to examine the Fuchsias and annuals, at least those of the latter which have survived the long-continued drought.

Among the Fuchsias, which were fine young healthy specimens, the following received awards. Many of the newer kinds were not in flower, and will be inspected on another occasion. *Elysée d'Amour*, three marks, a rich highly coloured corolla with bright scarlet sepals; *Vainqueur de Paëbla*, a fine double white corolla, two marks; *Light Heart*, very dark corolla, fine form, three marks; *Rhoderick Dhu*, fine flower, but rather lax in habit, two marks; *Constellation*, fine dark corolla, three marks; *Bland's Floribunda*, one mark. This is not a pot plant; to judge of its merits it must be planted out; and then for its compact and neat habit, its conspicuous though small flowers, scarlet tube and sepals, with white corolla, it is most useful and ornamental. *Enoch Arden*, with a large, dark, expanded corolla, and bright crimson sepals, is a flower of great merit—three marks were assigned it. *Father Ignatius* was not so fine as last year. Two marks were given, but the plants were not in condition. This is one of the best varieties when well grown.

Double *Petunias* were also examined. *Elise de Fontadier*, which received three marks, is a fine rose-coloured variety; *La Coquette*, three marks, a neat but small-flowering plant, with beautifully veined flowers—this is a very desirable variety.

Among the seedling *Petunias* there were many good as seedlings. *Fanty*, one of Mr. Bull's, was superb; a veined grey flower with intensely dark stripes, nearly circular in form, of first-rate habit. It received three marks.

Among the annuals, which have nearly all come to grief from lack of rain, *Tropaeolum Tom Thamb* *Caruleum* roseum received three marks. This is novel in colour, a dull rosy red shade, its chief recommendation being novelty in colour. *Tropaeolum King of Tom Thumbs*, with vivid flowers and dark foliage, received three marks. This plant seemed to be of close and compact habit. Sweet Pea *Invincible* maintains its good character, and is now duly appreciated by the public as a distinct and beautiful variety—three marks. Sweet Pea *Invincible Black* is another distinct and good flower, the darkest yet seen. Three marks were given it. This is worthy of cultivation as the best dark variety. *Gilia laciniata*, a dwarf kind, of a dark leaden blue, was approved of as a useful plant as an annual. Three marks were given it.

The bedding *Lobelias* of the *Erinus* family were examined. *Beauty of Ravensbourne*, a pinkish red variety, very dwarf and compact, received three marks. *Trentham Blue*, which has been sent out by the Messrs. Veitch, was much admired for its freedom of flowering and its robust habit and dark blue flowers: this will prove a most useful plant for bedding or edging purposes. Three marks were given it. *Little Gem Lobelia*, a neat, dwarf, compact, light blue and white variety of the *Paxtonian* strain, was awarded three marks.

The *Pelargoniums* were passed through, but at present are not fit for adjudication. The specimens planted out are in fine condition, showing much flower, and many of the new varieties promise to be of first-rate quality. These will be examined at the end of July, or when in condition.

It is very satisfactory to see what has been done in the Zonal section of *Pelargoniums*. No plant has ever been brought to such a state of perfection, whether we consider the beautiful, highly coloured, and varied foliage, or the perfection of the form, or the truss of flowers. As bedding as well as greenhouse plants, the Zonals have arrived at their meridian; and now it will be well for horticulturists and florists to give a little attention to a plant which is always a pleasing companion to the Zonal *Pelargoniums* in the autumn months—we mean the *Fuchsia*. It is most desirable that attention should be given to this plant, for it is quite as capable of improvement as the Zonal *Pelargonium* was. A simple rule as to perfection is all that is required; old and worthless kinds will then be discarded, and the standard of perfection sought after. We have many *Fuchsia* raisers; perhaps among them Mr. Banks, of Sholden, in Kent, stands pre-eminent. Many of his flowers have been introduced to the public by the Messrs. Henderson, of Wellington Road, but we have not yet seen any well-grown specimens of the newer kinds. We may hope that Mr. G. Smith, of Hornsey, one of the best and most successful raisers of *Fuchsias*, will direct anew his energies to improve this flower; and very much may be expected from Mr. Cannell, of the *Fuchsia* Nursery, Woolwich, in the same direction, Mr. Cannell being at present the largest cultivator of the *Fuchsia*. We hope, then, soon to see the cause of this most graceful and useful flower warmly advocated; when once set in motion, there will be many ardent admirers and cultivators to give an additional impetus. May a *Fuchsia* mania soon show itself among us.

PAXTON MEMORIAL.—A few days since an address was presented to Lord Charles Russell by the Working Men's Mutual

Improvement Society of Leighton Buzzard, sustaining his Lordship's suggestion that a memorial of Sir Joseph Paxton should be erected. We hope to give full particulars next week.

ROYAL BOTANIC SOCIETY'S SHOW.

THE last Show of this Society for the season opened yesterday, and will be continued to-day. In addition to a fine display of flowering stove and greenhouse plants furnished by Mr. Peed, Mr. Williams, Mrs. Cole & Sons, Mrs. Glendinning & Sons, Mr. Tanton, Mr. Donald, and other exhibitors, there are in the collections of ornamental-foliaged plants from Mr. Fairbairn, gardener to the Duke of Northumberland; Mr. Smith, gardener to T. Nixon, Esq.; Mr. Williams, and Mr. Baines, gardener to H. Micholls, Esq., some remarkably fine specimens. The *Sarracenia* from Mr. Baines form masses such as have only been exhibited by himself. Heaths are again numerous shown; and of *Pelargoniums*, Show, Fancy, and Zonal, excellent collections are furnished by Messrs. Fraser, Ward, Catlin, Weston, Stevens, Watson, and others. Mr. Penny and Mr. Wilson, gardener to W. Marshall, Esq., send fine *Orchids*, and hardy Ferns are largely exhibited by Messrs. Ivery & Son.

Messrs. Veitch have a very extensive and interesting collection of new and rare plants, one of which, a species of *Puya*, has bluish flowers with a metallic appearance and lustre, and prominent yellow stamens, altogether a very remarkable plant. *Ampelopsis Veitchii*, a very ornamental hardy climber, the new *Coleuses*, *Gloxinias*, and a large number of other novelties are included in this collection. Mr. Williams also sends several new plants in addition to his fine contributions of older plants, and Messrs. E. G. Henderson have a large group of bedding plants beautifully arranged.

The fruit, however, constitutes the great feature of the Show. Among collections, a very fine one comes from Mr. Miller, gardener to Lord Craven, Combe Abbey; in it the *Black Hamburgh* and *Foster's White Seedling Grapes*, and the *Violette Hâtive Penches* are especially worthy of remark. Mr. Bannerman, gardener to Lord Bagot, Rageley, and Mr. Johnson, gardener to the Marquis of Ailesbury, Saver-nake, have also excellent collections. Of Pines there are several very fine specimens from Mr. Barnes, of Bicton, who has *Black Prince*, weighing 10½ and 12 lbs., *Queens* of nearly 6 lbs., *Charlotte Rothschild* of 5½ lbs. Mr. Young sends remarkably fine heavy *Queens* and *Smooth-leaved Cayenne*, and Mr. Davies and Mr. Kemp beautifully ripened *Queens*, whilst Mr. Hannen, Cyfarthfa, has large fruit of the *Providence*.

Of *Grapes* Mr. Hill, Keele Hall, Mr. Meredith, and Mr. Henderson, Coleorton, send baskets of *Black Hamburgh*; and very fine dishes of the same variety come from Mr. Meredith, Mr. Meads, Mr. Henderson, Mr. Miller, Mr. Johnson, Mr. Squires, and some others. *Buckland Sweetwater* is shown in fine condition by Mr. Meredith; and of *Royal Vineyard* very large bunches come from Mr. Kettlewell. Mr. Meads has excellent *Black Prince*, and Messrs. Standish finely ripened *Muscats*. Other exhibitors show large bunches of these, but not exhibiting the beautiful golden tinge of perfect ripeness. Messrs. Standish & Co. again exhibit their excellent *Royal Ascot Grape*, and bunches of *Ascot Citronelle*, a delightfully flavoured white Grape, which promises also to form good-sized bunches.

Of *Peaches* Mr. Miller has splendid fruit of *Royal George* and *Violette Hâtive*; and Mr. Bailey, *Shardeloes*, has several fine dishes of *Strawberries*.

Mr. Barnes, of Bicton, has quite a novelty at exhibitions—the immense cone of *Araucaria imbricata* weighing 5 lbs., also male catkins of the same plant, cones of *Picea nobilis* weighing 2 lbs., and those of other *Conifers*.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE twenty-fifth Anniversary Meeting of this Institution was held at the London Tavern on the 24th of June, M. T. Bass, Esq., M.P. in the chair. The company was more than usually numerous, and the room in which the dinner took place was even gayer than usual with flowers and fruits from Sandringham and other gardens. Behind the Chairman was a fine display of flowering plants, with large tree Ferns on each side, and other parts of the room as well as the staircases leading to it were studded with fine-foliaged plants, the whole being the contributions of Messrs. Veitch, Lee, Williams, Turner, and Fraser.

The usual loyal toasts having been drunk, the Chairman in proposing the toast of the evening, "Success and Prosperity to the Institution" urged its claims to support, and expressed a confidence that that support would not be wanting, for, said he, "show me a man who takes pleasure in his garden, and I will show you a kindly fellow. Show me a lady who is fond of her garden, and she will be found to be possessed of the most elevated tastes and acquirements. It is the ladies who lead the way in gardening, it is the ladies I wish to enlist in the cause of the Institution, and wherever the ladies lead, the men must follow."

Sir Robert Peel, Bart., M.P. in proposing the health of the Chairman expressed gratification at seeing around many who had supported himself at the last Anniversary, but there was one whom he missed, Mr. Veitch, who, he regretted to learn, was absent from illness. It

was at his (Sir Robert Peel's) recommendation that Mr. Bass had consented to take the chair on the occasion, and there could not have been a better Chairman than one who furnished so bright an example of liberality of conduct, whose purse was ever open, whose hand was never closed.

The next toasts given were the "Houses of Legislature," coupled with the name of T. W. Evans, Esq., M.P.; "The Treasurer," Mr. Wrench; "The Secretary," Mr. Cutler; and The Horticultural and Botanic Societies of London, coupled with the name of Mr. G. F. Wilson.

Mr. Wilson in replying, said that he had once before had the pleasure to respond to the same toast on a similar occasion, but since that time the Royal Horticultural Society had been exerting itself in two very opposite directions, in one of which it had already met with a marked success as exemplified in the new Colouses, and in the other the new Scientific Committee promised most favourably.

Sir Robert Peel then proposed "The Nursery and Seed Trade," to which Mr. John Lee, Mr. Nash, and Mr. Harry Veitch replied, the last-named remarking that his father's disposition was brought on by overwork and would probably soon give way to rest.

The donations amounted to nearly £100, and included the following:—M. T. Bass, Esq., £26 5s.; Mrs. Bass, £10 10s.; A. Bass, Esq., £10 10s.; Lord Sondes, £10 10s.; Baron Rothschild, £10 10s.; Sir Robert Peel, Bart., £10 10s.; J. C. Evans, Esq., £21; F. Wigan, Esq., £10 10s.; O. R. Cozier, Esq., £10 10s.; W. Banbury, Esq., £10 10s.; J. Foster, Esq., £10 10s.; Thomas Moore, Esq., £5 5s.; Dr. Hogg, £5 5s.; Messrs. Veitch & Sons, £10 10s.; Messrs. Lee, £5 5s.

ENTOMOLOGICAL SOCIETY'S MEETING.

THE Juno Meeting was held at Burlington House, the President W. H. Bates, Esq., in the chair. Amongst the donations to the Society's library received since the last meeting, were the publications of the Zoological and Botanical Society of Vienna, the Entomological Society of Stettin, the work of Herr Thomsen on the Insects of Scandinavia, &c.

The Secretary called the attention of the meeting to the proposed exhibition of economic entomology during the month of August next, the programme of which is of a very extended character, and promises to render the exhibition a very valuable one. It is to be held in the great building in the Champs Elysées.

Mr. McLachlan exhibited the caterpillar of one of the Phryganidæ, which was taken by Mr. Fletcher crawling about the bark of a Willow tree near Worcester, thus differing from the aquatic habits of the remainder of the tribe. He considered that it was the larva of *Enoyella pnsilla*, which has been ascertained on the Continent to be a non-aquatic species, and of which the female is wingless.

Mr. Butler exhibited specimens of *Otiorynchus picipes*, which had proved very injurious by biting off the young shoots of Roses and Horse-chestnuts.

Mr. Jenner called attention to a report of the Proceedings of the Scientific Committee of the Horticultural Society, in which the operations of the larvæ of *Coleophora Hemerobiella* were detailed, and in which it was erroneously stated that the insect acts in the same manner as a leech, in sucking the leaves, and rolls up the leaves like a cigarette.

Mr. Kenys exhibited *Psyche crassirella* from Hornsey Wood; also, Oak leaves, portions of which had been rolled up into egg-cases by *Attelabus Curculionoides*.

The Hon. T. De Grey exhibited larvæ and pupæ of *Hypercallia Christianna*, the former found during the months of April and May, upon *Polygala vulgaris*, near Shoreham. One of the larvæ had changed to the pupa state during the sitting of the meeting.

Mr. H. Burmeister, jun., exhibited drawings of the larvæ and pupæ skins of many species of Brazilian Butterflies. He had determined the true character of the pupæ of the genus *Agroma*, which Mr. E. Doubleday had from false characters created into a distinct family. The pupa is, however, simply suspended by the tail like those of the ordinary Nymphalidæ. He had also ascertained that the larvæ of the anomalous genus, *Castnia*, feed on the bulbous swellings at the base of the stems of Orchidaceous plants in Brazil.

Mr. Edward Sheppard read a note relative to the formation of small balls of earth by the curious Beetles belonging to the genus *Meloe*, and Professor Westwood gave an account of the manner in which the sacred Beetles form and roll large pellets of dung and earth, which they bury in the sand, as recently observed by himself at Cannes and Pompeii. Mr. De Grey also exhibited specimens of the longicorn Beetle, *Agapanthea Cardui*, which he had bred from the larvæ which reside on the dead stems of Thistles in the Norfolk fens.

EAST SUTTON PARK.

IN travelling from London to Dover by the South-Eastern Railway, it will be found that the line from Tunbridge to Ashford passes in a great measure through a flat country, more especially beyond the Paddock Wood station; but the traveller will perceive a more hilly country two or three miles to the north of the line. This rising ground soon appears to assume the character of a ridge of considerable elevation, which extends

for some miles parallel or nearly so to the railway, and three or four miles from it. The base of the ridge forms the northern boundary of the district called the Weald of Kent, of which geologists speak so much, and which may be described as a rather flat district, though not a dead level, in which the soil has a heavy clayey subsoil, and in most places is highly cultivated. The ridge differs considerably from the valley, although it is not on the chalk formation met with elsewhere, Kentish ragstone cropping out as well as being quarried in many places; while in other the surface is thickly strewn with a hard kind of stone in pieces not much larger than road metal, the soil in the latter case partaking more of an oolitic character, and water is less plentiful in this description of surface than where ragstone predominates. Both soils, however, are favourable to the growth of certain kinds of trees to a degree which their appearance would not indicate, most deciduous trees and hedges thriving remarkably well. The heights have for many years been favourite places to build residences upon—not on the top, which is perhaps too bleak, but on the southern slopes, which overlook the Weald above mentioned for many miles. Among the mansions which adorn these commanding positions one of the most ancient is Sutton Castle, no longer a dwelling house, but an Ivy-clothed ruin. It is said to have been the residence of Aymer de Vallance, Earl of Pembroke, soon after the Conquest, and the adjoining village still retains the name of its once-proprietor, being called Sutton Vallance. This pleasantly situated village as well as the Castle is built on a steep declivity, there being as much as two storeys difference in the height of the house on the lower and upper sides. Modern improvements aided by the disciples of McAdam have removed many of the romantic features of the place, but its lovely view over acres of orchards and hundreds of acres of Hop gardens remains the same, if, indeed, it is not improved; but as my journey is still further eastward I must dismiss the village and its venerable ruin, and a short and pleasant walk, the greater part of it through the park, brings me to the place I more particularly wish to describe.

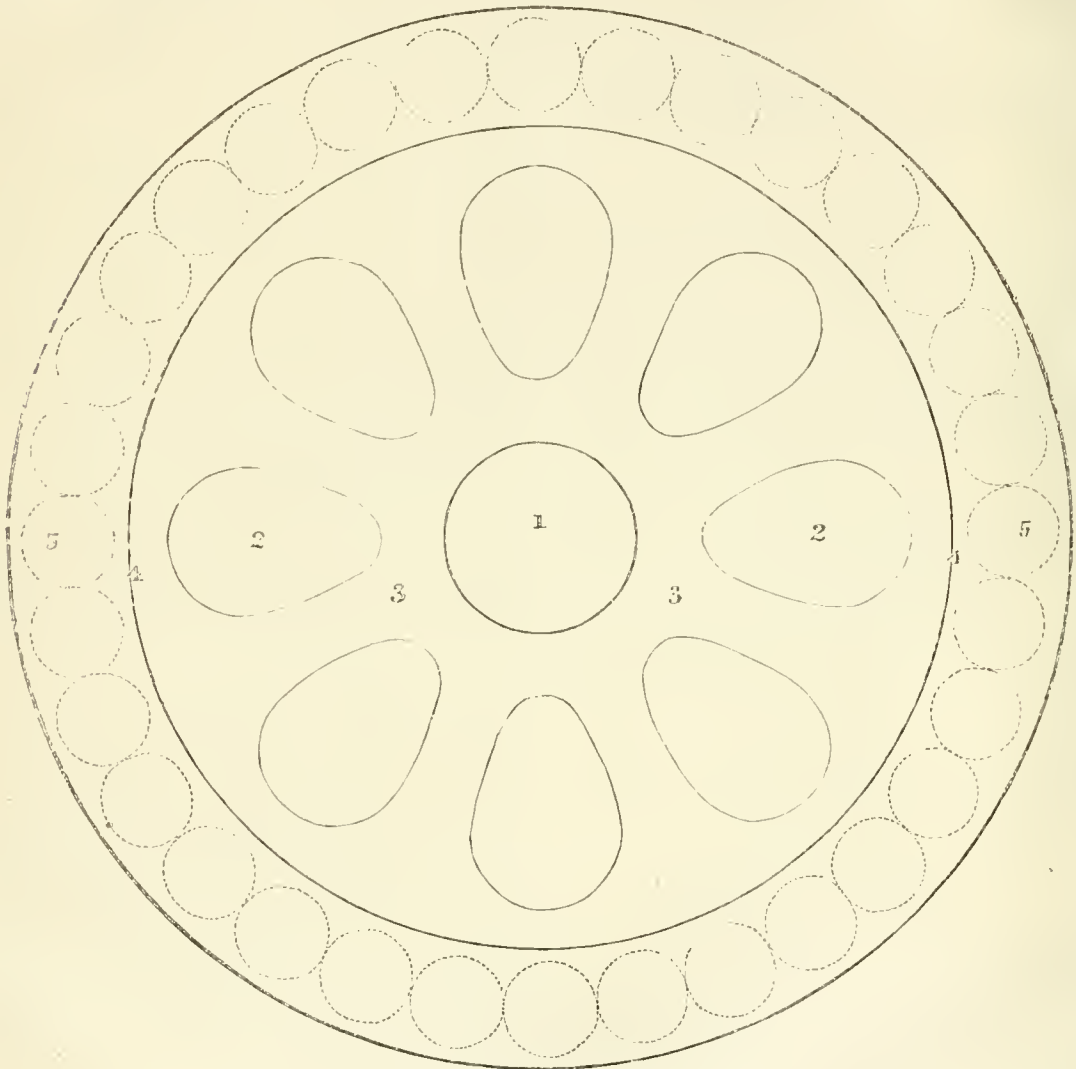
East Sutton Place the seat of Sir Edmund Filmer, Bart., is one of these commodious mansions erected in the time of the seventh Henry. The brick house enriched by angles and recesses, windows plentifully furnished with stout mullions, and gables and chimney stalks to match, constitutes a building of large extent, stamped with the marks of antiquity, yet not so much so as to create a feeling that discomfort must exist internally, and improvements judiciously introduced have rendered the interior all that could be wished. The mansion is snugly and delightfully situated in a park, which of itself presents more diversity of surface and features of interest than most enclosures of the kind, and commands a view of a dozen miles or more to the south, east, and west. It is built on the slope of the ridge alluded to, about four miles from the Head-corn station on the South-Eastern Railway, and about the same distance from Staplehurst. The carriage front is on the southern side, which is open to the park, and near to the house this is moderately level, but it soon begins to descend rapidly to the south, and a piece of ornamental water occupies the lowest corner on the south side; while the steep and irregular ground is here and there plentifully furnished with timber trees of great size and age, many of those near the house being Walnuts, whose whitened bark has evidently been blanched by many a winter. Oaks, Chestnuts, Elms, and other trees also abound, and I incidentally measured an Ash tree that promised to do duty yet for a century or more, and found its circumference in the smallest part between the root-claws and the branches to be 27 feet. There possibly might be many larger, but this one happened to be near at hand. A herd of deer reposing in the valley formed an appropriate feature; while the eye had only to extend its research, and thriving orchards, Hop gardens, and the appearance of a highly cultivated country bounded the view far and wide.

Having said that the carriage front is open to the park on the south side, the dressed ground may be said to surround it on all the other sides. A neat geometrical flower garden occupied a position facing the west. The beds were all well filled, and had evidently been very gay at an earlier period in the year; *Stella Pelargonium* retaining the highest position amongst its class here as well as at most places that I have seen it, even when competing with newer kinds. As an ornament to the flower garden it is questionable whether it is more necessary to general effect than *Christine* or a similar variety, of which there were excellent examples; but it was rather painful to witness, amidst the general success of plants so used, that Cal-

ceolaria Aurea floribunda was a failure in some degree, though not to the same extent as at some places, Linton for one. The blanks left by plants partly dying off, or at all events ceasing blooming long before they ought to have done, led Mr. Skinner, the very able and intelligent gardener here, to threaten to do away with it, as another variety of taller growth seemed not to be so affected. Among Verbenas Purple King and Crimson King were the greatest favourites; while a seedling Petunia, or, rather, plants propagated from a seedling of a former year, seemed to have prospered better than this plant usually does in most places.

A large flower bed in another place now caught my eye, and I left this interesting group and proceeded to the new attraction. I found that it was a circle placed so as to be well seen from an important window facing the north, which, notwithstanding what may be said about looking out in that direction,

is certainly the very best point to view flowers from; for as many of them open to the south only, the brightness they present on that side contrasts strongly with the appearance which they have when viewed in the contrary direction. Of course the bed was far enough from the house not to be shaded by it, and the flowering was all that could be desired. This bed, represented in the accompanying figure, is 45 feet in diameter, and is annually planted with bedding plants arranged to form a pattern, of which that now given is perhaps not the best example, as it is altered each year; a fresh disposition of plants for winter ornament is likewise made. The bed is placed on the lawn, trees and shrubs being at no great distance from it; but it is not bounded by any walks. Its appearance from above must be like a piece of rich embroidery, and with the exception of the Calceolaria the plants seemed to have all done well.



FLOWER BED AT EAST SUTTON PLACE.

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| <p>1. Pelargonium Stella, edged with a tall yellow Calceolaria called Viscosissima, and in the centre of all a group of Humex elegans.</p> <p>2. Verbena Purple King in eight compartments, edged with the same Calceolaria as that used in No. 1.</p> <p>3. Pelargonium Shottisham Pet, silver-edged, forming the groundwork.</p> | <p>4. Calceolaria Aurea floribunda in a single line or ring, separating the centre from the outer band.</p> <p>5. Verbena Crimson King in thirty-two circles, each edged with Cerastium. Lobelia speciosa forms the groundwork on both sides, as well as an edging next the turf.</p> |
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As will be seen by the above, the varieties of plants used were not numerous; nor is it advisable that they should be so, as the most pleasing results are often obtained by a judicious selection of the most simple colours. In the present arrangement I believe an outer edging of Golden Chain was contemplated, but abandoned for want of sufficient plants, and it is

questionable whether it would have been any improvement. The single line of Calceolaria Aurea floribunda (4), after flowering well in the early part of the season, died off very much, and thus in some degree injured a design which, as those who have such things know, is rarely perfect in all its parts; but, taken as a whole, the bed may be regarded as a great success, the

other plants, including the taller yellow *Calceolaria*, being all that could be desired, and when at its best must have been much admired.

In another part of the grounds I noticed a flower border on a rather steep bank planted very effectively. The border was about 12 feet wide, and was divided into diamond-shaped and triangular compartments by diagonal cross lines of *Cerastium*, making a good-sized diamond-shaped compartment in the centre, and triangles of half the size at the outside. The diamond-shaped portions were planted with Tom Thumb *Pergamonium*, which still retains a good place in the bedding-out flower gardener's estimation, and the triangles with *Lobelia speciosa*, the whole being edged with *Cerastium*. Consisting of only three kinds of plants of as many colours—namely, red, white, and blue, this arrangement had a very pretty effect. Another border, not so wide, was arranged differently, the lines of demarcation forming a sort of zigzag or serrated pattern; but it was on the whole less effective, a greater number of plants being used; and although all had done well, the simplicity of the design previously noticed was preferable.

Some other beds in the grounds were very attractive, particularly one—a raised bed of three circles united at the edges; the central one, larger than the other two, was very good. The only plant showing symptoms of going off was *Centaurea candidissima*, which, as with me both last year and this, was anything but healthy. In another place was *Centaurea gymnocarpa*, luxuriant enough, but not so much to be depended on as *Cineraria maritima*, to which Mr. Skinner, as well as myself, and I believe Mr. Fish, give the preference; for although the *Centaurea* is of more free growth than the *Cineraria*, the aptitude of the autumn-struck plants to run to seed early in summer, and when in that condition their liability to die off without making foliage, leave a greater number of ugly gaps than is pleasing. *Centaurea candidissima* is certainly not subject to this, and is less prone to flower and seed than any of the three; but with me during the last two years the points of the leaves have become crumpled and dead, and a sickly appearance pervades the whole plant. This is much to be regretted, as we have no plant so white, and its habit and other features are all that can be desired. Mr. Skinner had discarded *Iris-ine Herbstii*; but *Coleus*, *Amarantus*, *Perilla*, and other plants were introduced with good effect where wanted.

In the grounds I noticed some good specimens of *Coniferae*, particularly one of the best specimens of *Taxodium aempevirens* that I have ever seen, and which was standing out prominently amongst others, while there was no lack of *Roses* and other shrubs.

The kitchen garden, which adjoins the eastern side of the pleasure ground, also contained good examples of ribbon borders by the side of one of its principal walks, and the glass structures excellent *Black Hamburg* and *Muscot of Alexandria Grapes*. A new viney devoted to late *Grapes* showed unmistakably that the very popular *Lady Downe's* requires almost the same amount of heat as the *Muscots*, for its condition was less satisfactory than that of the *Hamburgs*, which, as well as the *Muscots* in another house, were all that could be desired. *Peaches* had been gathered early in the year from another house, and in a central one greenhouse plants were grown as extensively as the house would allow. Perhaps the most interesting feature was another kitchen garden separated from the first one by a road passing between. This garden was only formed about four years ago, and yet the walls, 11 feet high, are quite covered with excellent bearing *Peach* and *Apricot* trees on the south and west aspects. The *Apricots* had done remarkably well in 1866, but less favourably in 1867, which was amply made up by the heavy crop of *Peaches*, some continuing in bearing till October; a fine crop of *Late Admirable* was showing well at that time. The central and cross walks of this garden were lined with *Pear* trees trained as pyramids, most of which were in fruit. Of other crops common in kitchen gardens, not the least conspicuous was a fine breadth of *Red Beet*, the tops of which might vie with any of the occupants of the flower beds for depth and richness of colour. *Strawberries* for forcing occupied a sunny corner, and amongst them *Sir Charles Napier* was conspicuous; while in the open ground the same variety was much esteemed for its bearing qualities, as well as that of enduring travelling well—a qualification not sufficiently valued in every case, but an important one in most.

The general good appearance of the garden crops, not less than the trimness of the flower beds, and the abundance of everything required for a large family, showed that the head

as well as the hands of the manager was judiciously and skillfully employed. In looking round it would be difficult to point to anything which indicated what was the gardener's hobby, which is often enough evident, for at Sutton Park all things were equally well cared for.—J. Rouson.

WORK FOR THE WEEK.

KITCHEN GARDEN.

The principal sowings and transplantings will now soon be over for this season, and as the nights lengthen a more vigorous growth will commence. Everything lately planted out ought to be watered occasionally till the plants begin to grow freely. Birds are very troublesome to the early fruits, and must be watched, and although the garden has been kept free from weeds all the season, there are thousands of seeds of weeds now floating on every breeze, and those which fall on good ground will soon become troublesome if not looked after. *Cabbage* and *Cauliflower* plants for autumn use should be transplanted at regular intervals; those last planted out should have the ground well stirred about them, and a little soil drawn round their stems. *Celery*, the main crop might now be planted out, and the rows formerly planted should have a little earth drawn to them, first taking the precaution to stir the soil on each side of the rows which has been battered into a crust with the watering. If the earliest row does not throw up seed stalks, you may assist it very much by a good dose of liquid manure. *Cucumbers* under hand-lights, and *Vegetable Marrows*, should have a little long litter spread over the soil before the shoots are pegged out to their full extent, which will keep the fruit clean, save watering, and bring up the *Mushrooms* quickly where spawn was inserted. *Peas* and *Beans*, few people think of sowing *Peas* after next week, and this is about the time that mildew is so troublesome on *Peas*. A liberal supply of water is the best preventive. *Succession Crops*, these are now reduced to salad plants, which are always sown according to the demand and the state of the last sowing.

FRUIT GARDEN.

Those who thought proper to attend to the stopping of the shoots of *Pear* trees, &c., against walls, will be gratified by perceiving the buds swelling beautifully at the points of the small spurs, and at the bases of the shoots shortened. Allow the young shoots which have started from the foremost bud of the stopped shoot to grow a little longer, or, if becoming long, merely pinch out its point, as any sudden check to the flow of the sap after such genial rain, would be apt to break into shoots those promising buds which you would rather see adorned with blossom and fruit next season. It is a general observation that fine-looking old *Pear* trees against walls produce sparingly, and that chiefly on the points of the branches. This is partly owing to the fact that the other parts of the tree are so smothered with breastwood during the best part of the summer, that the buds finally left cannot be matured by the juice-elaborating influence of light, and to the objection of employers to leave the borders uncropped; the consequence of which is, that the roots are incited to go so deep that they absorb juices of so rank a character that our longest and best summers are insufficient to ripen the buds on the puny shoots. The remedies for this are raising the roots nearer the surface, timely foreshortening, and slight or no cropping. By taking off the young wood from every alternate branch on old trees, choosing good shoots about a foot apart on the other branches, and commencing at the top of the tree, tying these shoots in a pendant position to the denuded branches, and taking out these branches in the succeeding year, in a year more, other circumstances being favourable, the tree will be regularly covered with young fruitful wood. The principal work now is to guard fruit from birds, &c., to gather and preserve *Strawberries*, and to procure plants of these for next forcing time. Fill a number of 60-sized pots with rich compost, take a dibber and make a row of holes alongside of a row of *Strawberries*, push a pot into each hole down to the rim, then single out the runners and pinch-off the tops just below the newly-formed plant, double the runner on the other side of the plant, and with the forefinger push the doubling down to the bottom of the pot, and by this means the bottom of the young plant is just brought within the soil, and is firmly pegged down by its own runner or string in half the time you could do it with a peg, or with a stone or lump of soil.

FLOWER GARDEN.

There is little to attend to in this department at the present

time except cleaning and keeping everything and every place as neat and tidy as possible. Attend to the removal of flowers as fast as they decay, as nothing looks so untidy in a well-kept garden as dead flowers. Brompton Stocks must be sown immediately, but Brompton Ten Week Stocks should be sown in the first week in August. This is favourable weather for budding, and where the buds are properly matured, as they are in most places, it must be attended to immediately. Established plants of Roses that make very strong branches which hide the flowers, should have them shortened-in below the level of the flowers. Tulips ought now to be safely stored; those which are seeding on the bed must occasionally be examined. When the stalk assumes a yellow tint the roots may be taken up, and the stems with capsules attached may be placed in an airy room till they become perfectly dry. Plant out the first crop of pipings, if proper attention can be given them, such as shading, watering, &c. Take advantage of the first showery weather to plant out young Pansies.

GREENHOUSE AND CONSERVATORY.

If the plants in the greenhouse are all of the true greenhouse kinds, give them as much air as the house will admit; but if, as is generally the case at this time, they are a mixed collection of half stove plants, annuals, &c., they may be kept close at night with a very damp atmosphere, and the house may be allowed to become well heated by the sun before giving air in the morning. Training and staking plants, surfacing pots, and all routine work, must be attended to. Climbers in the conservatory, if they are what they should be, will now require the greatest attention; training, thinning, and arranging them properly occupies much time, and should never be done in a hurry. Formerly it was customary in many places to tie up climbers close to the pillars and rafters, &c., in a stiff formal manner; but now it is thought they can hardly be allowed too much freedom, providing that they do not injure other plants with their shade. Orange trees and many other large specimen plants require less water about this time, but diminish the quantity very gradually. A cool refreshing air loaded with perfumes in this house is always agreeable in summer, and the only way of obtaining this is by large portions of air, by slight shading, and by pouring large quantities of water over all spare places round the house. Stove plants brought in here for flowering do not require half the quantity of water which greenhouse plants do in the same place.

STOVE.

For the next six weeks or two months, according to the weather, stove plants ought to have more air and light than at any other period. After this time shade as little as possible, with the exception of Orchids and young or newly-propagated plants.

COLD PITS

Are warm enough to allow of the glass or canvas being taken off at night to give the plants the benefit of the night dews, which seem to suit them better than any sort of artificial moistening. When the sun shines strongly—that is, if it continues to do so as of late, throw a slight shade over the Camellias, Azaleas, Rhododendrons, and similar plants.—W. KEANE.

DOINGS OF THE LAST WEEK.

With the exception of a dull day and a shower on the 22nd, the drought has still continued, and on this day, the 27th of June, has been more trying to most things than on any previous day.

KITCHEN GARDEN.

After the shower took the opportunity of planting-out strong plants of Brussels Sprouts, Broccoli, and Winter Greens, and sowing Turnips, Lettuces, &c. Those growing freely were surface-hoed to preserve in the soil the little moisture that fell. It was down, however, to such a slight depth that the advantages of the shower were more owing to the cool and shady atmosphere than the quantity of water that fell, though in the space of a quarter of an hour we added a good many gallons, collected from our glass roofs and sheds, to the supply in our tanks.

Lettuces of various kinds have been very good hitherto, chiefly those sown thinly and left to grow, as they have scarcely needed a drop of water, but looked after themselves—a great advantage in such weather over transplanted ones, which could not grow without watering and even shading. Our two first crops of Cauliflower have been excellent owing to the deep mulching, and a bed of a third crop will be fair, but we fear for

our next succession, unless there be a change of weather, as we can scarcely give them enough of water to keep them from becoming blue in the foliage in the hottest days, and in such circumstances they are apt to throw up their heads too soon. Even the next crop, standing between rows of early Peas, we can hardly keep from showing distress, though shaded by the remains of the Peas on each side of them. These Peas we would remove, turn up the ground on which they grew, and plant it with Cauliflower again so as to have two successions on the same piece, but we are unwilling to lose the benefit of the shade of the Peas as yet.

We have sown Turnips, Lettuces, Carrots, &c., but we drew the drills, watered before sowing, and after covering-in spread over the ground a slight layer of litter. In such heat and dryness it would be vain to expect young plants to grow or get above the soil, unless where there was an abundance of water, or an easy mode of applying it where wanted. Our Peas have as yet been very good, but some of the succession crops refused to set the bloom without watering, and we have helped in this way Peas, Dwarf Kidney Beans, and Scarlet Runners, watering at the root and mulching with grass or litter immediately afterwards.

Thinning.—Finally thinned all our crops of Onions, Carrots, Beet, Parsnip, Salsafy, &c., as they were more easily moved after the rain on the Monday, but these had all been partially thinned some time ago. Onions were very easily thinned when the ground was hard and dry, as the roots broke when touched, close to the ground, but those thinned later will be more useful, as when laid in rows thickly they will do for salads; and many will just grow enough to give a good supply of buttons, a thing we can scarcely obtain from our strong ground in any other way. All these root and bulb crops look well, though they have never received any watering. By running a Dutch hoe along the surface weeds have been kept from appearing, and a couple of inches beneath the surface the soil is moist enough to keep on growth. In thinning Carrots at this season, the Carrots if from a quarter to half an inch in diameter, if laid in thickly in rows, as stated above for Onions, come in well for soups when the main crop would be much too large. From the middle to the third week in June is a good time to sow a piece of Carrots, as for many purposes such Carrots are sweeter and better than the spring-sown crop, and they are less likely to have a speck on them from the attacks of Carrot enemies. One of our best gardeners always sows a good breadth of Carrots in June, but this year he grumbles that the seedlings will not show above ground. In such weather they would have no chance unless the drills were previously watered and the ground slightly shaded with litter, &c., afterwards. Onions for salading we find come like points of needles without this protection.

Much against our will, we will prick out quantities of Cauliflower and Winter Greens in beds, as there we can attend to them with watering, &c., much more easily, and lift them afterwards when the ground is more suitable to receive them. In trying to dig a piece of ground on which there had been a heavy crop of Spinach, it was too much for the spade, being as hard and dry as if clay had been baked in an oven. We find even our Celery, though strong, must have more shade, as well as more water, or it will stand still, or do what Celery rarely does with us, will run up its flower stalks, which must be prevented, if possible. We have been forced to water Turnips, as we found that otherwise they would be hard and stringy, instead of sweet and succulent, as a young summer Turnip ought to be.

But for the labour in carting and carrying, it will be some time before we are so badly off for water as we were four years ago, though depending entirely on rain and drainage stored up in tanks and ponds; but many farmers in this neighbourhood have already to drive water for their animals from three to four and more miles. This is a serious affair, and shows the importance of having more means of storing up what falls freely from the heavens in the course of the season.

FRUIT GARDEN.

In the open air, Strawberries with us will be too much of a glut, as the crop will not be so continuous, on account of the dryness, and smaller fruit will look nothing after the large fruit of the first few weeks' gathering. Many of ours are drying up from the drought. It is right to state here, that an old favourite of ours, as one of the best of bearers, and from its hardness valuable for preserving, the Black Prince, is one more sensitive to drought than any other we have met with. We generally force a few for their earliness, but in-doors the least dryness injuriously affects them, when Keens' Seedling, Pre-

sident, British Queen, &c., would not show any bad effects under similar circumstances. When we gathered from a heavy crop for preserving, the berries were actually flagging and withering, when other kinds close to them were showing no distress, though treated exactly alike. This Strawberry, therefore, is peculiarly fitted for a damp position. Of course, in our case, the myriads of succession fruit would not come to much, but in a damp season, or where plentifully supplied with water, this kind continues a very long time in bearing. Late kinds, as Elton, Eleanor, &c., will be most useful this season, especially where they could be kept moist. They are not to be compared with others in flavour, but then they are Strawberries, and their comparative acidity may be neutralised by some pounded sugar. A great epicure on Strawberries, even as respects these late ones, was very particular that each berry should be gathered by touching the stalk merely, and be sent in the basket in which it was placed, or merely reversed on a plate, without any attempt being made to give a neat appearance in dishing. So particular was he in this respect, that he often gathered his Strawberries himself; and then, seated with a small vessel of cream, and another of pounded sugar, beside the Strawberries, as he dipped the Strawberry by the stalk in the cream, and then in the sugar, before disposing of it, he used to say that the ancients never tasted such a luxury, or they would not have talked such wild romance about ambrosia and nectar as food and drink fit only to be partaken of by their divinities.

Fruit Crops.—Of Gooseberries there is an extraordinary crop, far too thick after thinning for tarts and preserving, and they should be thinned before ripening, to give the wood a chance of growing sufficiently; and Currants would have been equally thick but for the birds that cleared them rather unmercifully when quite green, and in their case we will thin and shorten the shoots as soon as possible. Raspberries only want a thorough watering to make them nice, and without it the fruit will be small. Cherries are ripening sooner than we want them, and all our netting will not prevent our bird visitors from having a few. What makes the stupid things sing out when, inside a net, they see any one approaching? Is it because they have a strong consciousness of wrong-doing, and are crying for mercy? Our Cherries, especially the earliest, as we could not water them, are smaller than usual—much smaller than similar kinds in the orchard house in pots, where they had what watering they needed. Plums and these fruit mentioned have mostly received their summer dressing, and if we cannot attend to all, we will at least shorten the shoots at the top of the trees, and let the lower ones have a little more growth. Apples are dropping their fruit a little, partly owing to the dryness, and thus thinning the superabundance are doing for themselves what should have been done for them.

Most of our dwarf Apple, Pear, and Cherry trees would have been benefited by a good watering, and this is just one of the cases where the amateur with only a few trees may be able to do better for them than a gardener who has much to look after, and affords an evidence why most improvements in all trades and professions are more due to the amateur enthusiast than to the men who engage in the profession as mere workmen in a trade by which they must live.

Went over the most of our Apricots and Peaches out of doors, removing strong shoots, or what would be too strong for fruiting next season, as it is now quite late enough to stop-back such shoots in order to secure two or three of less robust strength, which would ripen their wood for next season. This early stopping of very strong shoots is one of the best means of filling up gaps in trees, and of regulating the strength of growth all over the tree, as every one of these strong shoots, if allowed to grow, not only robs the rest of the tree of its due strength, but proves useless of itself, as such extra growth can rarely be so matured in our climate as to be fruitful in the succeeding year, whilst if stopped early and from one to two or more shoots taken from it, the stopping would divert the strength of growth into other channels, and the one or more shoots that came from the stopping would have the chance of being perfected and ripened, so as to produce in the following year. We have not watered such trees as yet out of doors, but we see we must do so ere long if there be not a change of weather, or there will be a risk of the fruit falling. This is neutralised so far in our case, as the borders, some 5 feet from the wall, have been cropped, and the crops needed a little water.

We would have no objection to deep borders for fruit trees,

nay would rather prefer them, provided we could so treat them that we could by mulching and watering entice the roots within a reasonable distance from the surface. In such seasons as this, where the above means cannot be resorted to, the roots will go down in search of moisture, just as we sink a well deeper when the shallow one becomes dry; and the consequence of the roots going deep, where they obtain moisture without much of the oxygen of the atmosphere, and especially in dull seasons, is the production of gross watery wood, which our seasons are not bright and hot enough to mature, and the result is either fruitless wood, or wood so soft, juicy, and immature as to be killed by the frosts of winter. Hence where such care as above cannot be given, the most fruitful borders for trees will be those where the roots cannot go too deep, and where the means for securing due strength can be communicated from the surface. If we plant an Oak or a Pear tree for timber we may treat them nearly alike; but if we plant a Pear tree and wish to eat fruit from it as soon as possible, we must treat it differently from the Oak.

Again, as respects *Peach trees, Apricots, &c., on walls* out of doors, let it not be forgotten that next year's fruitfulness depends on having the bearing wood of next season as much exposed to the sun of the present as possible, and, therefore, that all extra and useless wood should be removed as soon as this can be done. We sometimes offend in this respect, just because among conflicting claims some things cannot be attended to as soon as they ought to be. We have heard of cases where the gardener used to be nonplussed what to send his men to do, everything was in such good order that he actually was troubled to find a job. But we must say that in our own observation and experience we never met with such an instance. The great trouble is to do work in sufficient time so that nothing may suffer from being passed over. Nevertheless, when one sees the shoots of Peaches, &c., against walls hanging in a natural state in July and August, and being fixed up to the wall when the sun is declining in power, we need not wonder that year after year the trees produce less and less, and only want a sharper winter than usual to destroy them altogether.

Such winters as 1860-61 killed or much injured many trees well treated. We saw the other day a wall that was a picture in 1859, and which has never recovered, and never will recover, the injury sustained at the Christmas of another year of the period named, even though treated in summer in the very best manner; but if such was the effect of the frost on trees well treated, what can we expect from the watery wood hanging like a thicket from the wall in July and August? The great secrets for securing wall fruit are—stop strong robber shoots early, get the bearing wood exposed to all the sun possible, and keep the trees clean by clearing off all insects before they establish themselves, and for a rough and ready and effectual means for doing this latter cleaning, though valuing tobacco dusts, grains, and liquids, commend us to a good lashing with soft-soap water from a syringe or engine.

Tobacco Powder, &c.—Here, in passing, let us state, that we had some of the kinds advertised as made up free from dnty, and there may be differences in the mixtures sent out by different makers, but for certain things we will use them with great care especially under glass. Not wishing to fumigate, nor yet under the circumstances to syringe overhead, we dusted some fine shows of British Queen Strawberry on which the green fly had presented itself, but for such a purpose we will not use it again. In most cases the dusting killed the fly, but the young fruit on which it chanced to light never grew afterwards but became hard and shrivelled.

Orchard House.—In last week's number we should have stated, that we used the soap water at a temperature ranging from 120° to 130°, and with no bad effects. Yesterday we selected ten leaves near the top of the house most affected with the red spider, and though closely examining these leaves with a magnifying glass, we found only one red spider alive. Though depending something on the daubing the wall with sulphur and soft-soap, we will ere long give the trees another good lashing. It will not do to use soap water after the fruit is swelling to ripening, especially Peaches. The fruit has mostly been gathered from the front of the Peach house, and there, too, the red spider has been making its appearance lately, but we cannot resort to very severe measures there until the ripening fruit is all gathered.

Vineries.—In re-arranging plant houses, &c., we have been able to clear out all plants from the vinery from which we are now cutting. The most tender sorts will not, therefore, be

damped or split, as respects the berries, from the watering necessary to plants beneath them. This house will also be kept drier inside. The stage and every portion of the back wall that could be reached has also been lime-washed, and plenty of air left on night and day, so that the fumes of the lime should not be felt. The white surface thus presented will throw more light to the foliage than if walls or stage had been of a duller, dingy colour. Though these walls are regularly washed every spring, the growing of many plants in the house, Strawberries, &c., renders them anything but bright by this time of the year, and according as opportunity offers we make the walls and stages whiter for the extra light that will thus be reflected.

Proceeded with thinning Grapes in the late houses and orchard houses. In our vineries, to obtain huge bunches we want fresh borders and replanting, meanwhile we have plenty of fruit, for after cutting off bushels of bunches before thinning, we have left still far more than enough. These vineries, contrary to what we would wish, have the roots outside, the stems taken through a hole in the front wall in the old-fashioned way, and the outside borders we have had watered after merely breaking the surface. The first vineries covered with litter, and used with old sashes, for bringing on bedding plants, had no watering, until lately the covering was removed, after the Grapes were colouring. Many early vineries, with the Vine roots out of doors, suffer from removing the covering too early. In some cases it would be better to give no covering except a little dry litter, in preference to clearing all off too early. Some of our best gardeners prefer mulching all the summer, instead of watering much, if any, farther than what the rains supply, and these they exclude from early houses by August and September, by means of tarpaulin, sashes, &c.

ORNAMENTAL DEPARTMENT.

To this we will return with more minuteness next week, meanwhile our flower garden, with a little water at the roots of the most needy plants, for eight or ten days, is looking as well as could be expected, we are assured better than where the plants have been watered well every day. It is so easy to give too much of a good thing.—R. F.

COVENT GARDEN MARKET.—JULY 1.

FALLING prices and a slow demand rule here, and this, coupled with the astonishing quantities of some descriptions of produce, such as Peaches, Nectarines, and Pines, renders it difficult to effect sales for one-half of it. How long this may last we cannot say; but it is very unsatisfactory at present. Kent Shaw Potatoes bring 4s. per bushel, Regents 5s.

FRUIT.

	s.	d.	s.	d.	s.	d.	s.	d.
Apples ½ sieve	1	6	0	0	Melons..... each	3	0	6
Apricots doz.	2	0	4	0	Nectarine..... doz.	4	0	8
Cherries lb.	0	3	1	0	Oranges 100	12	0	0
Chestnuts bush.	0	0	0	0	Peaches..... doz.	6	0	12
Currants ½ sieve	4	0	0	0	Pears (dessert) .. doz.	0	0	0
Black doz.	4	0	5	0	Pine Apples lb.	3	0	6
Figs doz.	4	0	8	0	Plums ½ sieve	0	0	0
Filberts lb.	1	0	0	0	Quinces doz.	0	0	0
Cobs lb.	0	9	1	0	Raspberries lb.	0	4	0
Gooseberries .. quart	0	4	0	8	Raspberries.. per lb.	0	6	1
Grapes, Hothouse.. lb.	2	0	5	0	Walnuts..... bush.	10	0	14
Lemons 100	8	0	12	0	do. per 100	1	0	2

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	2	0	3	0	Leeks bunch	0	4	0	0
Asparagus 100	2	0	6	0	Lettuce per score	0	6	1	0
Beans, Kidney ½ sieve	4	0	0	0	Mushrooms ... pottle	3	0	4	0
Beet, Red doz.	2	0	3	0	Must.& Cress, punnet	0	2	0	0
Broccoli bundle	0	0	0	0	Onions per doz. bchs.	6	0	0	0
Bru. Sprouts ½ sieve	1	0	1	6	Parsley.....per sieve	3	0	4	0
Cabbage doz.	1	0	1	6	Parsnips doz.	0	9	1	6
Capicuma 100	0	0	0	0	Peas per quart	0	9	1	0
Carrots bunch	0	6	1	0	Potatoes bushel	4	6	6	0
Cauliflower doz.	3	0	6	0	do. Kidney do.	4	0	6	0
Celery bundle	1	6	2	0	Radishes doz. bunches	0	6	0	9
Cucumbers each	0	4	1	0	Rhubarb bundle	0	4	0	8
Endive doz.	2	0	0	0	Sea-kale basket	0	0	0	0
Fennel bunch	0	3	0	0	Shallots lb.	0	8	0	0
Garlic bunch	0	8	0	0	Spinach bushel	2	0	3	0
Herbs bunch	0	3	0	0	Tomatoes..... per doz.	3	0	4	0
Horseradish .. bundle	3	0	5	0	Turnips bunch	0	6	1	6

TO CORRESPONDENTS.

.. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.

BOOKS (Ponona).—"Fruit Gardening," which you can have free by post from our office for five postage stamps, we think would suit you (G. E. B.).—As you do not stipulate as to the price, we recommend McIntosh's "The Book of the Garden," Johnson's "Cottage Gardener's Dictionary," the new edition, with supplement. Smith's "Feras, British and Foreign."

SUPPLEMENT TO COTTAGE GARDENERS' DICTIONARY (A Gardener and Others).—The Supplement will be published by the end of next week.

PEAS.—STRAWBERRIES (A. R.).—There are too many varieties of Peas for us to be able to name one from a few pods. The size of your Empress Eugenie Strawberries is a full average. The gardener who talked about a Strawberry weighing six ounces must have been joking. He never saw one of half that weight.

BLACK SPOTS ON ROSE LEAVES (E. F. W.).—"The black spots on the Rose leaves are said to be caused by some fungus, but I have never yet been able to detect a spore. I never saw them under glass, but I have more than I like on my Roses now. It is not improbable that the cause may be sudden and extreme atmospheric changes. The leaves invariably fall off in course of time. After a Rose has bloomed you may cut back to the first fresh plump eye. If a bud start and lock pointed, cut to the next plump eye.—W. F. RADCLIFFE."

ROSES FOR PEGGING-DOWN ON A LAWN (Idem).—"I recommend the following thirteen Roses for pegging-down on a lawn; they are very free bloomers. For this purpose they must be plants with pliable wood. Stiff, erect growers are not so suitable. Pink—Jules Margottin; Maroon—Camille Bernardin; Vermilion—Maurice Bernardin; White—Baronne de Maynard, most beautiful; Yellow—Celine Forestier, it must not be cut much, and requires great room; Rose colour—Comte de Nanteuil; Red—Sanator Vaisee; Scarlet Crimson—Baronne Adolphe de Rothschild (not Baron), beautiful; Purple Crimson, dark shaded—Duc de Caize; Purplish or Brilliant Crimson—Marchal Vaillant; Waxy Flesh—Mrs. Bosquet; Blue—Marguerite de St. Amand; Rosy Crimson—Lady Suffield. From these thirteen Roses selection is safe.—W. F. RADCLIFFE."

SOWING PEAS (S. B.).—There is nothing new in the plan you adopted to keep off birds. Thread or string stretched over seed beds may be seen in almost every cottager's garden.

SKELETON LEAVES AND SEAWEEDES (E. E.).—It is impossible for us to tell the value, so much depends on the specimens and their condition. Such things, as a rule, are just worth what the buyer pleases to give, unless you fix a price and wait a long time to effect a sale.

BORONIA SERRULATA INFESTED WITH SCALE (Drina).—The specimen is much infested with scale. You will find it upon the stems and under sides of the leaves, appearing as a small, brownish, slightly raised lough speck, that comes off readily when touched slightly with the point of a knife. The gummy substance is honeydew caused by the scale insect, and the black substance is the honeydew infested with black fungus. We cannot say what is the cause of the attack, but it probably is the plant being kept in too close and warm an atmosphere. The best remedy is to pick off all the insects with the point of a knife, then lay the pot on its side, syring the plant forcibly with water at a temperature of 140°, turning it and the pot round so as to thoroughly syringe it on every side. This repeated a few times at intervals will free the plant of the scale. We advise you to keep it in a cold pit or frame during the summer.

MARING A TAN BED (A Young Beginner).—The tan or bark we presume is old and spent, as it ought to have heated before it had lain "some time," which we presume is some weeks. If fresh it would become heated within a fortnight if the heap was large enough. No sprinkling with water would cause it to ferment or heat, nor ought it to be screened—indeed we consider it worthless; but tan may be spread out too thinly, and there may be too little of it for fermentation. For the width of bed you name the tan should not be less than 4½ feet in depth, and it should be fresh, putting about a foot of screenings of old tan—that remaining in a half-inch sieve—on the surface for plunging the pots in. Cheilanthes fragrans (odora) is a somewhat scarce Fern, being rather difficult of cultivation. It is included in the catalogues of our principal nurserymen, and is not high-priced.

IMPREGNATING MELON FLOWERS (T. W.).—It is scarcely necessary at this period to impregnate the flowers, but it is well to practise it at all seasons. The process is a very simple one. All that is necessary is to take the male flower, which is that without fruit, and nipping it off the plant, strip it of the corolla, leaving the centre entire. This will be covered with a fine yellow powder. Taking the flower by the stalk, place it in a flower having a fruit beneath it. Twist it gently round a few times, and the pollen or yellow dust will be distributed on the stigma of the flower. The flowers should be impregnated when they are fully open and fresh, and during the early part of a fine day, going over them frequently for the purpose, so as to perform the operation before they shut.

STOPPING VINES (R. E.).—It is not desirable to stop the leading shoots until they reach the top of the house or length of rafter; then they ought to be stopped, and not turned back as you seem disposed to do. We invariably pinch out the point of the leading shoot when about 1 foot from the top of the house or rafter, and allow the laterals to grow to some extent before stopping.

STRAWBERRIES FOR LIGHT SOIL. (Ormskirk).—For preserving we recommend Sir Charles Napier; and for table use, Eclipse, La Constante, and Frogmore Late Pine. Roses cannot be successfully cultivated in a drawing-room.

RHIZOPTERIS DELTATA CULTURE (S. A. M.).—It is a very rare Fern from the West Indies, succeeding admirably in a rather close moist atmosphere. Avoid wetting the freeds more than can be helped. A moderate amount of air is necessary, and shade from bright sun. When growing freely water liberally, and always keep the soil moist, but drier in winter than in summer. Keep it near the glass, and afford plenty of room. Give a liberal amount of drainage; and for soil use a compost of brown, sandy, fibrous peat torn in pieces with the hand and made fine, adding silver sand freely. The temperature may be from 55° to 75° or 70° in winter, and from 60° to 65° at night in summer, and from 80° to 85° by day with sun.

PLANTS FOR A ROCKWORK ARCHWAY (A Twelve-years Subscriber).—Your rocky archway being in the shade will answer very well for some of the hardy Ferns; but there are no Lycopods that would succeed, except, perhaps, Selaginella denticulata planted in a sheltered cavity or crevice.

The following Ferns would probably succeed, providing the rockery is not subjected to the sun's rays, but shaded from them, and can be kept moist.—*Aloisurus crispus*, *Asplenium adiantum nigrum*, *A. ruta-muraria*, *A. trichomanes*, *A. viride*, *Cyatopteris fragilis*, *Polypodium alpestre*, *P. vulgare*, *P. dryopteris*, *Rheclnum spicatum*, *Polystichum aculeatum*, *P. angulare*, and its varieties *proliferum* and *cristatum*, and *Polystichum lonchitis*. The rockwork, on the other hand, being in the full sun, will need plants accordingly, and not Ferns—as *Aubricia deltoidea*, *Arenaria verua*, *Arabis albidu*, *Campanula gurganica*, *Cerastium tomentosum*, *Cheiranthus alpinus*, *Draba aizoides*, *Eriopus alpinus* (should be planted liberally), *Linaria cymbalaria*, *Oxalis tropaeoloides*, *Polygala vulgaris*, *Saxifraga affinis*, *S. nizzoni*, *S. cymbalaria*, and *S. juniperina*; *Sedum acre*, *S. anglicum*, *S. Forsterianum*, and *S. kamtschatkense*; and *Sempervivum arachnoidesum*, *S. globuliferum*, and *S. californicum*. They can be procured through any of the principal nurseries.

FERN FRONDS MILDEWED (G. A. S.).—We are obliged by the Fern friends. The plants should have thorough and frequent syringings. The mildew or fungus would then disappear.

LADY DOWNE'S GRAPES SETTING BADLY (S. C.).—The Lady Downe's Vine should have a higher temperature to set its fruit well, and the floors and other surfaces should be sprinkled with water twice or thrice a-day. Requiring a higher temperature than the Black Hamburgs, Lady Downe's Vine ought not to be grown in the same house, but the Hamburgs will succeed with the treatment required for the Lady Downe's, only the fruit owing to the temperature may be ripe earlier than desired.

GANSEL'S BERGAMOT PEAR (A Subscriber).—It would not succeed as a standard if you reside in the northern counties. Your planting it in a warm sunny orchard would be successful if your locality is mild and not far north.

CUTTING-IN OLEANDERS (C. M. M.).—Now is a good time to cut-in the old Oleander trees, but we should have preferred doing so a month or six weeks earlier. In pruning leave some young wood if you can, as they do not push freely from such thick stems as you describe. We should prefer putting in cuttings, shoots of the current year that have completed their growth being taken off when the wood is rather firm. Cut them below a joint, take off the lower leaves for about two-thirds the length of the cutting, and insert the cuttings in a compost of equal parts of turfy loam, sandy peat, and silver sand, with an inch in depth of silver sand on the surface. Place the cuttings in a hotbed, and they will be well rooted in about six weeks, and may then be potted-off. The young plants will serve your purpose better than cutting down the old plants.

WATERING AMARYLLIS (Idem).—Watering should be continued until the plants show signs of going to rest, which you will notice by the alteration in the colour of the leaves. The seed will ripen fully without giving water specially on their account. As a rule, watering will be required until September. We fear you have destroyed the seed pods by too liberal supplies of water overhead. Give only enough water to keep the foliage from flagging, and when the leaves turn yellow cease watering altogether, placing the plants near the glass in the full sun.

VALLOTA PURPUREA POTTING (Idem).—For autumn flowering no time should be lost in having the plants repotted; but unless the drainage is bad we would not repot, but leave the bulbs as they are. If the drainage is bad repot, but do not give a large shift, as *Vallotas* and all bulbs never do so well as when the roots are confined and touching the sides of the pot.

IPOMEEA HEDERIFOLIA (A. C. M.).—You have the plant we meant by German Ivy, and when it flowers we will thank you for a specimen. The

true *Ipomoea hederifolia* has pale lilac flowers, and is very like a *Convolvulus*.—G. A.

PANSIES FOR FLOWERING AT THE END OF JUNE (Centurion).—To have Pansies in flower at the end of June cuttings should be put in late in the previous autumn, and planted at the end of March or early in April. These plants should be kept well supplied with water, and shaded from bright sun during hot dry periods, so that they may grow well during May and the early part of June, instead of flowering. To prevent their exhausting themselves pick off the early blooms. Top-dressings of rich compost should be given in April and May.

ASTERS FOR EXHIBITION (R. C.).—They must be grown in good, rich well-manured, and deeply-dug ground. The seed should be sown at such a time that they will be in flower at the time required. Sow in gentle heat, keep the seedlings near the glass, prick them off when large enough to handle, and plant them out when of sufficient size. Afterwards attend well to them with water, shade from bright sun, and take every means to encourage free vigorous growth, giving liberal supplies of liquid manure, and a top-dressing of rich compost when the flower buds are formed. The treatment is not different from that for *Asters* grown in borders, only more pains are taken with them.

TRAINING MELONS (Idem).—It is impossible for us to tell how many shoots ought to be left on a plant. The main branches should be trained about 1 foot apart, and from them you will have lateral or secondary shoots, on which the fruit is produced. The surface of the bed, therefore, should be covered with main branches not nearer than 9 inches, nor exceeding a foot apart, which will be equal to about three main shoots per plant, two plants being planted under a light. One fruit will be sufficient on each branch, but we never leave more than two fruits on a plant, or three at the most when it is exceedingly vigorous, and only one on a main shoot or branch.

OUT-DOOR VINE-GROWING (An Amateur Vine-grower).—“Hoare on the Vine” is a good work on out-door Grape-growing. It chiefly refers to the cultivation of Vines on walls. Mr. Hoare's system is practically that of the rod, now so much written about under the title of the “extending system of Vine-growing,” as if it were a novelty. The information in Mr. Hoare's book is sound; but with the introduction of cheap glass has come superior and extended culture of all fruits. We shall have an article on the culture of Vines in the open air in an early number.

TURT PITS (L. J. P.).—We shall publish some notes on these shortly. Your letter we regret having mislaid.

INSECTS (E.).—The small snail-like insects on your Jargonelle Pear leaves are the slimy larvæ of a black-winged Sawfly, *Tenthredo Ethiops*. Dust the leaves well with powdered lime, or syringe them well with strong lime water. (Centurion).—Your Pear leaves are attacked by the slimy larvæ of a small black-winged Sawfly; your Rose leaves by those of another kind of Sawfly; and one of the leaves sent enclosed the empty chrysalis skin of a small Moth (*Tortrix* sp.). Lime water and powdered lime will destroy the former. For the latter, in addition to hand-picking, we would sprinkle or dust the bushes with white hellebore powder, or they may be syringed with a solution of one peck of lime and 2 lbs. of soft-soap to thirty gallons of rain water. The Pear trees may be treated in the same way, syringing them in the evening. The Pear leaf is evidently that of *Winter Nolia*, but we cannot name fruit trees from leaves.

NAMES OF PLANTS (Ignoramus).—We have repeatedly stated that we cannot name plants from leaves, nor florists' varieties.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending June 30th.

DATE.	BAROMETEB.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. sp.	2 ft. sp.			
Wed... 24	29.998	29.916	75	49	63	61	S.W.	.00	Clear and fine; overcast, very fine at night.
Thurs.. 25	30.167	30.059	75	41	63	59	W.	.00	Overcast, cloudy; overcast; clear and fine.
Fri... 26	30.252	30.054	81	43	63	60	E.	.00	Hazy, fine; very fine; clear and very fine.
Sat... 27	30.220	31.690	85	53	65	69	S.	.00	Very fine; exceedingly hot; very fine, clear.
Sun... 28	30.159	30.083	79	46	63	61	S.W.	.00	Slightly overcast; fine; very fine, cloudy.
Mon... 29	30.250	30.177	80	43	63	61	N.E.	.01	Clear and fine; very fine; fine at night.
Tues.. 30	30.250	30.147	76	53	63	60	N.E.	.01	Very fine; clear and fine; cloudy, cold wind.
Mean	30.185	30.075	78.85	45.57	63.00	60.14	..	0.01	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

HOUDANS.

REDEEMING the promise we made last week, we continue our notice of the French breeds. We do so, repeating we are responsible only for translation, the description still belongs to M. Jacque. Nevertheless, as very old breeders, we will guarantee the truth of the description he gives.

It may be that when we speak of ourselves as very old breeders it will be thought we should say something of our own experience. It is that the Hondan is the hardiest of all the French fowls introduced to us of late years. It is an excellent layer, a fowl easily and cheaply kept, bearing any amount of confinement, but determined to have its own way, and to seek a substitute for anything that is lacking. Thus, we cannot tell whether it was from drought and consequent lack of green food, or that the efforts of our English feeder were unpalatable to the French taste of our imported stock, but they certainly lacked something, spite of grass and lettuces,

and from results it would appear that the nearest approach to a substitute was feathers. The heus have eaten all the cock's feathers, the cock has eaten the heus'. It is lucky the moulting time is at hand, that the damage may be repaired.

There is a peculiarity in the French breeds, which will be understood by all who keep them: the difficulty, almost impossibility, of keeping the cocks healthy. We have given it up with the unfortunate *La Flèche*. The cocks will be well in the morning, moribund in the evening. Who has not read *Sponge's* sporting tour? Who has not noted the difference between *Jawleyford* addressing his tenantry, and the same *Jawleyford* getting himself up to put off that “horrid Mr. Spraggon.” The unlimited costume and great flow of spirits in the first place, the downcast face and handkerchief-bound head in the second, are fair representatives of the French cocks. In the morning they are seen gay and cheerful, and you are tempted to believe they are greatly libelled, or (and this is the most pleasing interpretation), that others do not understand the management of them so well as you do. You give your opinion freely during the day to your friends, and offer one of them an unlimited supply of strawberries and cream if he will go

with you and see the birds after office is over. You increase the bribes till he consents. The first visit is to the poultry. Where is the bold bird that cried defiance at you in the morning? You cannot see him; but on close examination you perceive a sort of semicircular bunch of feathers in the corner of the pen. There is the gallant bird of the morning. His tail is on the ground, his head as near it as may be. You can only say, "It is very odd." He will, and does recover; but those who keep them know this is a common case. Now for M. Jacque.

Proportions and general characteristics:—Body slightly rounded, of ordinary proportions, tolerably near to the ground, standing firmly on large feet. Breast high, legs and wings well developed, large head, half top-knot, whiskers and beard, triple transversal comb, five toes on each foot. Plumage splashed or spotted white, black, or straw colour; in chickens, black and white only.

An adult cock should weigh from 6 to 7 lbs., made up principally of flesh, the bones weighing only an eighth. He should be put up to fatten at sixteen, and be killed at eighteen weeks old.

His comb should be triple and transversal to the direction of the beak, composed of two lengthened, rectangular, and flattened spirals, opening from right to left like the leaves of a book; they should be thick and fleshy, and notched or uneven at the sides. The third spiral should grow from the middle of the other two, be about the size of a lengthened nut, and shaped like an irregular strawberry. A fourth, independent of these, and about the size of a tare, grows above the beak and between the nostrils.

Deaf ears small, and hidden by the whiskers; half crest inclining backwards and to the sides.

Beard begins between the wattles under the beak, and should be larger at bottom than at top.

Physiognomy of the head differing from that of other breeds in many remarkable particulars. The head forms with the neck a very close angle, so that the beak takes the appearance of a nose. The square and flattened comb looks like a fleshy forehead, the cheeks are surrounded with curling feathers that look like whiskers, the drooping corners of the beak look like a mouth, the feathery cravat joined to the gills simulates a beard, the top-knot looks like a luxuriant head of hair, and the whole face immediately gives the idea of that of a man.

In the adult the legs should be of a leaden grey, in the chicken bluish grey and white, with rose-coloured spots.

The plumage of both sexes should be entirely composed of black, white, and straw colour; those that show any red should be pitilessly got rid of. The plumage of the Houdan should be either spotted or splashed, irregularly made up of alternate black and white feathers, sometimes of black tipped with white, sometimes of white tipped with black.

The adult hen should weigh from 5 to 6 lbs.

Both sexes must have five toes on each foot. The hen is an abundant and early layer of large eggs.

This is truly a hardy fowl, and is reared more easily than any other French fowl. They are also more domesticated and less destructive to gardens and crops than any other.

NOTES ON HATCHING.

THE necessity of keeping eggs damped previous to hatching is adverted to in page 396. I find doing so very beneficial, and very rarely lose a chicken at hatching time. I sprinkle the eggs at intervals with flowers of sulphur, but not when the eggs are ready to hatch. Just before I expect them to do so I take a bowl of water, and try the eggs, put them all in, and if, after carefully watching them for a few seconds, there is no movement, remove the bad ones; it gives the others more room, and facilitates hatching. I seldom sprinkle the eggs during this hot weather, but pour half a hand-bowl of water over them.

"NEMO," in the same number of the Journal, thinks an easterly wind prejudicial to hatching. I cannot now call to mind the time the east wind prevailed. It is said about this part of Sussex (near Uckfield), that if a Goose sits when the wind is easterly she will require five weeks to hatch. My Geese have hitherto hatched in about thirty or thirty-one days. One of mine laid a second time, and sat on the 11th of May. Of this I am positive, as I put the date on all the eggs. I found she did not hatch at the usual time, and would have taken her eggs away, but she sat in a damp place out of the way near a bed of rushes, and not far from a pond. On

the 15th of June, five weeks from the 11th, the first goslings appeared, and the others came out during the following day.—L. B.

STAVELEY POULTRY SHOW.

HAVING entered a pen of birds for the Staveley Show, which was fixed for June 23rd, I was somewhat surprised on the 22nd by receiving a letter from the Secretary, stating that "owing to the small number of entries the Committee are sorry that they cannot see their way clearly to holding the proposed Show at the present time," and returning the amount of my entry fee. The entries, it appears, closed on June 13th, therefore the Committee must then have been aware of the "small number of entries." Why, then, I ask, did they not immediately signify the abandonment of the Show without waiting eight or nine days, and until almost the day of the Show? Had they done so, I for one should have been less displeased.

I would suggest to the Committee of the Staveley Show, and the same suggestion may apply to some other committees, that in their advertisements they should state more definitely where the place is situated. After ferreting through a gazetteer and Bradshaw's Guide I concluded that this Staveley was either in Westmoreland or Derbyshire. I, however, addressed my application for a prize list simply "Staveley," and in due course received a list, but by which I was not further enlightened. Seeing, however, that the list was printed at Chesterfield, I concluded it must be the Derbyshire Staveley.—LEX.

BEVERLEY POULTRY SHOW.

THE entries at Beverley this season, were scarcely so numerous as in previous years, no doubt from the dates for the Spalding and Staveley Shows being almost simultaneous. The latter meeting was withdrawn by the Committee all but at the last moment, on account of the paucity of entries, and, consequently, many intending competitors were thrown entirely out in their calculations, and from this cause only a large number of excellent fowls that would otherwise have been at Beverley, remained at home. Even with this disadvantage, there were 290 entries, and with the single exception of the Game classes, the birds quite maintained the reputation which this meeting has enjoyed for eleven years.

This year's Show was held in the grounds of W. Crosskill, Esq., of Walker Gate, and certainly a more beautiful spot for such an exhibition could scarcely be imagined. Very extensive tents were provided, the arrangements were complete, and although at repeated intervals a thunderstorm seemed imminent, the weather fortunately proved fine throughout. The Honorary Secretary, Mr. Harry Adams, was as indefatigable as ever, and the most complete order and regularity prevailed.

A very extraordinary effort to surreptitiously obtain possession of a much-coveted premium at this year's Beverley Show deserves a moment's notice at our hands. An exhibitor who, we are informed, holds a very good social position, within a few days of the Show addressed a private letter to the Judge, directing his particular attention to both the class and likewise number of his pen that he purposed to exhibit for a silver cup, and then very modestly requested its appropriation. The letter also contained a post-office order drawn by the exhibitor in the Judge's favour. The sequel will, we trust, teach most expressively, that such conduct will never receive the sanction of any party worthy of the position of a public arbitrator. The course pursued by the Judge was this: The evening before the Show he read aloud the letter to a full meeting of the Committee, signed the post-office order in their presence, and at once handed it over to the funds of the Show, expressing his unalterable determination "to pass over" this particular pen, good or bad, as an empty one, when engaged in his decisions of the morrow. This done, the Committee passed unanimously a resolution, that the exhibitor should not be permitted again to exhibit at any future meeting of the Beverley Poultry Society. It is but justice to the birds themselves to add, they proved a very excellent pen, but from this cause only they were (as foretold), "passed" unheeded by the Arbitrator, though they did not at all lack the especial attention of visitors generally. We pass without comment, for it needs none, from this really unpleasant affair.

Most of the *Game* fowls exhibited were birds of high repute, and again added other laurels to the many they had previously obtained, but the rapid month that is taking place this season so unusually early, caused the Game classes, to an unpractised eye, to appear far less interest than on former occasions. Six weeks or even a couple of months must now elapse before the fowls can again recover their usual condition and essential hard feather. The silver cup for *Spanish* fowls was awarded to an extraordinarily good pen belonging to E. Jones, Esq., of Clifton, the competition being at the same time unusually severe for the remaining premiums in this class. Of *Cochins*, the display was excellent, and the emulation for the cup proved that the breeders of *Cochins* were fully aware of the value of its possession, both as to the sale of extra stock, and also as an addition to their

Sideboard. W. A. Taylor, Esq., of 23, Turner Street, Manchester, proved the winner, with an excellent pen shown in first-rate feather. All the *Hamburgh* classes were well filled, Mr. Beldon taking the bulk of the premiums, and the silver cup was awarded to a pen of Golden-pencilled, shown in perfect condition by Mr. J. R. Jessop, of Hull. In the "Variety class," a pen of *Partridges* were shown of excellent quality. The *Ducks*, with the exception of those in the "Variety class," were not so good as customary at the Beverley Shows, but the *Pigeons* throughout were so unexampled for good quality as to create quite a public interest in this portion of the Exhibition, and a reference to the list of awards will best prove that the competition throughout the whole of these classes was without a precedent at former meetings of this Society. There was also a very good display of *Canaries* and singing birds generally.

GAME (Black-breasted or other Reds).—First, W. Boyes, Beverley. Second, S. Matthew, Stowmarket. Commended, H. M. Julian, Hull.

GAME (Any other variety).—First, H. M. Julian. Second, A. K. Briggs, Bradford. Commended, W. Boyes; W. J. Cope, Barnsley; S. Matthew.

GAME—Cock.—First and Cup, S. Matthew. Second, H. M. Julian. Highly Commended, G. Sutton, Bootham, York. Commended, W. Boyes.

SPANISH.—First and Cup E. Jones, Clifton. Second, H. Beldon, Bingley. Highly Commended, J. Walker, Wolverhampton; J. Thresh, Bradford; T. J. Harrison, Singleton Park.

DORKINGS.—First, J. White, Warlaby. Second, H. Lingwood, Needham Market. Highly Commended, Rev. G. Hustler, Stillingfleet; Miss Milne, Otterburn. Commended, Rev. J. F. Newton, Kirby in Cleveland; H. Pickles, Earby.

COCHINS (Cinnamon or Buff).—First and Cup, W. A. Taylor, Manchester. Second, H. Mapplebeck, Woodfield, Birmingham. Highly Commended, J. H. Dawes, Moseley Hall, Birmingham; W. A. Taylor, Commended, R. White, Sheffield; C. W. Brierley, Middleton, Manchester.

COCHINS (Any other variety).—First, T. Stretch, Ormskirk (Partridge). Second, E. Tudman, Whitechurch, Salop. Commended, C. W. Brierley.

HAMBURGS (Gold-spangled).—First, H. Beldon, Bingley. Second, G. Holmes, Driffield. Highly Commended, J. White, Whitley, Netherton. Commended, J. Elgar, Newark; W. A. Hyde, Hurst, Ashton-under-Lyne; H. Beldon, Bingley; J. Walker, Haya Park, Knaresborough.

HAMBURGS (Silver-spangled).—First, H. Beldon. Second, J. Walker. Highly Commended, H. Beldon. Commended, J. A. Taylor, Manchester.

HAMBURGS (Gold-pencilled).—First and Cup, J. R. Jessop, Hull. Second, H. Beldon.

HAMBURGS (Silver-pencilled).—First, H. Beldon. Second, H. Pickles.

POLISH.—First, H. Beldon. Second and Highly Commended, Miss Procter, Hull.

ANY OTHER VARIETY.—First, R. Loft, Woodmansey (Partridge). Second, R. White (Brahmas). Highly Commended, L. Biney, Manchester (Brahmas); H. Beldon (Cochin Bantams). Commended, Rev. G. Hustler (Malays).

GAME BANTAMS.—First and Cup, J. R. Robinson, Sunderland. Second, W. F. Entwistle, Leeds. Commended, T. C. Harrison; E. Toder, Little Carlton.

BANTAMS (Black or White).—First, Messrs. Tonkin & Tuckey, Bristol (Black). Second, J. R. Jessop (White). Highly Commended, W. H. Tomlinson, Newark-on-Trent. Commended, A. Jones, Stapleton, Bristol.

GAME BANTAM COCK.—First, J. Bamber, Acricrington. Second, J. Douglas, New Delaval. Highly Commended, L. Biney. Commended, T. C. Harrison.

DUCKS (Aylesbury).—First, Messrs. Bowman & Fearon, Whitehaven. Second, M. Harrison, Warton. Highly Commended, Rev. G. Hustler.

DUCKS (Rouen).—Second, Messrs. Bowman & Fearon.

DUCKS (Any other variety).—First and Second, T. C. Harrison (Pintails and Carolinas).

SELLING CLASS (Any variety).—First, H. M. Julian (Game). Second, J. Walker (Silver-spangled). Highly Commended, G. Holmes; T. C. Harrison (Bantams); J. Walker (Gold-spangled).

PIGEONS.

CARRIER—Cock.—First and Second, R. Fulton, Deptford. Third, H. Beldon. Highly Commended, R. B. Artindale, West Derby, Liverpool. Commended, H. Yardley, Birmingham. *Hen*.—First and Second, R. Fulton. Third, H. Yardley. Highly Commended, F. Graham, Birkenhead.

POUTER—Cock.—First and Second, R. Fulton. Third, H. Beldon. Commended, H. Beldon; H. Yardley. *Hen*.—First, H. Beldon. Second and Third, R. Fulton. Highly Commended, J. Elletson, Thorngumbald, York. Commended, H. Yardley.

ALMONDS.—First, F. Key, Beverley. Second and Third, R. Fulton. Highly Commended, W. Winter, Derby.

TUMBLERS (Any other variety).—First, Cream Jug, and Third, R. Fulton. Second, Jesse Thompson, Bingley.

BARBS.—First and Second, T. H. Frean, Anfield Spore. Third, F. Graham.

OWLS.—First, H. Yardley. Second, T. Newell, Ashton-under-Lyne. Third, R. Mole, Hull. Highly Commended, J. Clark, Thirsk; T. Statters, Hull. Commended, J. Walsh, Halifax.

FANTAILS.—First, H. Yardley. Second, R. Mole. Third, J. T. Lishman, Gillingham.

JACOBS.—First, J. Thompson. Second, T. Newell, Ashton-under-Lyne. Third, R. J. Bell, Hull. Highly Commended, C. Lythe, Cottingham.

TRUMPETERS.—First, J. T. Lishman. Second, Messrs. Beaumont and Stephenson, Beverley. Third, H. Yardley. Commended, J. Campey, Beverley.

TURBITS.—First, H. Yardley. Second, G. H. Pickering, Driffield. Third, J. Thompson. Highly Commended, J. T. Lishman. Commended, R. Wilson, Thirsk; H. Beldon.

NUNS.—First, C. Lythe, Cottingham. Second, H. Yardley. Third, R. Mole. Highly Commended, R. Wilson, Thirsk; J. Thompson.

DRAGONS.—First, F. Graham, Birkenhead. Second, J. Thompson. Third and Highly Commended, H. Yardley.

ANY OTHER VARIETY.—First and Second, J. T. Lishman. Third, H. Beldon. Highly Commended, H. Yardley; J. Clark (Swiss); R. Mole (Black Spots); T. Statters, (Red Swallows); C. Lythe (Blue feather-legged Jackerlins). Commended, R. Wilson; T. Newell.

SELLING CLASS.—First, W. Watson, Beverley. Second, H. Beldon. Third, J. Thomson. Highly Commended, R. Dawson, Beverley.

The Judges were—for *Poultry*, E. Hewitt, Esq., of Birmingham; for *Pigeons*, Dr. Boulton, of Beverley; and for *Canaries, &c.*, Mr. J. Moreton, of Hull.

CHELMSFORD POULTRY SHOW.

THIS Show was held in conjunction with the Essex Agricultural Society's Meeting, on June 25th and 26th.

The following is a list of the prizes awarded:—

DORKINGS (Coloured).—First, Cup, and Second, for best pen of Dorkings, D. C. Campbell, M.D., Brentwood. Third, H. Lingwood, Barking, Needham Market. Highly Commended, F. Parlett, Great Baddow, Chelmsford, Commended, C. Turcor, Chelmsford; F. Parlett.

DORKINGS (Any other variety).—First, H. Lingwood (White). Second, D. C. Campbell, M.D. (White). Third, Rev. E. S. Tideman, Childerditch Vicarage, Brentwood (Silver-Gray).

COCHINS (Buff or Cinnamon).—First and Cup for best pen of Cochins, H. Lingwood. Second, H. Mapplebeck, Woodfield, Moseley. Third, Mrs. Christie, Glydehonrne, Lewes. Highly Commended, W. A. Gibbons, Chiddingfold; J. H. Dawes, Hasely Hall, Birmingham.

COCHINS (Any other variety).—First, H. Lingwood (Partridge). Second, A. O. Worthington, Burton-on-Trent (Partridge). Third, J. K. Fowler, Aylesbury (Partridge).

BRAHMAS (Dark).—First and Cup for best pen of Brahmas, A. F. Hart, Alderwasley, Derby. Second, J. K. Fowler. Third, H. Lingwood. Highly Commended, J. H. Cuff, Metropolitan Cattle Market; F. James, Peckham Rye.

BRAHMAS (Light).—First and Second, H. Dowsett, Pleshey, Chelmsford. Third, A. O. Worthington.

GAME (Black-breasted and other Reds).—First and Third, Rev. E. Watson, Messing, Kelvedon (Brown Red). Second, S. Matthews, Stowmarket (Black Red). Highly Commended, H. Lee, Appuldurcombe (Black-breasted Red); W. B. Jeffries, Ipswich.

GAME (Any other variety).—First and Cup for best pen of Game, S. Matthew (Duckwing). Second, Rev. F. Watson (Pile). Third, T. Dyson, Halifax (Duckwing).

SPANISH.—First, P. H. Jones, Fulham. Second, F. James (Black). Third, R. Ede, Worthing (Black). Highly Commended, H. Lingwood; F. James (Black).

HAMBURGS (Gold or Silver-pencilled).—First, W. K. Tickner, Ipswich. Second and Third, C. Havers, Ingatestone (Golden and Silver).

HAMBURGS (Gold or Silver-spangled).—First, Rev. F. Tearle, Gazeley Vicarage, Newmarket (Silver). Second, Mrs. Pattison, Maldon. Third, T. Penfold, Newhaven (Silver).

FRENCH (Any variety).—First, Lady L. Charteris, Attleborough (Black Crève-Cœur). Second, Col. Stuart Wortley, Grove End Road, London (French). Third, J. K. Fowler (Crève-Cœur).

GAME BANTAMS (Any variety).—First, W. Dale, Weston-super-Mare. Second, W. B. Jeffries (Black Red). Third, E. B. Edwards, Brentwood. Highly Commended, Mrs. Sheerman, Chelmsford; Mrs. Holmes, Shepherd's Bush (Brown-breasted Red); J. Parlett (Black Red).

BANTAMS (Any other variety).—First, Rev. F. Tearle (White). Second, T. Burgess, Erighouse. Third, G. Manning (Golden Sebright). Commended, J. Allen, Amptill.

ANY OTHER VARIETY NOT PREVIOUSLY MENTIONED.—First, P. H. Jones (Polish). Second, Mrs. J. Mayhew, Great Baddow (Pea Fowls). Third, D. Mutton, Brighton. Highly Commended, J. Pool, Little Waltham (Pea Fowls); Mrs. Tippler, Dukes, Roxwell (Guinea Fowls); Col. Stuart Wortley (Frizzled Japanese); J. K. Fowler (Silkies); Lady L. Charteris (Buff Polish).

DUCKS (Rouen).—First, Second, and Third, H. Dowsett.

DUCKS (Aylesbury).—First, J. K. Fowler. Second, W. Tippler, Dukes, Roxwell. Third, Withheld.

DUCKS (Any other variety).—Prizes withheld.

TURKEYS.—First, Mrs. Mayhew. Second, H. H. Tippler, Dukes, Roxwell. Third, R. Pigott, South Weald.

GEESE.—First, J. K. Fowler. Second, Mrs. Upson, Rivenhall. Third, H. H. Tippler.

SELLING CLASS (Any variety).—First, Miss A. L. Dowsett, Pleshey. Second, D. C. Campbell, M.D. (Coloured Dorkings). Third, G. Simpson, Chelmsford (Coloured Dorkings). Highly Commended, E. Rice, Sandwich (Black-breasted Game); G. Simpson (Coloured Dorkings). Commended, E. Rice (Duckwing); A. Barker, Roxwell (Buff Cochins).

PIGEONS.

CARRIERS.—First, H. Yardley, Birmingham. Second, E. Sheerman. **POUTERS**.—First and Second, P. H. Jones, Fulham.

TUMBLERS.—First, P. H. Jones (Almond). Second, H. Yardley. **JACOBS**.—First, P. H. Jones. Second, H. Yardley.

TRUMPETERS.—First and Second, E. Sheerman. **FANTAILS**.—Prize, H. Yardley.

ANY OTHER VARIETY.—First, P. H. Jones (Barbs). Second, H. Yardley. Highly Commended, P. R. Tippler, Dukes, Roxwell (Turtle Doves); H. Yardley. Commended, P. H. Jones (Turbits).

SELLING CLASS.—First and Second, E. Sheerman.

JUDGES.—W. B. Tegetmeier, Esq., Maswell Hill, London, and J. Monsey, Esq., Thorne Lane, Norwich.

STONEHOUSE POULTRY SHOW.

JUNE 26TH AND 27TH.

THE Judges, Mr. Matthew Hedley, of London, and Mr. Wm. Rone, of Bristol, awarded the prizes as follows:—

SPANISH.—First, Third, and Commended, R. Barrett, Stroud. Second, R. Blic, Stonehouse.

DORKING.—First, W. Sims, Stroud. Second, D. Darke, Stonehouse.

COCHIN-CHINA (Light).—First, G. E. N. Rawlinson, Gloucester. Second and Commended, R. Barrett.

COCHIN-CHINA (Dark).—First, R. Blic, Stroud. Second, J. E. Burghope, Stroud. Highly Commended, T. Gee, Hardwicke.

BRAHMA FOOTRA (Light)—Prize, R. H. Tyte, Minehihampton.
 BRAHMA FOOTRA (Dark)—First, W. Sims. Second, R. Blick.
 GAME (Black-breasted and other Reds)—Prize, R. Blick.
 HAMBURGS (Golden-pencilled)—First, J. S. Maggs, Tetbury. Second, R. Blick.
 HAMBURGS (Golden-spangled)—First, J. S. Maggs. Second, R. Blick. Commended, R. Blick; C. Webb.
 HAMBURGS (Silver-spangled)—First, R. Blick. Second, J. S. Maggs.
 POLISH (Silver)—First, Miss K. Barrett, Stroud. Second, R. Blick.
 ANY OTHER DISTINCT VARIETY—First, Mrs. Barnes, Eastington (Silkies), Second, R. Blick (Andalusians). Highly Commended, E. W. Winterbotham. Commended, J. Burghope.
 SINGLE COCK (Any variety)—First, W. Kneec. Second, R. Blick. Commended, R. Barrett.
 BEST CHICKEN—First, R. Barrett. Second, R. Blick. Highly Commended, R. Barrett. Commended, J. Briakworth.
 DUCKS—First and Second, J. Webb, Stroud. Highly Commended, S. S. Dickinson (Muscovy Duck and drake).
 PIGEONS—Carriers—Prize, R. Blick. *Trumpeters*—Prize, R. Blick. *Black and White*—First and Second, W. Kneec.
 CANARIES—Best Cage of Birds—First and Second, Mrs. Smith, Stonehouse. *Single Cock*—First, G. Cumming, Gloucester. Second, Mrs. Stephens, Stonehouse.
 ANY OTHER VARIETY OF FOREIGN BIRD—First, Miss E. Hayward. Second, R. Blick.
 BEST CASE OF STUFFED BIRDS—First, R. Blick. Second, Miss Hayward.

SPALDING POULTRY SHOW.

THE second annual meeting of the Spalding Society was held June 25th, and being combined with a Floricultural Exhibition, it was unusually attractive. The weather being most favourable, the attendance was very good. Every effort was made by the acting Committee to promote the comfort of the poultry and the convenience of visitors. Turner's pens were used, and, consequently, the display was effective, whilst an ample tent accommodated all the sightseers, and would have sheltered them had the weather been bad.

For *Dorkings*, Dr. Campbell took the cup with some excellent specimens, and not without a severe competition from his rivals. Mr. J. Fletcher, of Stoneclough near Manchester, sent a collection of *Game* fowls calculated to fully support the high reputation of that gentleman's yard, and they proved to be in wonderful condition, and one of the greatest attractions in the Show. All the principal *Game* prizes were secured by these birds, and it took the Judges a considerable time to determine to which of these particular pens the silver cup for the best pen of *Game* should be awarded, the Judges, of course, little supposing that the whole of those so closely-competing pens belonged to the same individual. We can speak in the same high terms of commendation of the *Cochin* classes, Mr. Taylor, of Manchester, taking the *Cochin* cup in an unusually excellent class. Some very beautiful *Cuckoo-coloured* *Cochins*, and also some *Black* ones, were shown. *Brahmas* were good, more especially the dark-feathered ones. *Spanish* were excellent as a class, and here Mr. Beldon was the cup-winner. Some first-rate *Cochin Bantams* were shown, and also some of the best *White* ones we have seen for a long time.

The collection of *Fancy Ducks* was a chief feature of the Show, all the prizes being taken by the well-known exhibitor, Mr. Harrison, of Hall, and by another Mr. Harrison, a local resident.

Of *Pigeons*, we cannot speak too highly, as a reference to the names of the winners would lead any lover of *Pigeons* to anticipate, and those persons who missed the opportunity of viewing this division of the Show, where so much was calculated in other portions of the meeting to arrest the attention, lost a treat they little imagine.

The *Rabbits* were especially good, and the entries in this department were numerous.

The Committee were everywhere congratulated on the success of this year's Exhibition, and with similar attention no doubt future meetings will prove equally well supported.

DORRINGS (Coloured)—First and Cup—Dr. Campbell, Brentwood. Second, H. Lingwood, Needham Market, Barking. Third, J. Vorley, Woodhouse, Holbeach. Commended, G. Clarke, Long Sutton.

DORRINGS (Any other variety)—Prize, H. Lingwood (White).
 GAME (Black-breasted Reds)—First and Cup, J. Fletcher, Stoneclough, near Manchester. Second, J. Fletcher. Third, J. Laming, Cowburn, Spalding.

GAME (Brown Reds)—First, J. Fletcher. Second, J. Laming. Third, J. Shepherd, Spalding.

GAME (Any other variety)—First, J. Fletcher. Second, J. Laming (Ducking). Third, S. Matthew, Stowmarket.

COCHINS (Cinnamon & Buff)—First and Cup, W. A. Taylor, Manchester. Second, H. Lingwood. Third, H. Mapplebeck, Woodfield, Moseley, near Birmingham. Highly Commended, J. W. Harrison, Spalding. Commended, J. Vorley (Buff).

COCHINS (Partridge and Brown)—First, Rev. G. Gilbert, Claxton, Norwich. Second, J. Stephens, Walsall. Third, E. S. Lowndes, Stoney Stratford, Bucks (Partridge).

COCHINS (Any other variety)—First, G. Furness, Acerrington (Cuckoo). Second, H. J. Godfrey, Melton Mowbray (Black). Third, Mrs. Williamson, Leicester (White).

BRAHMAS (Dark)—First, E. Leech, Rochdale. Second, W. Whiteley, Sheffield. Third, G. P. Hobson, Long Sutton. Highly Commended, J. Dring, Godney Marsh. Commended, H. C. Woodcock, Rearsby, Leicester; J. W. Harrison.

BRAHMAS (Light)—First, J. Pares, Postford, Guildford. Second, H. Downsett, Pleshey, near Chelmsford. Third, Miss E. S. Maples, Spalding.
 SPANISH (Any variety)—First and Cup, H. Beldon, Bingley. Second, J. Marchant, Halifax. Third, F. James, Peckham Eye (Black). Highly Commended, Messrs. T. C. & E. Newbitt, Epworth, near Bawtry.

HAMBURGS (Gold and Silver-pencilled)—First, J. Laming. Second, G. Dykes, Spalding.

HAMBURGS (Gold and Silver-spangled)—First, Second and Cup, J. Laming. Third, Rev. F. Tearle, Newmarket. Highly Commended, J. F. Loversidge, Newark-on-Trent.

FRENCH FOWLS (Any variety)—First, T. Hardy, Crowland (Crève-Cœur). Second, Col. Stuart Wortley, Grove End Road, London. Third, H. Beldon.

ANY OTHER DISTINCT VARIETY NOT PREVIOUSLY MENTIONED—First, H. Beldon. Second, G. W. Boothby, Louth. Third, S. S. Mossop. LOCAL CLASS (Any variety).—*Chickens*—First and Third, J. W. Harrison. Second, J. Reynolds, Cowbit.

SELLING CLASS (Any variety)—First, J. Laming (Red Game). Second, E. Vine, Spalding (Black). Third, Miss E. S. Maples (Light).

DUCKS (Ronen)—First, E. Leech. Second, Rev. G. Gilbert. Third, J. J. St. t, Rochdale.

DUCKS (Aylesbury)—First, J. W. Harrison. Second, E. Leech. Third, Rev. G. Hustler, Stillingfleet.

DUCKS (Any other variety)—First and Third, J. W. Harrison. Second, T. C. Harrison, Hull. Highly Commended, Messrs. S. & R. Ashton, Mottram; J. W. Harrison. Commended, J. W. Harrison.

BANTAMS (Game)—First, W. F. Entwisle, Leeds. Second, J. Parlett, Huntiogdon. Third, G. Maples. Highly Commended, W. F. Entwisle; J. Laming (Cup). Commended, J. W. Harrison; A. Storrar, Peterborough.

BANTAMS (Any other variety)—First and Cup, Rev. T. Tearle (White). Second, H. Beldon (Pekin). Third, H. C. Woodcock (Japanese). Highly Commended, T. C. Harrison; H. Draycott, Humberstone, near Leicester (Silver-laced); A. Storrar (Black); Commended, J. W. Harrison (Sebright).

GEESE (Any variety)—First, G. Hustler. Second and Third, T. Hardy, Turkeys (Any variety).—Prize and Cup, E. Leech.

PHEASANTS, GUINEA FOWLS, AND ANY VARIETY OF ORNAMENTAL, FOREIGN, OR DOMESTICATED POULTRY—Prize, G. G. Maples, Wavertree (Pea Fowls).

SWEEPSTAKES FOR SINGLE GAME COCK—Prize, C. Ulyst, Spalding.
 SWEEPSTAKE FOR GAME BANTAM COCK—Prize, C. Munro, Stamford.

PIGEONS.

CARRIERS (Any colour)—First, F. Crossley, Elland, near Halifax. Second, R. Fulton, Depford. Highly Commended, R. Fulton; F. Crossley; H. Yardley. Commended, R. Fulton.

POUTERS (Any colour)—First, Cup, and Second, R. Fulton. Highly Commended, H. Snushall (White); F. Crossley; H. Yardley.

TUMBLERS (Any variety)—First, R. Fulton (Short-faced). Second, F. Crossley (Almond). Highly Commended, T. Ashburner, Dalton-in-Furness (Black); J. Fielding, jun., Rochdale (Almond); R. Fulton (Short-faced). Commended, J. Hawley; R. Fulton (Short-faced).

BARNS (Any colour)—First, F. Crossley. Second, R. Fulton. Highly Commended, H. Yardley.

JACOBS (Any colour)—First, R. Fulton. Second, Messrs. T. C. & E. Newbitt. Commended, J. Thompson, Bingley; H. Yardley.

FANTAILS (Any colour)—First, J. Hawley. Second, H. Yardley. Highly Commended, Messrs. T. C. & E. Newbitt.

ANY OTHER DISTINCT VARIETY—First, J. Fielding, jun., (Owls). Second, J. Thompson. Highly Commended, Miss F. Easton, Hull (Blue-tailed White African Owls); F. Crossley (Owls); H. Yardley; H. C. Woodcock. Commended, J. Thompson; T. Ashburner.

SELLING CLASS (Any variety)—First, D. Young, Leamington (White Dragoons). Second, G. Clarke. Highly Commended, J. Barnes; J. C. Queenboro, jun., Boston (Sandy Antwerps); H. Yardley; Messrs. T. C. & E. Newbitt. Commended, H. Draycott; H. Snushall; J. Queenborough; J. Thompson.

CAGE BIRDS.

CANARIES (Clear Yellow and Buff)—First and Cage, E. S. Smith, Boston (Yellow Belgian). Second, E. S. Smith (Buff). Highly Commended, G. C. Osborn.

CANARIES (Variegated Yellow and Buff)—First, J. Green, Spalding. Second, W. Cross, Spalding. Highly Commended, E. S. Smith (Buff Belgian, Buff Norwich, and Yellow Norwich). Commended, J. W. Harrison.

LINNET, GOLDFINCH, OR OTHER ENGLISH FINCH—First, W. Ringham, Deeping, St. Nicholas (Bullfinch). Second and Highly Commended, E. S. Smith (Linnet and Goldfinch). Commended, W. Ringham (Linnet); E. S. Smith.

BLACKBIRD, THRUSH, STARLING, LARK, OR OTHER ENGLISH CAGE BIRD—First and Second, E. S. Smith (Thrush and Blackbird). Highly Commended, E. S. Smith (Lark); J. W. Harrison (Thrush, Nightingale, and Blackcap). Commended, J. W. Harrison (Wood Lark).

PARROT, PARAKEET, LOXY, OR OTHER FOREIGN BIRD—First, G. E. Storr, Spalding (King Parrot). Second, G. Ecclesfield, Spalding (Parakeet). Highly Commended, C. A. Cartwright (Parrot); E. S. Smith (Parakeet); J. Watson, Spalding (Grey Parrot); J. Barnes, Spalding (Lory).

RABBITS.

HEAVIEST—First, P. Booth, Spalding. Second, J. Taylor, Sheffield. Highly Commended, T. Boor, Wykeham. Commended, A. H. Easton, Hull; E. Warner, Spalding.

LOP-EARED—First and Cup, M. Millington, York (Yellow Buck). Second, A. H. Easton (Yellow and White Buck). Highly Commended, M. Millington (Yellow Buck and Black and White Doe); A. H. Easton (Black and White Doe, Fawn Buck, and Fawn Doe); H. Yardley; J. Taylor; W. Allison, Sheffield.

FANCY VARIETY—First, R. Wise, St. Ives, Hunts (Silver-Grey). Second, W. S. Hornby, Clifton Garth, York (Himalaya). Highly Commended, A. H. Easton (Silver-Grey Cream Shade and Silver-Grey); R. Wise (Silver-Grey); J. Hockerston. Commended, J. W. Taylor.

Mr. Edward Hewitt, of Sparkbrook, Birmingham; and Mr. Richard Teebay, of Fulwood, near Preston, were the Judges.

DRAGON AND ANTWERP PIGEONS.

I AM very glad that my remarks upon the above varieties of fancy Pigeons have called forth a few words from two writers, for in this way knowledge is increased. Perhaps it may be thought right for me to add a word or two in reply.

"A FOREIGNER," as a Pigeon-fancier, takes a different view from myself, an English fancier. The fact is, we view the subject from different points of sight, for from all I have read or heard, Pigeon opinions on the continent are very different from ours in England. The old writers called the Pouter the English Pouter, and they might have prefixed the word English to other varieties; the continental Tumbler, for instance, was always different from our English bird.

To mark the differences now-a-days I will quote the description given of "The Hamburg Pigeon Show" in our Journal of August 29th, 1867. There I read, "The Carriers were very poor indeed in quality, but an improvement on the German idea of them a few years since," and "the Pouters, according to German ideas, were all that could be desired. In my eyes the true English Pouter was very badly represented." "The Tumblers, according to English ideas, resolved themselves to two pairs!" "Of Barbs much cannot be said." "Turbits were awfully low in quality," and so throughout. Nations differ in opinion, and it is right they should; national feelings vary, well they may, and may they always; it would, indeed, be a dull world if every nation were exactly like every other nation. Further, at the end of the article I have quoted is an account of forty thousand visitors who met to see two or three hundred Antwerps tossed off; in England the men would not have been nearly as numerous as the birds. Then mark the conclusion, "The attractions of the Pigeons seemed immense, and in many a group of some half dozen staid-looking men one would have imagined that the fate of kingdoms was being discussed, rather than the produce of some particular bird."

All this would not have happened in England. We love in poultry and Pigeons to breed pet birds with fine and remarkable points and properties. We delight to reach a certain difficult standard of merit in marking and colours, and only a small class of fanciers care for plain-looking but sharp-flying birds.

I am sorry I cannot recede in any way from what I have said. I have kept Antwerps, and did not find them as interesting, from my point of view, as other varieties. Two years since I saw the Birmingham Show, and think with "J. I. B." that "some Antwerps were little better than Blue Rocks." I am also happy to agree with the author of "Pigeons," where he says, page 82, "Antwerps often have a class given to them at the poultry and Pigeon shows; a very absurd arrangement, as they have no qualities that can afford any criteria for a judge to decide upon in a show pen." These words are stronger than mine. Again, this writer says, page 83, "Speed and endurance are the objects to be attained, and colour is altogether disregarded, another proof, if any were wanting, of the absurdity of offering a prize for a pair of well-matched Antwerps in a show pen, a prize which is generally given to a pair of birds that would never be seen again if let out fifty miles from home."

The right way would be to exhibit Antwerps that had performed very long journeys, these performances being duly certified and authenticated, not merely the written word of the owner; then, being sure they had done a great feat, they would be regarded with great interest, and would deservedly have much notice. But as a fancy bird I cannot for one moment place the Antwerp on the same level with the very graceful, striking-looking English Dragoon, a bird which merits much care and pains, and without which it cannot be bred to perfection. "A FOREIGNER" is quite entitled to his view, and so also is an English fancier.—WILTSHIRE RECTOR.

P.S.—I see Eaton says of Antwerps, "The more ugly they are the better they perform their work—that is, of flying." Ugliness is an unfortunate qualification for a show pen, unless the admirers of Antwerps regard them as a man who had an extraordinarily ugly wife did his spouse, for he said, "I am very proud of her; no man has such an ugly wife, and therefore she is unique. Oh! I am very proud of her."—W. R.

EARLY DRONE SLAUGHTER.

UPON looking at my bees on June 23rd, at noon, I noticed that in one of my hives, a Woodbury nine-bar and frame hive all glass, placed inside a summer house, the bees were killing the drones. The hive has not yet swarmed, but is very strong both in bees and honey. For several days I have seen the queen on the top of the bars inside, surrounded by her attendants; she will stay about half an hour at a time and then go down again, and perhaps in an hour or two will re-appear. Can you tell me the cause of the drones being killed so early? The queen looks well and lively, not languid or slow in her

movements. The bees hang out in thousands at the front of the hive, but still she does not seem inclined to lead them off. I passed last winter with fifteen stocks and did not lose one. I have had several swarms, but none before May 31st.—A SOUTH LANCASHIRE BEE-KEEPER.

[This somewhat premature massacre of drones arises from the recent break-up of fine weather putting a stop to the honey-harvest, and indicates that however populous the hive may be it is not likely to swarm naturally. Every available cell being, doubtless, filled either with brood, honey, or pollen, the queen's occupation is for the present gone, and she, therefore, idles much of her time at the top of the hive. The true remedy for this unsatisfactory state of things is to make an artificial swarm, which we should do immediately in the manner described by Mr. Woodbury, in page 80 of "The Gardener's Almanack" for 1868. The swarm should, of course, be fed if the weather is unpropitious, in order to enable it to proceed with comb-building.]

A BEE DISASTER.

"By other's faults wise men correct their own." I think I remember this proverb being on my copy slip long, long ago, and it is in the hope that others may profit by my woeful experience that I send you the account of to-day's disaster. I took a pin swarm of Ligurian bees last September, after it had been in the rain all night, hived it in the only hive at hand, a rotten old affair, brought it home, added two or three (I forget which) common swarms to it, fed them to the amount of 25 lbs. of food during the winter, and had the pleasure of seeing them thrive to my heart's content.

When this unlucky day, June 13th, I attempted to drive an artificial swarm—the bees had been hanging out for days, and as I was obliged to go from home, I feared they would swarm, and go off in my absence—so I turned up the rotten old hive, when down fell all the precious combs full of overflowing with honey, brood, and bee bread. The hive was so tender that the pressure I used in attempting to invert it, though I thought I was most careful, was too great, and a confused mass of bees, combs, and honey, was all that remained of my so lately prosperous colony. No words can describe my distress. I have packed up as much as I can, and placed it in a sapper, in the forlorn hope that the bees may rally round it. If you can advise me what to do, I shall be grateful; if not, publish this to warn others against a like disappointment.—AN UNFORTUNATE BEE-KEEPER.

[We fear that this is a hopeless case. The probability is, that the combs had become attached to the floor-board, and that the catastrophe might have been averted by the use of a moveable floor-board which could have been inverted with the hive.]

BEE GLASSES.

MY attention has been directed to the very admirable sketch of a glass of honey which was given in your Journal for June 4th. With a little further improvement this glass would prove a great acquisition. First of all, supposing that the hole of communication by which the bees enter from the hive below is at the base of the glass, as it stands in the engraving, and that the upper part is quite open, would it not be better for the top to rest upon, and not within the marginal rim, as it appears to do in the engraving? Methinks, too, it would be better made of wood than of glass, in which case the bees would make their combs adhere to it, and we should not, as now, see the bees constantly obliged to repair their labours, when the comb breaks down from its own weight, and from the difficulty of making it adhere to the glass.

Then, I should like to know how the bottom hole 3 inches in diameter is closed, so as to prevent the honey from oozing out when on the breakfast-table, which without some sort of stopper it will certainly do, as soon as the comb begins to be eaten. A cork would probably suffice, but then some allowance must be made in the stand below for the reception of the projecting part. But for some arrangement of this kind the glass, however beautiful as "a drawing-room ornament," will be practically useless where it is most wanted, "on the breakfast-table."

I have long given up glasses as adjuncts to my apiary, finding practically that those in common use are an extravagance. Often the bees will not work in them, and when they do, the industrious insects are constantly baffled by the difficulties they meet with in constructing and securing their combs,

wasting much time and wax in repairs. If this new glass had only a flat wooden top, and were otherwise improved according to the suggestions I have ventured to offer, many of these difficulties would be removed, and the glass would be all but perfect. Will your correspondent, "A RENFREWSHIRE BEE-KEEPER," kindly state where these glasses can be procured, and at what prices?—B. & W.

WILL TWO HIVES OF BEES WORK IN THE SAME SUPER?

PLACE the hives back to back, with a space of, say, 6 inches between. Place on them a super having holes to communicate with each hive through which the queens cannot pass. Divide the box in the middle with perforated zinc, and have the same over the entrance holes. Then first draw away one slide and allow one lot of bees to pass up, then in a day or so let the other bees come up. There then being free communication between the two hives, divided only by the zinc plate, the smell of the one will mingle with the other. After a short time would the bees know the difference in each other? The zinc plate if stopped up by propolis could easily be exchanged for another, and if the plate were entirely removed, what then? Would they fight? Or is the experiment worth trying or no? The object of this would be, I presume, an immense number of bees at work in the same super. Of course, they would go out of either hive, but always return into their own, I suppose.—X.

[The same idea has occurred to us, but we have been deterred from trying it, by the expectation of a quarrel. There is also the risk of regicidal attacks being occasioned by the intermixture of the bees of two different hives. We know of an instance in which the attempt was made to work a large glazed super by dividing it into four compartments, and admitting into each the bees from the same number of hives. The result was not encouraging, for all would not commence at the same time, so that the work in the different compartments advanced at a very unequal rate, then some of the queens went up, and a large quantity of brood appeared. Finally, one or two colonies swarmed, and declined to continue the work, until in the end the huge super had to be taken off with its contents in a very chaotic condition.]

TWO QUEENS IN ONE HIVE.

THE following instance of two queens in a hive will probably be of interest.

Premising that of nine young queens which I have lately raised from a Ligurian imported by Mr. Woodbury the half are remarkably light and well marked, and the other of a dark mahogany colour, with hardly a vestige of rings, I may state that having formed a nucleus with two combs, I saw on the 30th of May two royal cells sealed, the first of them on the 22nd. On the 2nd of June I found a young queen, which I consider to have been hatched May 31st, and very large, remarkably light-coloured, and with the hind extremity very black. I did not remark the condition of the royal cells, but put the box into the cellar, according to the receipt of "M. J.," for impregnation, and which, I may remark, has in two nuclei on which I have tried it in second-rate weather, proved a failure.

On June 5th I showed the queen to your correspondent "R. S.," when she appeared very large, but her bright yellow a little dimmed by confinement, as was that of the workers. On the 8th I looked at the queen, and was astonished at the change in her appearance; she was now of a dark mahogany colour, and very slight, which change I ascribed to the confinement, which ended three days previously. On the 11th I again saw the queen under the same aspect, and on the 18th observed her entering the hive about noon, the day being calm and cloudless, and remarked that she had quite recovered her pristine looks and condition. In the evening I looked and found her encased, a great beauty for size and colour, and with the evidences of a recent successful wedding flight. Dispersing the knot of bees, I shut the box up for about a quarter of an hour, when, looking again, I found her, as I supposed, at liberty; but, wonderful metamorphosis! she was now dark, slender, and evidently unimpregnated. Suspecting at last how the matter stood, I examined the other comb, and there was a knot with the yellow queen in the middle of it as before.

It is evident that in this case two queens inhabited the same box for more than a fortnight in harmony, but when one took a flight, she was received on her return as an alien. Is it not

possible that this may happen oftener than is suspected? and that it may account for the manner in which young queens are frequently destroyed on their return from their wedding trips? In this case I should never have suspected anything had it not been for the remarkable dissimilarity of the two queens; when first the yellow, and then, perhaps, the dark queen would have been destroyed; for, as it was, after I had removed the yellow queen, I found the bees very mutinously disposed towards the other, which I eventually removed and then caged the yellow queen; but until dark the regicidal furor remained unabated.

I may remark that I immediately examined all my other young queens, and found them intact, so that the supposition that one of them might have found its way into the hive is excluded; indeed, there was not any young queen within many yards of the spot.

For the information of one of your recent correspondents I will observe that I have fitted an adapting board with gratings three-sixteenths of an inch wide to exclude the queen, and that the super is progressing as well as if the passage were free. As an experiment in hastening fertility, I selected a glass uncomb hive with one common Woodbury frame on which a queen was hatched on the twelfth day of its removal from the parent hive, and I fed the very moderate population day and night from the time of the queen's being hatched. They built much comb, and on the ninth day of her life she was rendered fertile. I have never before had a queen so before the fourteenth day.—ARICOLA.

OUR LETTER BOX.

GAPES IN CHICKENS (G. F.).—If your chickens died from poison they would not be then as you describe. We believe they die of gapes. There is only one cure for them. No ordinary treatment is of any service, as it is a purely local disease, and that only which comes in contact with it can be of any service. You must administer pills of camphor, one at a time, and each pill half the size of a garden pea. These must be given every eight hours till the bird is relieved. In slighter cases a cure is effected by giving the chickens water strongly impregnated with camphor to drink. The disease is caused by small red worms at the end of the windpipe, and these die as soon as the odour of the camphor reaches them. Adult fowls do not suffer from gapes. Chickens are strengthened by having wormwood in their water.

WEIGHT OF SPANISH FOWLS—COMBS TURNING BLACK (H. B. T.).—There is no standard weight for Spanish cocks and hens. They are birds of feather, and should be judged accordingly. It is very likely your birds are approaching the moulting season; that would account for the appearance of the combs. Those of the hens always shrivel up at that time. We look with suspicion when a cock's comb falls over, always fearing lest it should remain so. Feed them well. Let them have their grass run as usual. You must not expect their combs to be as florid as in the spring.

HEN SUFFERING FROM DIARRHŒA (P.).—Give your hen Bally's pills if you have not them at hand, mix some pounded chalk with hard old strong beer, and give the pills every two hours till she is better.

WASHING FOWLS FOR EXHIBITION (Idem).—You may wash the plumage of any fowls with a sponge and cold water, if very dirty add a little soap. Wipe the feathers the right way, as it is only the outside that is dirty. Put them in a basket with hay to dry; in the winter before a fire, now in the sun. You may wash them the day before they leave you.

BRAHMS VULTURE-HOCKED (Notice).—It is very vexatious that your birds should come vulture-hocked. You are right; they are valuable only for the cook. This may occur in spite of every precaution on the part of the seller, as his birds may throw back. The birds that won the cups were not vulture-hocked in all probability. The seller of the eggs will, probably, regret the result as much as you do, and be willing to make compensation by sending you some more eggs, especially selected with a view to prevent a similar result.—B.

COCCATOOS SELF-PLUCKED (C. E. S.).—Continue to give your bird a good syringing of water, slightly warmed, two or three times a-day with a watering pot through a fine rose. Give it cold sopped bread, dry plain biscuits, Indian corn, canary seed, and fruit, a plentiful supply of clean water, and some bread dipped, not soaked, in milk occasionally. If the bird has plucked its feathers any length of time, there is no remedy, we fear, of curing it of the habit of doing so. This answer has been accidentally delayed.

GROEND OATS (Ferr).—Apply to Mr. Agate, Slougham Mills, Crawley, Sussex.

ESTABLISHING A HIVE (D. W.).—It is certainly not too late. A trifling expenditure in sugar will in any event set matters right.

SILK-WORMS' COCOONS (M. L. J.).—Three hundred are too small a quantity for commercial purchasers, and are only worth 2s. or 3s., producing about 1 oz. of silk, but if good they might be useful for production. If you send a sample to Mr. L. Harman, jun., Old Catton, Norwich, perhaps he will buy them.

POULTRY MARKET.—JULY 1.

We are daily getting a larger supply of poultry, and prices are hardly maintained, although, as is usually the case in very hot weather, there is a good demand.

	s	d.	s	d.		s	d.	s	d.
Large Fowls.....	4	0	4	6	Pheasants	0	0	0	0
Smaller do.....	3	6	0	0	Partridges	0	0	0	0
Chickens	2	0	2	6	Guinea Fowls	0	0	0	2
Goslings.....	5	6	0	0	Hares.....	0	0	0	0
Ducklings.....	2	6	3	0	Rabbits.....	1	4	1	5
Pigeons	0	3	0	9	Wild do.....	0	3	0	9

WEEKLY CALENDAR.

Day of Month	Day of Week.	JULY 9—15, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Risen.	Sun Sets.	Moon Risen.	Moon Sets.	Moon's Age.	Clock before sun.	Day of Year
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. a.	
9	TH	Alton Horticultural Show.	74.0	49.7	61.8	18	57 at 3	12 at 8	32 at 10	30 at 8	19	4 56	191
10	F		74.7	50.4	62.5	16	58 3	12 8	34 10	33 9	20	5 5	192
11	S		75.1	51.6	62.8	10	59 3	11 8	15 11	37 10	21	5 13	193
12	SUN	5 SUNDAY AFTER TRINITY.	75.9	50.4	63.1	13	0 4	11 8	39 11	41 11	22	5 20	194
13	M		76.0	51.3	63.7	14	1 4	10 8	morn.	after.	(	5 28	195
14	TU	Newport (Salop) Horticultural Show.	74.3	50.5	62.4	14	2 4	9 8	3 0	2 2	24	5 31	196
15	W		76.6	50.5	63.5	20	3 4	9 8	31 0	13 3	25	5 41	197

From observations taken near London during the last forty-one years, the average day temperature of the week is 75.2°; and its night temperature 50.5°. The greatest heat was 93½°, on the 14th, 1847; and the lowest cold 33°, on the 9th, 1863. The greatest fall of rain was 1.46 inch.

NOTES FOR AND AGAINST SPRING GARDENING.



IF the present movement in favour of spring gardening be calculated to lessen the amount of summer bedding, as it is called, many hard-working gardeners, whose glass structures of all kinds are overcrowded in the spring months, will hail it with delight, as relieving them and the legitimate occupants of houses and pits from a pressure that has been yearly increasing. It is, however, to be feared that no diminution of the number nor important change in the description of plants wanted in summer will be made; on the contrary, the cultivator's attention to the plants intended for spring display will have to be added to the amount of work which he has at present to perform, but with this difference, that the plants intended for summer display will remain longer on hand before they can be finally planted in their flowering beds, and the spring gardening, if well carried out, will be found to entail, at a time generally the busiest of any during the year, a much greater amount of labour than is often expected. A heavy crop of spring flowering plants cannot be removed from the bed which they have been occupying, without that bed having to undergo some kind of renovation in order to render it capable of supporting immediately afterwards another crop in a healthy and vigorous condition. Besides, many of the so-called spring-flowering plants continue to be ornamental until the beginning, or even the middle, of June. Possibly, too, the weather at the time the bed is ready may not be the most suitable for planting out subjects which have not each a separate pot, and loss or delay must take place; and even under favourable circumstances they cannot be so early as others planted out at the proper time, unless they have been specially prepared at the same trouble and cost that as many ordinary greenhouse plants would involve. Hence those persons who are taxed with as much work as they can possibly do with advantage to the plants under their care, ought to pause ere they commit themselves too hastily to an extensive system of spring bedding, if an early summer display be wanted also.

The example of the past winter ought not to be too hastily quoted as showing what can be done towards producing a display in spring, for it has been one of the best for the purpose that I ever remember. Some Primroses made an excellent show early in February, and were never injured by frost, but we can hardly expect this to occur often; beds, likewise, may endure one winter's crop without showing that exhaustion which they would do if winter planting were repeated year after year. That good results will not follow every season I have myself witnessed this spring. Nevertheless, I by no means wish to disparage a system that has attracted attention at intervals during the last thirty years, but has been abandoned by all but those who have the means of carrying it out well.

A short time ago I had an opportunity of witnessing a good example of spring gardening, combined with summer

bedding-out. In this case the early-flowering plants had been removed, the soil of the beds in a great measure exchanged for fresh compost, and Pelargoniums, Verbenas, and other plants, each growing in an 8-inch pot, were employed to fill the beds again, the plants being large enough to place on the stage of a greenhouse. The effect was complete at once, but few have the means of practising such a system on a large scale, and every one must do the best he can with the conveniences at his disposal. Some modification of this system will be attempted by many who cannot adopt it in its integrity, but those who have not had much experience should not embark too extensively in spring gardening unless they are in a position to carry it out well; and I would especially guard them against pursuing a plan practised in some places—that of mixing the summer bedding plants in the same bed as the spring ones, in the expectation that the former will out-grow the latter. Such mixtures rarely answer well, and are often a source of much disappointment; the bedding plants being late and irregular, and the season in a great measure gone before they cover the space allotted to them.

The present year, as I have already remarked, must not be taken as furnishing a fair example of the results which will be achieved in spring gardening in ordinary seasons, for the weather was unusually mild from the middle of January up to May, and annuals attained a robustness of character which they would not have done had the frost been more intense. The winter was so mild that here and at other places in the neighbourhood several rows of the single white Primrose commenced flowering by the end of January, and the frost was never sharp enough to injure the flowers, though it often is so as late as April. This variety blooms earlier than the wild Primrose, and during the past season it also flowered more profusely where both were growing together. I regard it as one of the best, if not the very best, of early spring-flowering plants; but I only mention it here to show that the mildness of the season enabled it to continue for more than two months one of the most ornamental plants we had; but such would not have been the case had frosts of an ordinary kind occurred while it was in flower. Forget-me-not, Silenes, and other plants were equally favoured by the mild weather.

I advise those desirous of attempting spring gardening, and who wish to have their beds at liberty by the middle of May, to grow only the earliest of all spring-flowering plants, and to avoid as far as possible all which do not begin to flower by the beginning of April, or at latest by the middle of that month. The number of such plants is, of course, limited, but they afford a good variety of colour, and it is better to reject the later-flowering ones than have to perform the unpleasant duty of destroying them when, perhaps, just at their best, in order to clear the ground for the next crop. Of course I am now advocating the cause of early spring-flowering plants only: those which bloom about Whitsuntide or later, beautiful and showy though they are, may be more properly considered as belonging to summer. Assuming, therefore, that only early flowers are wanted, the following short list may form a nucleus for

others to add to. All the plants named in it are very hardy, and easily transplanted, except in cases where it is stated that they are otherwise.

AUBRIETIA PURPUREA, a dwarf, spreading, herbaceous plant, likes dry ground, and is raised either from seeds or cuttings, the former being preferable. As a permanent edging it deserves a place almost everywhere, but it bears transplanting well; being densely covered with pale purple flowers, it is a great favourite in spring. A striped-leaved variety is still more pretty as a plant, although its flowers are less ornamental. *A. Campbelli* has darker-coloured flowers. All are good.

ARABIS ALBIDA is one of the earliest and most easily cultivated of all our spring-flowering plants, but it is often neglected at the time when its propagation ought to be attended to. Being of a free-growing habit, it speedily becomes too large for removal with ease, and it is preferable to pull a few plants to pieces in June, and insert the cuttings, or rather slips, for they may be 6 or 8 inches long, in a piece of nursery ground, using the spade for the purpose much the same as in planting Box edging. They will form useful plants to take up in autumn, when they may be removed to their flowering quarters. The perfect hardiness of this plant, and the profusion of flowers which it produces, entitle it to more attention than it receives, and its propagation is on the whole less troublesome than that of some annuals which require twice transplanting.

ARABIS ALBIDA VARIEGATA.—Of less robust habit than the preceding, its flowers are not less beautiful, while as a plant for winter decoration it has few equals. I mention merely the plant, not its flowers, for winter decoration, because the character and appearance of the plant are of more importance at that season than the flower, and it will be admitted by all that out-door flowers present only a sorry appearance in the dead winter months when this plant is so neat and interesting.

ARABIS LUCIDA AUREO-VARIEGATA.—I have never been able to make much of this plant, which seems to require a soil in which lime does not predominate to such an extent as with us. Its leaves rather than its flowers are its chief merit.

PRIMROSES.—The great variety of colour and compact habit presented by this family render it a favourite with everyone, nevertheless it does not succeed alike in all places, and with us dry summers affect it most, more especially the *Polyanthus* section. In general the single varieties make a better display than the double ones, and are more readily propagated. The single white and single pink are my greatest favourites, but the common wild Primrose is a desirable addition to these. Taken up and transplanted in some shady, rather moist soil, Primroses generally do very well; but where such north borders are wanted for summer Lettuces and similar crops and the plants have to be placed in some dry corner, the drought of summer affects them very injuriously. In general the best specimens of Primroses are those which have remained two years or so in the same place without having been disturbed; when longer in one place they very often become unsightly.

ALYSSUM SAXATILE.—I know of no plant which in dry soils is equal to this in intensity of colour at the period when it flowers; it is also hardy and readily adapts itself to transplantation twice a-year. We have grown it extensively at Linton Park for many years, and we have two varieties of it, one much dwarfer than the other, the flowers of both being of a vivid golden colour. A variety with variegated foliage does not flower so freely, but it looks well as a plant, and being very hardy is well adapted for winter work. It must be propagated by cuttings, but the ordinary form of *Alyssum saxatile* is easily raised from seed, which it produces freely. A dry soil appears to suit this plant best, as it clings to a dry corner with a tenacity not met with in every plant. I consider it amongst the best and most useful of spring-flowering plants; its gay appearance gives it an importance even when viewed from a distance, and the sturdy character of the plant when not in flower is also in its favour.

HEPATICA.—I mention this more on account of what I have seen elsewhere than as being successful with it myself, for I have never been able to manage it satisfactorily; either it did not transplant well or did not flower freely, so that I have not tried it for many years. In some places, however, it has been fine, and the neat character of the plant and its other qualities are great recommendations, if it can be made to endure transplanting twice a-year and will yet bloom well.

IBERIS GIBALTARICA.—This is somewhat later than the *Alyssum*, but is a compact plant, which preserves a good ap-

pearance all winter. As an edging it also looks well, and after flowering bears cutting-in better than most plants of its kind. I have used it more as a permanent edging than for spring bedding. An improved sort has lately been introduced called, I believe, *I. ternata*. The flowers are of a clearer white, and, instead of forming an umbel, are collected in a sort of short spike or head, the habit of the plant being about the same as that of *I. gibraltarica*.

DAISIES.—I have not planted these much, but where I have seen them the double white was of most service. Much, however, depends on the distance a plant is from the observer. If it is 50 yards off or more, usually pale-coloured flowers, as contrasting most strongly with the ground, look best, and those of a dull red colour are but little seen, but when close under the eye both look well.

BULBS.—Although last on the list these ought to have been first. The Snowdrop, which is noticed the least of all by bulb-vendors, is the most useful, as it transplants well in all stages of its growth, flowers the earliest, and has the important recommendation that when planted near woods and similar places it is not liable to be attacked by mice like the *Crocus* and *Narcissus*. Bulbs, however, are too well known and appreciated to require more than a passing notice.

To the above may be added many other beautiful and serviceable plants, and the Winter Aconite for one; but although it thrives remarkably well here when not removed, its success is not so satisfactory when it is taken up twice in the season, and the same remark holds true with regard to the Christmas Rose. There are so few annuals that meet our requirements of what may be called a winter plant that my list of them is a very meagre one. Many years ago I used to plant the Virginian Stock for early flowering, and I am not aware yet of any annual that blooms before it, but as a plant to look at and handle it is poor, although it is quite hardy and only resembles many other annuals. The Forget-me-not, which is very sturdy, also flowers tolerably early during a mild season, and nothing could well excel two large beds of it which I had this spring; but then every winter may not be like the last, and when I say that plants of *Tritoma uvaria* were in full bloom in March, it need hardly be wondered that other plants were in a like manner unhurt by the cold. I fear, therefore, that the Forget-me-not must not be classed with the very early-flowering ones, while a variety called *Impératrice Elizabeth* is very much later, in fact, it did not flower till June, when the hot weather decreased both the size of its flowers and the duration of their beauty.

There are no doubt other early flowers besides those which I have mentioned; but many say that the Pansies do not do well in dry summers and on dry soils, and *Viola cornuta* does not meet our requirements of the class of plants I am referring to, as old-established plants do not flower early enough, while the very pretty family of *Mimulus* requires a greater amount of moisture than is generally given. Wallflowers will do better, but they require somewhat more attention during the summer than they often receive; and the same may be said of several other plants equally beautiful. The really early-flowering plants are not so numerous as might be supposed, and those which present a good floral display in April after a hard winter are the kind wanted. Later-flowering subjects are plentiful enough.

Having gone thus far without landing the prevailing rage for spring gardening so much as many have done, but without at the same time wishing to deparage the system (my purpose being to confine it to the class of plants flowering early enough to allow of the beds being cleared and prepared for the summer bedding plants at the proper time), I would particularly urge all whose beds are objects of daily inspection to try to make them as ornamental as possible during the winter months. In general it is hopeless to look for many out-door flowers from the middle of November to the middle of February, and sometimes even during a longer interval; but there is no reason why ornamental plants should not occupy such beds during this period, and the plants available for the purpose are quite as numerous as those flowering in April. The winter decoration of the flower garden is not of less importance than the spring display, while it has the advantage of not interfering in the least with the summer bedding, which in most places is after all of the greatest consequence.—J. ROBSON.

ROYAL HORTICULTURAL SOCIETY'S EXAMINATION OF GARDENERS.—The next examination of candidates for certificates will take place at Kensington on the 14th of this month, and for

associateships on the 15th. Those requiring information on the subject may obtain it by applying to Mr. James Richards, Assistant Secretary, Royal Horticultural Society, South Kensington.

INSECTS AND WEEDS.

Few have been used to country life who have not often heard something like the following—"It's a sharpish morning!" the farmer says, rubbing his hands in the vain endeavour to turn his fingers any other colour but blue; "but it's very healthy, and it will kill all the grubs and weeds." Now, the ideas meant to be conveyed by such observations as these are so generally entertained that one has, perhaps, never heard a dissenting remark about them; and it is hence concluded by everybody that a hard winter is destructive to insects and weeds, and, indeed, that "King Frost" destroys more grubs than hosts of swallows, whilst he is duly honoured as "Winter the Weeder." But widely spread as are these ideas, I take upon myself to dissent from them, in the belief that my opinion will be shared by others upon due observation.

With regard to both insects and weeds, we must take into consideration that those here named are indigenous, and that they are among our wild native plants just because they are endowed with powers to resist the cold and frost to which in winter they are liable to be subjected. Look at the snug retreats of insects in the bark of trees, in the moss of the wall, or the leafy bank; see how they are further protected by swathings of cottony material, by thick varnished cases, or nicely constructed houses; and above all, inquire into the immense fecundity of most species, and we shall be aware that this vast superabundance is made for the due continuance of the species, in spite of atmospheric action, which with insects, as with humanity, exerts a decided influence. Yet the world would soon be overstocked with insect life, were it not that insects are kept in check by insectivorous creatures of various kinds, amongst which none will be found such active insect-destroyers as birds. A few weeks of frost may aid in the destruction of some insects, and especially in the larva state; but then, though so tightly bound up in the frozen earth, it must be borne in mind that they are wonderfully well prepared for the event; and it must be recollected that birds during all this time must starve, or, what is as bad for our crops, they must attack the buds, roots, and softer parts of our cultivated plants for the means of a scanty subsistence. Under these conditions it is no wonder after all that even those farmer friends who have been so pleased with a hard winter "for killing the grubs," should wonder in the following summer "how there can be so many insects after the cold winter we had." For myself, I view this as a natural consequence; and observation has seemed to me to verify the conclusion that severe winters are succeeded by summers prolific in both insects and weeds.

A very little inquiry will be sufficient to show that the same evidence is afforded by the growth of plants, and more especially of those we term weeds. These for the present purpose may be very conveniently divided as follows:—

1. Perennials, or those in which the stem or rootstock is permanent.
2. Biennials, or those in which the plant is prepared in one year, and the seed grown in the following.
3. Annuals, in which the seed is sown in autumn, but its germination and the re-seeding occupy the following year.

On reviewing the Perennials, we shall see that we ought to have but few weeds belonging to this division, if we except the shrubs of various kinds which find their way into hedgerows to the detriment of the Quicks, such as—

Sambucus nigra, Elder	Viburnum opulus, Guelder Rose
Viburnum lantana, Wayfaring Tree	Rosa and Rubus, all species growing in hedges.

Of weeds with perennial rootstocks we have such as—

Triticum repens, Couch Grass	Convolvulus sepium, Hedge Bind-weed
Convolvulus arvensis, Corn Bind-weed	Carduus arvensis, Corn Thistle

These form a good example of a class of weeds, the rootstocks of which are all the better protected from being beneath the surface, for frost, instead of being injurious to them, forms a pellicle above them, and thus provides for their greater safety.

As regards the second set of weeds, it may be said of them, as of insects—they live in our climate by virtue of their adaptation to it; and if we duly study the plants in the list which I give in the next column, we shall see that a hard winter is more favourable to their full second year's development.

Plants of this kind are either developed from seeds which,

falling in the autumn, remain until spring without germinating, and so occupy one season in developing a plant from which the seed is produced in the following year; or the seed when sown in autumn may at once germinate, and the plant and seed development each occupy a year afterwards; whilst some may in the year the seed is sown make sufficient progress to form the seeds the next year. This, however, depends to a great extent upon the season, as biennials, which occasionally take parts of three years for growth and re-seeding when the weather is severe in winter, produce seed the first year after sowing if the weather is mild.

Ranunculus repens, Creeping Crowfoot	Leontodon taraxacum, Dandelion
Papaver hybridum, Smooth-headed Poppy	Carduus nutans, Musk and other Thistles
Papaver rhæas, red Poppy	Centaurea nigra, Black Knap-weed
Codium maculatum, Hemlock, and others of the same family	Centaura scabiosa, Great Knap-weed
Kauntia arvensis, Field Scabious	Plantago media, Plantain
Socchus arvensis, Corn Sowthistle	Rumex pratensis, Meadow and other Docks
Socchus oleraceus, common Sow thistle	

On examining these plants we shall find them all so well prepared for winter, that unless they have severe weather to arrest their growth and make them strong and hardy, they will grow up weakly and attenuated, and produce as little seed as would non-transplanted Cabbages and Lettuces in garden culture. Hardiness and consequent after-size are induced by the autumn sowing, and the retarding process is further aided by transplantation. No fact, then, is better established than this—that supposing a few weeds of biennial growth to be destroyed by winter, yet the effect of cold and frost is to harden the rest, and thus to make them far more productive of seed than they would be after milder weather; so that in reality, when we see in midwinter examples of Sowthistles and Docks with just a small living central bud hidden in a mass of dead leaves, and cringing to the very ground as though afraid of the biting blast, we must not conclude that these have been destroyed by frost; on the contrary, their very stunted growth is an evidence of their well-being, and such specimens will assuredly produce well at seed time.

Annual weeds are by far the most troublesome, as they grow up so quickly, and frequently so abundantly with every crop, that they usually smother the young plants unless soon removed. Who has not seen this in the case of roots, where it is an evidence of the farmer having allowed their parents to seed in the soil with a previous crop? Many of this section of weeds do not take the whole of the year for the production of their seed, but seed more than once; others, again, require but a few weeks for their development, and so come up with an early-sown spring or summer crop indifferently. Of course, seeing the large production of seeds in most of the annual species of weeds, we shall be prepared for many of them being destroyed; but cold or frost should not be considered as destructive to them, except to a limited extent, as annual weeds are, if possible, better adapted than any other for withstanding the widest vicissitudes which our soil and climate can offer; and though it is true that different soils possess different species of annual weeds, yet there are some that are common throughout the country, from John o' Groat's to the Land's End. Amongst the causes, however, which tend to lessen weeds I may mention the following:—

Their seeds may be scattered by high winds to places uncongenial for them. Numberless seeds are destroyed by insects, many species of which partly live upon them.

By far the greatest destruction of the seeds of weeds that takes place is due to such birds as the finches. We all know what large quantities of seeds are eaten by some of our bird pets, and as with them the seed is almost reduced to powder by their active little mandibles, birds of this kind really destroy the seeds of weeds in the most perfect manner. Many of us have been before now amused in watching a piping bullfinch enjoying his cruciferous seeds, and when I say that besides these his daily allowance of Groundsel has about a hundred heads of flowers, each of which may perfect as many as fifty seeds, we have 100 x 50 = 5000 seeds of a pernicious weed daily destroyed by a single bird, and this by no means represents all his weed food, still less does it give us more than a faint idea of the numbers of weeds destroyed by birds of this kind in the wild state.

This amount of good—and I maintain that our small birds are amongst the farmer's foremost weeders and best friends—is interfered with by winter. Frost binds up the scattered

seeds of autumn, snow covers those not scattered, and all this time the birds are starving. The appearance of the bare earth in winter is very different from that which it presents in summer when clothed with verdure; the difference is known to be caused by cold, and so we hastily conclude that winter is a weeder to whom we may safely trust; but the very green of summer is only preparatory to the growth of plant seed, and if we waste that season by allowing this consumption to go unchecked, we may be quite sure that Nature has thus amply provided for the continuance of species.—GEORGE NEWLYN.

ROYAL HORTICULTURAL SOCIETY.

JULY 7TH.

FRUIT COMMITTEE.—George F. Wilson, Esq., F.R.S., in the chair. Messrs. Carter & Co. and Messrs. Hurst & Son exhibited a dish of Laxton's Supreme Peas, a fine, large, and very distinct early Pea of the Green Marrow race. It was awarded a first-class certificate. Messrs. Wood & Son, of Maresfield, sent a dish of a seedling Potato, which was submitted for trial in the collection of Potatoes at Chiswick. Mr. Carver, gardener to J. Walker, Esq., Southgate, sent fine fruit of the Camellia.

Three splendid bunches of the Golden Champion Grape were exhibited by Mr. William Thomson, of Dalkeith Park. This is the first time it has been submitted to the judgment of the Committee, and it fully realised all that has already been said of it. The bunches are large, and the berries are enormous; the latter are oval, with an amber tinge when quite ripe, a solid, tender flesh, and a flavour differing little, if at all, from the Black Hamburg. In size and appearance it far surpasses any white Grape, and in flavour it is excelled by none except the Muscats. It received a first-class certificate.

Mr. Tillery of Welbeck, sent dishes of very fine fruit of Galaude Peach and Violette Hative Nectarine, both of which were handsome. Mr. Westcott, gardener to the Duke of Cleveland, at Raby Castle, sent a large oblong ribbed Melon, a hybrid between Scarlet Gem and Scarlet Rock. It was a handsome fruit, but the flavour was very deficient. Mr. Jack, gardener to the Duke of Cleveland, at Battle Abbey, sent a green-fleshed Melon, called Battle Abbey, the flavour of which, though good, was not of sufficient merit to warrant the award of a certificate. A collection of Gooseberries came from the Society's garden at Chiswick. Legerdmain, a large green Lancashire variety, was very richly flavoured. Beeston Castle was also good, but not so rich. Old Ship, a yellow variety, was rather more acid. Teazer, also a hairy yellow, was of good flavour. Early Amber and Pitmaston Green Gage were very rich, and Red Champagne, though not quite ripe, was very good.

The Committee had previously met on June 29th at Chiswick, and proceeded with its examination of Peas growing in the gardens. If the early varieties have suffered in this excessively dry season, later kinds—the large-foliaged dwarf Marrow sorts—are still more affected, it being well known that these varieties succeed best in rather a rainy season; and the present being just the reverse of that, they are consequently considerably under the usual average, both in quantity and quality. One or two exceptions to this state of things have, however, been observed; or, rather, some varieties seem to succeed in this dry season and to withstand the summer drought better than others. The following decisions were arrived at:—

McLean's Princess Royal is a first-class second-early white Marrow, distinct, with large, well-filled pods; it withstood the summer drought well.

Peabody is a very prolific dwarf white Pea.

Somersetshire Early Prolific is very much in the way of the old white Prussian.

Dillistone's Early Prolific Green Marrow is the same as Prizetaker.

Heale's Matchless Marrow is the old Matchless Marrow—a large and very good green Marrow.

Blue Excelsior (Knight) is a very good and prolific green Marrow Pea, in appearance while growing like Champion of England; the dried seeds of a light blue. Blue Emperor is a dwarf-growing and inferior variety of this.

Carter's Surprise is very much in the style of Scimitar—a prolific variety.

Grotto is a tall-growing late green Marrow, of pretty good quality, distinct.

Laxton's Supreme is a grand Pea, a green Marrow of excellent quality, with very long, well-filled, curved pods. It is a hybrid between Prolific and Little Gem. The stock of this variety is very true this season, entirely free from that mixed character which was its great drawback last season. Laxton's Quality is very similar to this, but partaking more of the wrinkled character of Little Gem, a very excellent variety.

Laxton's Leader is in the style of Veitch's Perfection.

Cooper Wyton is a very good dwarf wrinkled Marrow, with large, well-filled pods.

Dwarf Incomparable is a very dwarf and prolific late wrinkled Marrow, with small, well-filled pods, of good quality.

Forty-fold is a very excellent Pea; an improved form of Champion

of England, with larger and more curved pods. It stands the dry weather well.

Premier is the finest and best form of the dwarf wrinkled green Marrow class.

Paterson's Matchless Marrow, a variety which has been grown by Mr. Whiting, of the Deepdene, for many years, is the same as Veitch's Perfection.

New Tall Wrinkled (Hurst), is very much in the way of British Queen.

A tall Marrow (Bradley) is, tall white Mammoth.

Spider Pea is a dwarf white wrinkled, much-branching variety, with small, well-filled pods.

Hybrid Pea (B. Sandiland), is a hybrid between the Sugar Pea and Knight's Marrow. It is of a very distinct character, remarkable for the shining glossy colour of the leaves and pods, resembling the old Glass Pea in that respect. It is a large white wrinkled Marrow, of very excellent quality; its appearance, however, militates against it.

The Committee then proceeded to examine the collection of early Potatoes, which in this dry season is remarkably fine—large in size, and of fine appearance and good quality, without the slightest trace of disease amongst them. The following were the most remarkable varieties noticed:—

Leman Kidney (an old variety), quite ripe. Large, full-eyed, clean, and handsome. Prolific.

Rivers's Ashleaf is a very prolific variety, handsome, but not so early as others.

Birmingham Prizetaker is a very handsome variety, of medium size, oblong, flattened, early.

Meen's Pride (quite ripe), is a first-class early kidney; large, full, regular, and handsome; excellent cropper.

Gloucester Kidney is a very excellent early Potato, of fine size, good quality, and very prolific.

Milky White is a very distinct variety, the whitest of all, of excellent quality, and a good cropper.

Giant King is a very handsome variety, large and regular, of oblong shape, with a fine clear skin. A splendid Potato for early market use.

Red Ashleaf Kidney is a very large and fine variety, of a dark purple colour, fit for use as early as the White Ashleaf; a heavy cropper.

Smith's Early, which is the same as the Coldstream, is the earliest round Potato.

Myatt's Ashleaf (quite ripe), is a very fine, large, and excellent stock.

Old Ashleaf (quite ripe), large and very handsome.

Paterson's Red Kidney (quite ripe), is a very fine Potato, of handsome appearance, recommendable for field culture.

FLORAL COMMITTEE.—A greater number of certificates than usual were awarded this day; and a more interesting exhibition could not be seen, whether we consider the beauty of some of the plants, or the botanical interest of others. The Society may well be satisfied at the continued interest of these fortnightly meetings.

The silver Flora medal was offered for the best twenty-four Carnations, also for twenty-four Picotees. These medals were awarded to Mr. Hooper, of Bath, there being no other competitor. A special certificate was also given to Mr. Hooper for his general collection of Cloves, &c. There were some very fine varieties among the Cloves, and we hope Mr. Hooper and others will give their attention to the improvement of this most welcome and favourite flower. There is much to be done, and easily done, with this flower; bold and smooth outline and guard leaves of substance being the principal points. Perfection in form and colour must also be studied. From what we have seen we may hope this flower will prove a favourite of the ladies.

Messrs. E. G. Henderson, of the Wellington Road, St. John's Wood, exhibited several new Lobelias, but not in a condition to judge of their merits. These plants in pots are apt to be deceptive: the only sure way of judging of their merits is from plants planted out. *Lobelia pumila* Distinction, much resembling Beauty of Ravensbourne, received a first-class certificate for its robust habit. *Viola cornuta* alba, from the same firm, received a second-class certificate. Pelargonium Flower Queen, exquisitely white in its margin, but with foliage of rather flimsy texture, had also a second-class certificate. Lass o' Gowrie, a silver-edged Zonal Pelargonium, received a first-class certificate.

Messrs. Rollison sent a collection of Orchids, which received a special certificate. From Messrs. Dawnie, Laird, & Laing came a hybrid Nosegay Pelargonium, with bright scarlet flowers in a large compact truss; it was named Robert Bowley, and received a first-class certificate. Red King, a bronze Zonal from the same firm, had also a first-class certificate.

Mr. Williams, of Holloway, exhibited several interesting plants, and among them *Trichomanes fimbriatum* and *Trichomanes maximum* received first-class certificates. He likewise sent some others. Mr. Whitehead, gardener to Mr. Dodgson, contributed a cat spike of *Oncidium luridum* of unusual size, and a special certificate was awarded it. Messrs. Veitch had first-class certificates for *Lindsea* sp., to be determined by Mr. Moore; *Ampelopsis Veitchii*, a hardy climber with small foliage, but of rapid growth; *Adiantum* sp., name to be determined hereafter; *Nepenthes Hookeri*, a most beautiful plant; *Nepenthes rubra*, equally interesting; *Phormium Cookii*, a beautiful form of the New Zealand Flax; *Draena nigra rubra*, a very fine

variety; *Puya* or *Dyckia* species, with a curious and unusual tint of colour in its flowers, an interesting plant; *Croton tricolor* and *Croton Hillii*, both fine varieties, especially the latter. *Mesaspinium sanguineum*, a delicate cherry-rose-coloured Orchid, received a second-class certificate, and a fine specimen of *Dendrobium MacCarthiae*, a special certificate.

Mr. C. Turner, Slough, sent Zonal Pelargonium *May Queen*, Silver-edged, and which would now be designated as a bicolor Pelargonium. A first-class certificate was awarded it. Mr. G. Smith, Hornsey Road, exhibited a fine double Zonal Pelargonium, with a good truss and large flowers of a bright scarlet colour. It received a first-class certificate, and is the best yet exhibited among English seedlings. *Ness-gay Pelargonium Lizzie*, very peculiar in colour, probably a new tone of colour, also from Mr. G. Smith, was likewise awarded a first-class certificate.

Mr. Parker, Tooting, exhibited a curious form of *Cyrtopodium Veitchii*, with an apparent double lip; also a very beautiful seedling *Ixora*, called *amabilis*, larger in the truss of flowers than *javanicum*, and of the same colour. A first-class certificate was awarded to this desirable plant. Mr. Patey, Milton, near Stevenston, introduced a most exquisite and beautiful form of *Polystichum angulare*, called *Pateyi*, for which a first-class certificate was awarded. This is very distinct and fine, and was a seedling picked up in a ramble in Devonshire. The discovery of this beautiful form of *Polystichum* may well encourage those members of the Society who are about to migrate into green fields and shady lanes; such a prize is well worth seeking.

Mr. Ley, nurseryman, Croydon, exhibited *Coleus Carteri*, which was awarded a second-class certificate. This so much resembled a plant brought by Mr. Green, gardener to W. W. Saunders, Esq., that it could hardly be distinguished from it. Mr. Green's plant was a sport from *Coleus Verschaffelti*. Messrs. Lee, of Hammersmith, sent Zonal Pelargonium Mrs. Jehn Clatten, a Silver-edged variety, which received a first-class certificate; also *Quercus Concordia*, a golden-leaved Oak, and very handsome, to which a similar award was made. *Eucrymna aurea elegantissima*, from the same firm, a well-marked variegated fern, likewise received a first-class certificate.

Messrs. Jackman, of Woking, exhibited some good specimens of their Clematises, which were awarded a special certificate; also some cut flowers of seedling Clematis Sir Robert Napier, a dark purple—first-class certificate; *Beauty of Surrey*, a greyish blue, a very fine flower—first-class certificate; and *Clematis viticella rubra grandiflora*, a new tint of dark brownish red; the flowers were small, but very distinct. A first-class certificate was awarded.

Mr. Green, gardener to W. Wilson Saunders, Esq., sent a small collection of interesting plants, among them several beautifully-marked terrestrial Orchids, for which a special certificate was given. Mr. Robert Thompson, of the South Kensington Museum, exhibited a most interesting collection of British Ferns, well grown, and good varieties. Among them was a variety of *Asplenium adiantum nigrum*, to which the name of *flabellatum* was provisionally given. This received a first-class certificate.

Messrs. Carter & Co. sent fine groups of their Variegated Zonal Pelargoniums. These are, doubtless, among the very best of the first-rate varieties. *Ettie Beale*, with finely-coloured brilliant foliage, received a first-class certificate. Sir Robert Napier, very dark, fine, and distinct, a first-class certificate, and *Black Prince*, a bronze Zonal, first-rate in quality, a first-class certificate. A special certificate was also awarded this firm for a basket of well-grown specimens of *Trichinium Manglesii*.

Mr. Davis, gardener to W. Stride, Esq., sent cut specimens of *Bignonia cherere*, very fine in colour, but we hear rampant in growth. Numerous other plants were sent; some of them had received previous awards. Mr. G. Maw sent specimens of a new garden label, made of their peculiar earth at the Brossley Works. These were approved of by the Committee, and recommended for pot labels. These of the size exhibited were a shilling per hundred. They are made in various colours, and can be used for the pencil, or a prepared enamel ink. They will be found very durable, but, like all materials made of clay or earth, fragile. With fair usage they may be considered a boon to the amateur.

GENERAL MEETING.—W. Wilson Saunders, Esq., F.R.S., in the chair. After a vote of thanks for numerous donations of plants, seeds, &c., and the election of seven new Fellows, the usual announcement of awards was made.

The Rev. M. J. Berkeley then offered the following remarks:—It was some time since there had been more than a formal General Meeting, but those who were present at that held on May 19th, would probably recollect an Orchid shown as the *Arachnanthe meschifera*, of Blume, but doubts were expressed whether its name was correct or not, and on examining a figure of the *Arachnanthe*, he had found that the plant exhibited was totally different. The opinion had been mooted at the Floral Committee that it was one of the *Angraecums*, but on looking over the specimens of these in the herbarium at Kew, he found nothing like it. A few meetings ago Mr. Wilson Saunders had referred to the subject of raising Orchids from seed, and he himself had recommended all who might try experiments in this direction to sow the seeds on branches covered with moss, an idea which he (Mr. Berkeley), had taken from the late Mr. Joseph Henderson, who was gardener to Earl Fitzwilliam, at Wentworth. Mr. Berkeley said he

had afterwards visited, along with the Scientific Committee, Messrs. Veitch's establishment in pursuit of an inquiry into Orchid spot, and he there met with Mr. Domy who had been so successful in raising hybrid Orchids, and who confirmed all that he (Mr. Berkeley) had said, stating that no success whatever had been met with except when the seeds were sown on moss. Mr. Berkeley then pointed out a flower of a *Cyrtopodium*, the singularity of which consisted in the lip being apparently double, but in reality there was but one lip which had become split in two, the case being analogous to what anatomists call *spina bifida*.

Mr. Bateman had last year given some interesting information relative to an insect called *Sirex juvenens*, which proves very injurious to Pine trees, and Mr. Berkeley said, that in a village near him, observing this insect abundant, he looked about for the cause, and found that the rector was making a new parsonage. In all probability, therefore, it came from the deal which was used; but not only was there *Sirex juvenens*, but a much finer species, most likely *S. gigns*, which was also met with near Market Harborough. It was desirable that those who had large plantations should pay attention to these insects.

The magnificent specimens of Golden Champion Grape sent by Mr. Themsou were next noticed, and Mr. Berkeley remarked that fine as they were, all the berries were not healthy, for on cutting them open in some cases he found that the seeds were affected by a disease which often attacks Muscat and Black Hamburg Grapes, and which also deteriorates the pulp. His opinion as to the origin of the disease was, that either the roots get in a bad condition and carry up some putrescent matter from the soil, or that the Vines are unable by evaporation to get rid of a superabundance of moisture. He did not believe that the disease originated from any fungus, but afterwards fermentation took place, followed by mouldiness.

Some specimens of labels from Messrs. Maw, of Brossley, and which can be had at 1s. per 100, were then pointed out as being an improvement on the ordinary wooden labels, after which Mr. Berkeley observed, in reference to the *Puya* shown by Messrs. Veitch, and of which the flowers have a singular metallic appearance, that he was uncertain whether the plant was a *Puya* or a *Dyckia*, or, indeed, one of a distinct genus. The only instance he knew of a plant so singular as the *Puya* in colour, was *Agaricus argineus* (*Peziza argineus*), which gives its tint to the green Oak used at Tanbridge for a variety of ornamental purposes.

After a brief reference to *Oxalis megallorrhiza* which forms the first plant in Mr. Wilson Saunders's "Refugium Botanicum," and the sport of *Coleus Verschaffelti* from the same gentleman, Mr. Berkeley announced that the two prizes for Fungi, spoken of on a previous occasion, would be offered at the first meeting in October. That would be the best time, for it often happens when the autumn rains come, that Fungi spring up abundantly. He hoped to see exhibited both useful and reputed poisonous species; and, in connection with the latter, remarked that Dr. Badham stated that an Agaric which was nearly fatal to his schoolmaster, he had again and again eaten without evil results. In conclusion the *Yang-mae*, the fruit of a species of *Myrica* commonly cultivated in China, was referred to as being really very palatable.

Mr. Wilson Saunders said Mr. Berkeley had well observed that the colour of the *Dyckia* or *Puya* was very remarkable, and except in the other instance which Mr. Berkeley had mentioned, he (Mr. Saunders) did not know any case of so peculiar a colour among plants. Some of the *Dyckias*, although related to the Pine Apple, could be grown out of doors, and they would flower in a cool greenhouse. Some of them, too, produced long flower spikes which hung down, and such should be grown on pedestals. The flowers were of various colours, and altogether these plants were well worthy of attention. With reference to the *Coleus* sport which was produced by *Coleus Verschaffelti*, and was permanent, he had exhibited it less on its own account than to direct attention to the fact, that the present dry season is very productive of sports. When such remarkable alterations in the dryness of the atmosphere occur sports are set up, and we should be on the alert to detect them. As regards *Sirex juvenens* it was a pest in Laroh forests, and very destructive on the continent. Here it was yearly becoming more common, and though at one time it was difficult for entomologists to obtain a specimen, now wherever Pine trees were growing there was a good chance of finding it.

Mr. Wilson Saunders then announced that the next meeting, which was to have been held on the 21st of July, would be postponed to the 4th of August, in consequence of the Leicester Show, which, he was glad to say, promised to be a very successful one.

BIRMINGHAM ROSE SHOW.

TAKING rank among the most important annual floral exhibitions, this requires special notice, not only for the excellence of the flowers and specimens exhibited, but also as it affords an occasion of bringing into comparison the productions of growers who, on account of distance or other causes, do not compete at the metropolitan shows. It is not always that the stands of amateurs generally, excepting those of Mr. Hedge, Rev. E. N. Pochin, Rev. S. E. Hole, and a few others, who exhibit at the Crystal Palace and Kensington, will bear the test of comparison with those of the professional growers. At Birmingham the classes for amateurs were well filled, and the flowers submitted for competition showed ample proofs of the pains that had

been bestowed upon their culture, and enhanced in no small degree the excellence of the Exhibition.

The Show was held in the Town Hall, on Thursday and Friday, July 2nd and 3rd. Though so good on the whole, indications of the severity of the drought were not wanting. For example, the nurserymen's classes were not filled up, and Mr. Cranston, who brought eight stands of twenty-four each, affixed a notice that they were not offered for competition on this account.

It is useful to append lists of the best flowers in winning collections, for the numerous Rose admirers there find which are the most deserving kinds to cultivate, though to others the repetition may seem tedious and unnecessary. Thus in the following lists giving the very *élite* of the blooms shown, Alfred Colomb, Charles Lefebvre, Maréchal Niel, Céline Forestier, Sénateur Vaisse, Marguerite de St. Amand, Madame Charles Wood, Madame Victor Verdier, John Hopper, Charles Rouillard, and Antoine Ducher figure in almost every first-prize collection, and these are really, with a few others which Mr. Radclyffe has pointed out in last week's Journal, the best Roses known.

Notwithstanding that Mr. Cranston's collection was not for competition, it must claim a priority of notice on account of the wonderful size of the blooms, combined with freshness of colour and perfection of form, which we must necessarily ascribe to the best Roses. Extra fine were Charles Lefebvre, Madame Charles Wood, Alfred Colomb, Madame Moreau, Marguerite de St. Amand, Dr. Andry, Antoine Ducher, Victor Verdier, Devoniensis, Triomphe de Rennes, Maréchal Niel, Sénateur Vaisse, Madame Fartado, Antoine Ducher, Joséphine Guyot, and Felix Genere (new).

In Section A (Nurserymen), Class 1, for seventy-two varieties, Mr. Keynes was first with magnificent flowers of Alfred Colomb, Maréchal Vaillant, Madeleine Nonin (new), John Hopper, Hippolyte Flandrin, new, of remarkable size and fullness, La Ville de St. Denis, Pierre Notting, Leopold Premier, Mlle. Marie Rady, new and good, Charles Rouillard, Madame Caillat, Mrs. John Berners, Triomphe de Rennes, Sénateur Vaisse, Souvenir d'un Ami, Souvenir d'Elise, Xavier Olibo, Charles Lefebvre, Marguerite de St. Amand, Madame Margottin, Maréchal Niel, Devoniensis, &c.

Messrs. Paul & Son were second. In their stands were fine blooms of Charles Lefebvre, Comte de Nanteuil, Leopold Premier, Lælia, Jean Lambert, Gloire de Santenay, Maréchal Niel, Charles Rouillard, Souvenir de Monsieur Boll, Sénateur Vaisse, Queen Victoria, Alfred Colomb, &c.

The third place was taken by Mr. Durbin, of Bath. There were in his stands good blooms of Marguerite de St. Amand, Madame Moreau, Madame Fillion, Gloire de Vitry, Pierre Notting, Acidalie, Souvenir de la Malmaison.

In Class 2, for forty-eight varieties, three trusses of each, Mr. Keynes was again first with a collection grand as a whole, varied in colour as far as yet attainable, with such perfect flowers as the following:—Alfred Colomb, Marguerite de St. Amand, Mlle. Marie Rady, Devoniensis, Souvenir d'un Ami, Sénateur Vaisse, Madeleine Nonin, Madame Moreau, Comte de Nanteuil, Madame Bontin, Gloire de Dijon, Madame Willermoz, Mlle. Marguerite Dombrain, Victor Verdier, Pierre Notting, Mrs. John Berners, Maréchal Niel, Sophie Coquerel, Triomphe de Rennes, Duc de Rohan, &c.

Messrs. Paul & Son were second with a magnificent display. Among the very best may be noticed Alfred Colomb, Leopold I., Madame Charles Wood, Vicomte Vigier, Duc de Rohan, Madame Caillat, Xavier Olibo, Camille Bernardin, Victor Verdier, Princess Mary of Cambridge, Joséphine Beanbarnais, Maurice Bernardin, Mlle. Marie Rady, Gloire de Santansy, Sophie Coquerel, John Hopper, Céline Forestier, Maréchal Vaillant, Comte de Nanteuil, Madame Victor Verdier.

In Class 3, for twenty-four varieties, three trusses of each, Mr. Keynes again carried off the chief honour with a superb collection. Among the very best were Maréchal Niel of course, and Alfred Colomb; Hippolyte Flandrin, very large, and Sophie Coquerel, a pretty light rose, outer petals white, or nearly so. Messrs. Perkins & Son, of Coventry, gained the second place. Their stands were of great merit, the following blooms especially—Madame Victor Verdier, Pierre Notting, Charles Lefebvre, Madame Fillion, John Hopper, Sénateur Vaisse, Marguerite de St. Amand, Alfred Colomb, Mlle. Marie Rady. Messrs. Paul & Son were third with Mlle. Marie Rady, Joséphine Beanbarnais, Marguerite de St. Amand, Madame Bontin, Pierre Notting, Comtesse de Chabillant, Gloire de Santenay, and others. Mr. Charles Kimberley was fourth. There were in his stands fine blooms of François Traysy, Alfred Colomb, Louise de Savoie, and Madame Moreau.

Classes 4 and 5 were restricted to residents in the counties of Warwick, Stafford, and Worcester. The stands were invariably good, and contained many well-grown flowers.

In Section B (Amateurs), Class 6 was for forty-eight varieties. The first prize was awarded to Rev. P. M. Smythe, whose collection was not only free from blemish generally, but contained some very remarkable flowers, especially a truss of Maréchal Niel, the best in the Show. Among the others were Sénateur Vaisse, Pierre Notting, John Hopper, Comtesse de Chabillant, Charles Lefebvre, Lord Macanlay, and Souvenir de Comte Cavour, beautiful. Mr. C. J. Perry was second with Dr. Andry, Charles Lefebvre, Duchesse de Caylus, Gloire de Vitry, Madame Dersaux Douvillé, very pretty, Alfred Colomb,

Madame C. Wood, &c. Mr. Evans, gardener to C. N. Newdegate, Esq., was third. He had excellent blooms of Madame C. Crapulet, Alfred Colomb, Pierre Notting, Sénateur Vaisse, La Ville de St. Denis, and Duchesse de Caylus.

In Class 7, twenty-four varieties, single trusses, there was a strong competition, and, as in the preceding class, the stands contained many fine specimens of the same kinds. The first place was taken by Thomas Lloyd, Esq., of Warwick, the second by the Rev. P. M. Smythe, the third by Mr. Hunt, of Leicester.

Class 8, eighteen varieties, three trusses of each, was a trial of strength for the amateurs of the midland counties. Here Mr. Evans was first. He had excellent trebles of Maréchal Niel, Duc de Rohan, Niphotos, Charles Lawson, Madame C. Wood. Close upon him, in the second place, followed Mr. Hunt, of Leicester, who had Charles Lefebvre, Sénateur Vaisse, and Madame Charles Crapulet. The third place was taken by Mr. C. J. Perry.

In Class 9, for twelve varieties, the contest was again between Rev. P. M. Smythe, Mr. C. J. Perry, and Mr. T. Lloyd, who took the first, second, and third places respectively.

The various classes from 10 to 14 inclusive, were restricted to residents within a radius of a certain distance from Birmingham, with a view of affording encouraging Rose-culture in the neighbourhood of the town.

In Section C, Class 15 was for a collection of new Roses sent out by English nurserymen in the springs of 1866, 1867, and 1868, twenty-four varieties. The first prize went to Mr. Keynes. In his stand were Hippolyte Flandrin, Hora; Vernet, Madeleine Nonin, Antoine Ducher, Mlle. Marie Rady, Mlle. Marguerite Dombrain, Jean Cherpin, and others. Messrs. Perkins & Son, of Coventry, were second with nearly the same kinds. It will be better to defer a critique on the new Roses till later in the season.

In Class 16, for the best new Rose sent out in the spring of 1866-7, six trusses, the first prize was won by Messrs. Paul & Son with Alfred Colomb, Mr. Keynes being second with the same variety, and third with Mlle. Marguerite Dombrain.

Class 18 was for Teas and Noisettes. These were not in condition. The competition was also confined to the takers of the first, second, and third prizes—viz., Mr. Keynes, Messrs. Paul & Son, and Mr. Dorhin, of Bath.

In Class 21, for the best bouquet for the hand, Miss Anne Twigg was first; Mr. W. Brown, second.

Class 22, for ladies only, was for the best design for dinner table, Roses the only flower to be used, combined with foliage of any kind. In this Miss Cole took the first-prize. Prizes were also awarded to Messrs. Felton & Holiday and Mr. R. H. Vertegans for designs of Roses and Rose foliage, arranged artistically for room decoration.

Among the miscellaneous contributions, Messrs. Downie, Laird, and Laing sent Pelargoniums Mrs. Lewis Lloyd, Cbarming, Sailor Prince, Magnificent, Harrison Weir, and another, all of them new kinds, with some peculiarity or distinctive feature. The merits of these must be decided by the Floral Committee of the Royal Horticultural Society, or by connoisseurs of these popular plants. The same firm also had some stands of Pansies; so beautiful and varied, surely such lovely flowers must be deserving of more attention than they now receive, especially in the south of England.

Above the stage on which these were placed, together with the dinner-table devices, were Tea Roses and ornamental designs for holding flowers, of which there was a good display. The whole of the decorative plants occupying the gallery opposite the orchestra and great organ were supplied by Messrs. Felton & Holiday, of Birmingham. They consisted of Ferns, hardy and exotic, a fine plant of *Cyathea dealbata*, *Selaginellas*, *Lilium auratum*, variegated Yuccas, and the pretty *Acer negundo variegata*, in pots, in large numbers. The introduction of these plants into a Rose show suggests a very simple but striking improvement of exhibitions. Particularly noticeable were the Variegated Maize (*Zea*) and Colons placed alternately between the rows of stands in the body of the hall. Messrs. Felton & Holiday had Pelargoniums, Fuchsias, Petonias, &c., tastefully arranged as a miniature flower garden. They also exhibited their new Tricolor Pelargonium Princess Teck, and Silver-edged variety, Lady Calthorpe. Other flowers and plants were exhibited by Mr. R. H. Vertegans.—A. H. K.

THE PROPOSED PAXTON MEMORIAL.

On the 24th of June the members of the Leighton Buzzard Working Men's Mutual Improvement Society assembled at The Cedars, the residence of J. D. Bassett, Esq., for the purpose of presenting an address to Lord Charles J. F. Russell, advocating his lordship's suggestion, made at the inauguration of the recent industrial exhibition, to establish an educational and popular institute, to be associated with the name of the late Sir Joseph Paxton, who was born at Milton Bryan, in the vicinity.

The President of the Working Men's Institute introduced the deputation with the Society's memorial address, from which the following are extracts:—

"We rejoice in the hope that in this our memorial your lordship will perceive a promise of fruitfulness from the grain which you planted; and we proceed to call to your recollection that portion of your address on New Year's-day, when you did us the kindness to

preside over the opening of our Industrial Exhibition, in which you advocated the foundation in this town of a memorial institution in honour of Sir Joseph Paxton, to be devoted to the advantage of the industrial classes of this locality.

"On that occasion your lordship spoke as follows:—'There remains yet another part of your Exhibition of so peculiar a character as to demand a special notice. An article manufactured at a distance from a raw material found in this neighbourhood—glass, made at Birmingham from our Heath—I might almost say our Leighton sand. We have reason to be proud of our contribution to the most perfect of the products of English industry. In china and earthenware we are excelled; in glass pre-eminent. The Paris Exhibition settled that point; and in this climate how greatly should we appreciate that beautiful fabric which can afford us shelter without intercepting the cheering rays of light—the fabric without which the industries of all nations concentrated here in 1851 would have been set at naught and viewless, but for the palace of glass and iron which rose to receive them. But what is the material without the man? The man who overcame that great industrial difficulty by his creative genius was, like the glass itself, found in this neighbourhood, though trained at a distance. Sir Joseph Paxton was the man; and I ask, with surprise and shame. Where is the fountain-head monument to him from whom the Crystal Palace sprang? Montmore on one side of you, Battlesden on the other, confront each other telling of his fame. Your town between the two seems made for his memorial site. I know the man well, and am intimate with the family that knew him best; and I can safely say, that while it is impossible to conceive anything that could exceed the enthusiastic gratitude, affection, and respect with which he regarded the noble patron of his fortunes, yet there was one feeling in him paramount to all, and that was loyalty to the class from which he sprang, embodied by a deep desire to afford them the advantages of a cultured education; and I say it, not for the purpose of creating excitement, but on my honour, and with a certain conviction of the truth of what I utter, that if the man could now speak to us he would say that of all the testimonials that might be given to his worth, that which would be most grateful to him would be something in the nature of advantage to free education of the artisans in the neighbourhood of the place of his birth. Then what I say is, that out of this educational movement there should spring a Paxton Museum, in honour of the man and for the advantage of the working classes of the town. If you are of my opinion, say, Aye. [Replies of 'Ayes.'] The ayes have it, and the work is done; and I cannot for a moment think that any man can demur to the appropriateness of the movement, nor that it will be left to this neighbourhood to carry it out.'

"Our Society has thoughtfully weighed your suggestion, and has endeavoured to give it form. It has embodied its conclusions in resolutions."

The resolutions were read, and LORD CHARLES RUSSELL, in replying, said, it happened that Sir Joseph Paxton, in honour of whose memory they were that day met, had what he might consider the singular good fortune of adding one link to the chain of friendly connection that had existed between two of the oldest and highest families in this country for the last two centuries. Some two hundred years ago William III. conferred the honour of a dukedom on the house of Cavendish and on the house of Russell. The families were connected at one time by an act of grateful patriotism; they were afterwards more closely connected by marriage. From that time to this there had been between them uninterrupted harmony and friendship. Well, it so happened that the first shilling Joseph Paxton earned was earned as a garden boy in the service of the Duke of Bedford, and the last days of his life were passed in the firm friendship of the Duke of Devonshire. What Sir Joseph Paxton was as a link between these two noble families, this address was between himself and them. They were there to accept from the late Sir Joseph Paxton the legacy of that good name which he had bequeathed to the townsmen nearest to the place of his birth, and to devote that legacy to the preservation of his fame by erecting a monument which should be strictly in accordance with the work and with the life of that man. There were some who told him that the Crystal Palace was the noblest and the fittest monument to the worth of Sir Joseph Paxton. He accepted the Crystal Palace as a national monument, but he claimed something nearer home as a local memorial, and one thing which especially made him desire it was this—that though Sir Joseph Paxton raised himself from the very humblest grade, that of an agricultural labourer, to a position in which he associated with most of the great and noble of the land, yet—his lordship spoke from his own experience—he was always loyal to the ranks from which he sprang; and the more he respected the aristocracy of the land, the more did he look to the working classes of the country—an educated, a contented, a prosperous working class—as the firmest foundation on which the aristocratic institutions of this land could rest (cheers). He (Lord Russell) remembered Paxton once telling him that he had been all over Europe, and had seen nothing more beautiful than the site on which Battlesden House now stood. Now, without at all disparaging the landscape about Battlesden, he might say that they in the midland counties held a middle position in landscape, somewhat higher than the fens of the lower countries, but considerably lower than the breezy uplands of the northern counties. But when he told them that Sir Joseph Paxton was so blinded by his love for his locality as to prefer it to anything he had seen in Europe, the meeting would agree with

him that some local memorial was due to the memory of that man. Now, what they proposed to do was to raise a monument, which should be first of all for the benefit of the working men of the district in which he was so largely interested. Mr. Bazley, the member for Manchester, told him that not long ago he went with a foreigner to the Free Library at Manchester. A boy, about thirteen years of age, clad in fastina, was taking a book home to read, as he was entitled to do; it was "The Lives of Eminent Men." Sir Joseph Paxton had added another chapter to those lives, and one thing they desired was that those lives might be read by every poor boy. The memorial by which they proposed to perpetuate the memory of Sir Joseph Paxton, was to consist first of all of an architectural building, then a museum, a library, and the means for periodical addresses. Now, he would not have those present to understand by a museum an old fossil collection. That they might have in due time, but their first object would be to have a museum of staple manufactures and of the present industry of this land, expanding the idea which they had already seen so well suggested. With regard to the library, their first object would be a good library of reference; there must be numbers even of clergymen and gentlemen, every one indeed who had not the advantage of a first-class library, who would find the benefit of being able to refer to it. And to this library they proposed to add a reading room, where the periodicals might circulate, and where those in the neighbourhood might read during the day, and the working classes when their work was done. Such an institution would be a proper tribute to a man who had done much for the first-class recreation, both of the educated classes of society and the toiling masses in this great workshop of a world. The meeting would ask him—and a very proper question—"How do you mean to do this?" He was told that they must look at a cost of some thousands; at a venture he might put it at £5000. He was not the least appalled at that. There was nothing worth having that they could get without a little toil and trouble. He could not get it alone, but he meant to get it from a sense of what was due to the memory of Sir Joseph Paxton.

A conference was then held.

Ultimately it was resolved, "That this conference, held under the presidency of Lord Charles J. F. Russell, having before it the memorial address of the Leighton Bazzard Working Men's Mutual Improvement Society, presented to his lordship at the previous meeting held this day, advocating his lordship's suggestion for the establishment in Leighton Bazzard of a memorial institution in honour of Sir Joseph Paxton, and having received the resolution unanimously adopted by the aforesaid meeting approving the proposal, resolves that the proposed memorial shall be called 'The Paxton Institute,' and shall be devoted to the advantage of the working classes and the inhabitants of the locality generally."

"That this conference is of the opinion that the proposed institution, to be permanently successful, must be founded upon a broad and comprehensive basis: and, whilst it is desirable that it should meet the requirements of the more educated portions of the community, it is essential that its primary object of affording easily accessible educational advantages for the industrial classes of the locality must be steadily kept in view. And this conference is of opinion that a building should be erected and fitted to contain—1, A museum; 2, a library; 3, a public reading and news room; 4, rooms suitable for lectures and classes."

"THE BUILDING should be in a central part of the town; should present some decided architectural features, and it is suggested that ornamental ironwork might be usefully and effectively employed in its construction; its general character might thus be such as to accord with the ideas by which the genius of Paxton has been illustrated."

"THE MUSEUM.—It is not intended to gather in this department a general and miscellaneous collection, but one which would represent, in the main, the products, the industry, and the natural history of the district."

"THE LIBRARY.—A room should be specially fitted and devoted to this purpose; the library should consist of standard books for reference—viz., works on biblical literature, science and art, history and biography, accepted text books on agriculture, commerce, trades and handicrafts, local history and maps."

"PUBLIC READING AND NEWS ROOM.—The requirements of this department are so generally understood, that it seems only needful to say that it should be made as attractive and popular as possible."

"LECTURES.—It is believed that benefit might arise from the frequent delivery of lectures on scientific and technical subjects by qualified persons, even though the audiences might be limited. For such purposes a large class room or fair-sized room fitted as a lecture theatre would be necessary."

"CLASSES.—It would be advisable to encourage as far as practicable the holding of science and art classes, in conformity with the regulations of the Science and Art Department of the Committee of Council on Education. Both the museum and library should be kept *en rapport* with the class subjects. For these purposes one or two moderate-sized class rooms would be necessary."—(Leighton Bazzard Observer.)

VIOLA CORNUTA FAILURES.

I SHOULD like to hear from some of your correspondents how *Viola cornuta* is doing this season; with me, I am sorry to say, it is quite a failure, much worse than last year. I then

only grow the variety known as Purple Queen. This year, on the strong recommendation of Mr. Wills, who was kind enough to send me a lot of Mauve Queen, I have tried it, but with little better result. It succeeds a little better than Purple Queen, but the plants of both varieties have nearly all gone off after I have taken every possible care that I could think of. The beds were filled with fresh rather heavy loam, together with plenty of leaf mould, and some of them were covered with cocoa-nut fibre refuse, but all to no purpose. Purple Queen I have planted in different situations, including shady ones, but in all it is much slike. Such being my experience of this Viola for the last two seasons, it is wholly condemned here.—JOHN BRYAN, *Audley End Gardens, Saffron Walden.*

LADDER FOR FRUIT-GATHERING.

I SEND you a slight sketch of a contrivance (*fig. 1*), which I have found very convenient for pruning and gathering fruit from some pyramid Apple and Pear trees from 12 to 16 feet in height, and which are too high for the tops to be reached from the kitchen steps, and not strong enough to bear a ladder with me upon it.

Having a light ladder 12 feet long, I had two deal props made of the same length, with slits at the tops, and pointed at the feet like clothes-line props. They are of deal, 1½ inch thick by 2½ or 2¾ inches wide at the foot, tapering towards the top, and the corners are taken off. About 12 inches from the top of the ladder two T-shaped pieces of iron are inserted, projecting 1½ inch. These



Fig. 2.

pins are made to screw into pieces of iron let into the wood of the sides of the ladder so as not to project, and to allow of their being removed when the ladder is wanted for other purposes than fruit-gathering. See *Fig. 2*.

In using the ladder it is first set up against the tree, the props are then adjusted one after the other, so as to form a triangle. The whole is easily removed; and the props, being loose, can be inserted between the branches of the tree.—AMATEUR.

GRAPES SETTING IMPERFECTLY.

I PLANTED three years ago a Royal Vineyard Vine, which has grown vigorously. Last year I allowed one bunch to remain and ripen. On one part of the bunch the berries were large, but on the other only about the size of Red Currants. It hung, and the berries continued plump until about Christmas. This year I have sixteen good bunches, but out of them only two have set properly. Unlike the other shy-setting Grapes, the berries adhere and ripen. Of course I did not intend to leave more than six bunches if they had set properly.

My Muscats set well by simply drawing a dry hand over them when in flower. I had four bunches of Muscat of Alexandria 15 inches long. Only four years since I put in the eye of this Vine. When I grew the Muscat Hamburg on its

own roots it sometimes set like the Royal Vineyard.—C. M. McC.

[We think you left far too many bunches of the Royal Vineyard on the Vine. One-fourth the number would have had a better chance to set well. We can do nothing to help you, as you are so successful in setting Grapes that are generally shy setters.]

THE ROYAL HORTICULTURAL SOCIETY'S CHISWICK GARDEN.

As a member of the Fruit Committee, it has struck me for some years that the great want of the Royal Horticultural Society is a good orchard house; not a little paltry place like the one shown at Chiswick as an orchard house, but a really good large house, where trees could be grown in a satisfactory manner.

To prove and give a really reliable opinion on the new fruit not generally known is, I think, one of the first duties of the Society; but before such an opinion can be formed at Chiswick, a fruit may be elsewhere well known for years. Take the new

Cherries, for instance. I have had a house 100 feet long by 30 feet wide full of fruit this season. If such a collection had been planted out in the open air at Chiswick spring frosts might have prevented the trees fruiting for years, insects might have rendered them unhealthy, and even if they had borne fruit, birds would have consumed the crop before the Committee could have described the varieties. Then, again, a new Pear or Plum might be fruited almost to a certainty if it were kept in a pot till the danger of frost were over, when it might be turned out into a well-prepared border to ripen its fruit, or, if preferred, the pot might be merely plunged in a suitable situation.

It must be nearly twenty years since I built my first orchard house, and in that time I have had only one really bad crop, though my houses have no artificial heat. Trees which have been bearing for the teens of years are this season looking better than ever. Difficulties of cultivation experienced at first have all disappeared, and I am more than ever convinced that all tender fruit ought to be

grown under glass. Whether fruit trees are to be planted out or kept in pots, grown as standards or as dwarfs, trained or grown more naturally, is a mere matter of taste and convenience. Whether the building should be heated or unheated must be determined by climate and the time the fruit are required to be ripe. All I would insist upon is, that they can only be produced with certainty, and of uniform and good quality, by being grown in glass houses. I have received Peach trees, for instance, with the highest characters, and in one or two years have proved them to be worthless. Now, if these had been largely propagated and sold, what an injury it would have been to my customers, and eventually to me. If these trees had been trained to a wall it might have been years before they would have shown a fruit.

I believe no Society in the country is better served than the Royal Horticultural Society is by Mr. Barron; but he ought to have a proper structure in which to grow new fruits in perfection, not a crowded low place of which he must be ashamed.

Then, again, the young gardeners ought to have the advan-

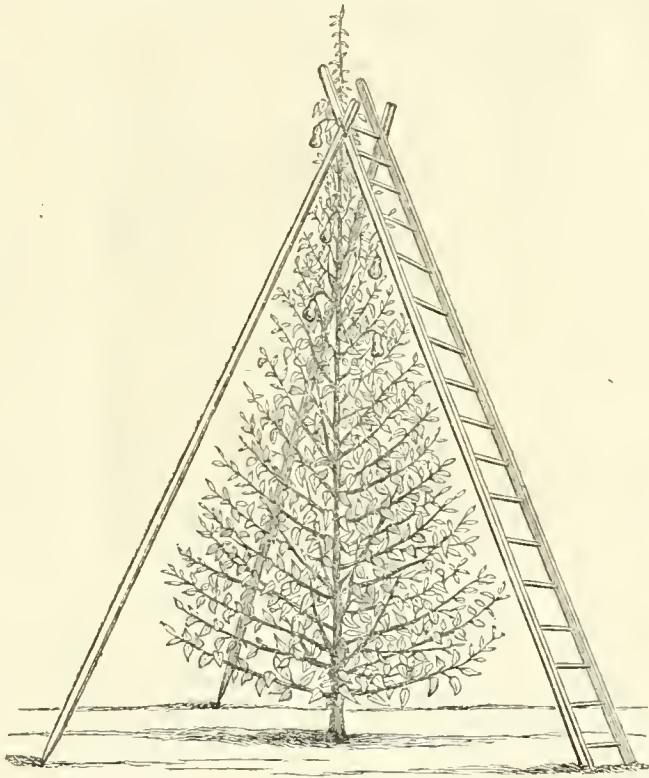


Fig. 1.

tage of seeing good orchard-house cultivation, because such knowledge is increasingly in demand. In advocating the erection of a good house of this kind at Chiswick, I would most earnestly caution the Directors against spending money uselessly in a grand showy building, and, on the other hand, against

putting up a shabby structure on wooden posts, which cannot possibly last long, and would not in the end be cheap. I have seen no houses equal to my own when the cost is taken into consideration, and I shall be glad to show them to any one who will pay me a visit.—J. PEARSON, *Chilwell*.

EXHIBITIONS OF WINDOW-GARDENED PLANTS.

We were among the first to advocate these shows for the promotion of flower-culture under difficulties, for we knew the beneficial results likely to arise from an occupation that renders the humblest room brighter, and which adds to the number of pure pleasures. These exhibitions are yielding a large measure of good, and are annually increasing in number. We have received the following particulars relative to three of them. And we accompany the details with a correct representation of a southern window garden devoted to the cultivation of Cactuses.

SOCIETY FOR PROMOTING WINDOW GARDENING IN WESTMINSTER.

—The third annual flower Show of this Society took place on Tuesday last, the 7th inst., in Dean's Yard. The exhibitors were working men or women, domestic servants, and children in parochial, national, infant, Sunday, or ragged schools. About six hundred potted plants were shown. This excellent Society was founded by the Rev. Canons Conway and Jennings, Rectors of St. Margaret's and St. John's, Westminster, and has been warmly supported by the Dean of Westminster (who, with Lady Augusta Stanley, takes great interest in its success), Lord Justice Wood, and many other influential residents in the united parishes of St. Margaret's and St. John, including Jeremiah Long, Esq., the present churchwarden. The competition amongst the working classes, both old and young, has been very animated, and there cannot be a more pleasing sight than the distribution of prizes, enlivened as it is by the presence of the patrons of the Society, the exhibitors themselves (about a hundred in number), and the performances of a band of music. The Fuchsias, Pelargoniums, and other plants cultivated under most discouraging circumstances in the crowded streets and courts of Westminster, would do credit to a show of far greater pretensions, and it is impossible to overestimate the diffusion of light and air, the habits of cleanliness, and the general refinement which the operations of this Society have introduced amongst the poor of the locality. Prizes were given to Fuchsias grown in the workhouse windows.

ST. CLEMENT'S AND ST. ANDREW'S HORTICULTURAL SOCIETY.—

The first Show of the season will take place at the St. Clement's Schools, Lancaster Road West, Notting Hill, on Wednesday and Thursday, July 15th and 16th. This Society, established last year for the encouragement of cottage and window gardening amongst the poorer inhabitants of the districts of St. Clement's and St. Andrew's, has, at the request of residents in the vicinity, recently extended its provisions to the whole neighbourhood of Notting Hill. The success of the Show held last autumn in the infancy of the Society was very encouraging, and the interest displayed by the cottagers has far surpassed anticipation. Whole rows of untidy plots of ground now converted into tasteful gardens, and numberless windows filled with plants, testify to the eager readiness of the poor to enter into the friendly competition which this Society invites.

EDINBURGH WORKING MEN'S FLOWER SHOW.—In the most crowded districts of Edinburgh there are many who, having few opportunities of so innocent enjoyment, regard the "Working Men's Flower Show" as one of the most important occasions of the year; and the testimony of "visitors" in these districts strengthens the belief that the attention required for the culture of the plants for exhibition, and the interest they awaken, exert a very salutary influence.

The show of 1867 was held on the 3rd of August in the Corn Exchange, Grassmarket. Like the two former shows, it proved a complete success, the plants being considerably better on the whole than those previously exhibited, and the Committee were gratified to find that striking evidence

was afforded of increasing interest on the part of the working classes. It is estimated that upwards of six thousand persons visited the Exchange in the course of the day, five thousand having paid one penny each for admission after two o'clock, competitors with their families being admitted free. This is a thousand more than in the preceding year. There were fully three hundred competitors, upwards of one hundred of whom were juveniles under fifteen years of age, and their entries of plants, &c., for competition numbered 830. In 1865 there were only 160 competitors, and in 1866, 245, with 481 entries for competition.



AGAPANTHUS UMBELLATUS.

This old species of Lily contributes a very imposing effect to a conservatory in August and September. The lovely umbels of bright blue, standing boldly erect among other plants, contrast well, and at the same time make them strikingly conspicuous; indeed, their presence never fails to draw greetings and flattering remarks, especially from the ladies, though the construction of the heads debars them from entering largely into the hand-bouquet, unless in single flowers plucked from the crown.

Propagation.—This is accomplished by seed, division of the roots, and offsets. From seeds, by sowing in a pot any time between March and June, so that the seedlings may acquire sufficient strength to resist the changes in winter. Plunge the pot to the rim in gentle bottom heat, and keep the soil constantly moist, both before and after the plants appear above ground. Pot-off as soon as the seedlings can be conveniently

handled, and attend afterwards to watering, shading, &c., as is usually done with such seedlings. Division of the roots and offsets are a ready means of extending the stock. For a compost, a light loamy mixture, with sand incorporated to the extent of one-third of the bulk, will do.

General Culture.—Little need be added to the attention generally demanded by free-growing plants. They all delight in high living. A rich heavy loam, with a third of well-reduced cow manure and sharp river sand thrown together without riddling, will make them grow strongly and well. Admit air abundantly, administer water copiously in the growing season, adding a stimulant in the shape of a little guano to the water, when the flowers are in the process of formation; and wherever situated, air plentifully supplied ought never to be neglected when the flowers are expanding, else the flowers will be deficient of their bright blue, so much appreciated, as well as in

good substance. When the flowers have dropped, cut down the stems half-way and prevent seeding, unless particularly wanted, when one crown will be enough to leave; and it ought to be remembered that a stance in a vinery for a month in autumn is of material consequence to the maturing of the plants, as well as securing an advanced state of condition for the following year. They may then be allowed to go quietly to rest, by withholding water to a considerable extent, permitting the soil to get almost dry in their pots. The plants will then be quite indifferent whether they are placed above, below, or behind the stage of the greenhouse throughout the winter; only, if below, they must be turned on their sides towards the sun, that they may enjoy any blinks that penetrate through the openings.—(*The Gardener.*)

LILIUM AURATUM RUBRUM VITTATUM.

Would any of the readers of this Journal inform me if they or any one else had flowered the above-named Liliun in this country before the 5th of last month? With me one flower opened on the above date, and magnificent it was. It far surpasses the Liliun auratum in the beauty of its markings. I should have sent it to one of the London horticultural meetings, but the distance deterred me.—WILLIAM OWEN, *Gardener to H. Neumann, Esq., Winnington, Northwich.*

A FEW WORDS ON MR. RIVERS'S NEW PEACHES.

LIVING in a cold district as I do, my experience with regard to Mr. Rivers's new early Peaches is of some importance to the public.

This season Early Rivers was dead ripe on the 4th of June, and had I been at home it would have been gathered two or three days before. Early Louise and Early Beatrice followed so closely that all three were ripe in the first week in June. Early Beatrice would no doubt have been ripe first, had not the tree occupied a position close to the ventilators, and which were always open from the beginning of May; the other two were side by side, 3 or 4 feet further from the front of the house. These trees and a Dr. Hogg grafted on the Prunus padus are at the cool end of the compartment of a house heated by two 4-inch pipes above the surface, and by two under a slate-bottomed bed. No attempt has been made to force early, a large amount of air being always admitted; and the condition of the other trees proves that these new early Peaches are at least what Mr. Rivers professes them to be. Grosse Mignonne at the warm end of the same compartment is just beginning to colour, as is also the Dr. Hogg referred to, and these will be ripe, I should think, in about ten days' time.

This Dr. Hogg was grafted in March, 1867, and is now a sturdy pyramid 6 feet high, with the lower branches 2 feet long, and I have left it one dozen Peaches to mature; the tree from which the scion was taken is at the warm end, and the fruit has not yet begun to swell since stoning. I mention this, as it must be due to the stock that it has become an early Peach. It flowered and set its fruit several days before any other tree in the house; but it was overtaken during the stoning by the Early Rivers, Early Louise, and Early Beatrice. I may add that the flavour of these three early Peaches was first-rate, Early Rivers retaining most decidedly the White Nectarine bouquet.—W. KINGSLEY, *South Kilvington, Thirsk.*

NOTES AND GLEANINGS.

WE are pleased to hear that H.R.H. the Commander-in-chief has accepted the very liberal offer of Mr. Rivers, of Sawbridgeworth, to supply to the camp at Aldershot a quantity of miniature orchard trees for the use of the soldiers' gardens.

—MARVELLOUS EARLINESS OF THE PEACH.—On the 4th of this month the new Peach, Early Beatrice, raised by Mr. Rivers, was gathered from pot trees in the orchard house at Sawbridgeworth, every other variety being perfectly hard and green, and exhibiting no signs of maturity.

WORK FOR THE WEEK.

KITCHEN GARDEN.

THE market gardeners about London have now large beds of early Cabbages sown for winter and spring Coleworts, and

an early sowing of these for the same purpose or for early Cabbages in spring should now be made. In private gardens another sowing might be made a fortnight or three weeks hence. Sowings of Salads, &c., for autumn use must now be made oftener to guard against the uncertainty of our climate. Broccoli, after the main crops are in if you have a spare piece of good ground, you may try some of the small plants left, and these you may plant till the end of the month or even later, planting them more thickly in the ground, and if they grow too strongly they can be thinned out when there is more ground to spare in the autumn. This will afford the chance of a longer succession next spring. These late plantings sometimes withstand the winter better than the main crops. *Casti-flowers*, a good breadth of these may now be put in, as they neither button nor run to seed late in the autumn. *Spinach* will not run much to seed in autumn, and the sowings made now may be twice as large as those made earlier in the season. Spinach will grow best on a dughill, and the ground cannot be over-manned for this sowing, as it is not to stand over the winter, and the weather late in autumn is against it. *Turnips*, except for the earliest crops the kitchen garden is too rich for producing good-flavoured Turnips, and unless you have a poor light piece of ground upon which to sow a large breadth of these it is better to sow in a field.

FRUIT GARDEN.

Have bunting or mats ready to put over Currants, Gooseberries, and Cherries that you wish to keep late. Bud all the stone fruit of which you want an increase. Proceed with thinning the shoots of Peach trees where they are too thick, taking off the laterals and exposing to the sun and air all the wood which is to be retained for next season. On old trees of Plums and Cherries lay in a succession of young wood in all parts of the tree; such being kept close to the wall, will in a few years furnish finer fruit and produce more plentifully than old unsightly spurs. Shorten the side shoots of Currant and Gooseberry trees if not already done. On plants previously shortened, the points of the leading shoots may be taken off with advantage. The late sorts of Strawberries, such as the Elton, should be well mulched with grass or straw to keep the fruit clean. Beds that were covered early with grass now wants covering again. Look after the runners of Keens' Seedling and other early sorts. Sprinkle a few barrowful of leaf mould, old tan, or rotten dung and soil on the outside of your Strawberry beds to encourage a stock of young plants to root for making a new plantation by-and-by; when these are ready to plant out, take 3 or 4 inches of the runners with each plant, and make these pieces of the runners firm in the soil with the dibber, which is better than planting the young half-formed plants deeply in the soil.

FLOWER GARDEN.

Edgings of Alyssum, Virginian Stocks, or Sanvitalia procumbens are apt to overrun their space after this time, but they stand clipping as well as Box, and by a little attention to this they may be kept neat till frost come. All the Petunias and Verbenas must also be clipped as soon as they begin to extend beyond the sides of the beds. The Dahlias should be pruned regularly through the season, likewise all kinds of plants which straggle or are liable to grow out of bounds. Look over the beds of Scarlet Pelargoniums and stop the leading branches wherever a flower bud is perceptible. This will tend to keep the plant dwarf, and the flower buds will be much increased in size by the concentration of the sap. Still attend to the cleanliness of Auriculas, keeping them free from decayed leaves, weeds, and the green fly. Continue to part Polyantheses in favourable weather, also plant out seedlings. Of Tulips, little can be said just now. The bed, however, must not be neglected, dig it over and ridge it up so that the soil may be sweetened by the action of sun and air. Great attention must be directed to the roots of Ranunculuses; as they arrive at maturity, which is indicated by the leaves becoming yellow, they should be carefully taken up, as it usually happens that some are ready to remove before others, and should the roots which have become dormant remain in too long, they are apt to start, or commence throwing out fresh fibres, which is attended with ruinous consequences. The blooming season for Carnations has now fairly begun, and these favourite flowers will continue to attract admiration during the present and succeeding month. As seedlings flower pull up all with single or semi-double flowers, as well as all selfs, unless the variety has some striking characteristic, when it may be worth while to propagate it as a border flower. Commence layering the shoots,

taking these varieties first which are most forward. Still tie-up the buds as they advance, and do not let the plants in pots lack moisture.

GREENHOUSE AND CONSERVATORY.

All the regular greenhouse plants are, or ought to be, out of the house by this time. Even Heaths and the finer specimen plants of the more delicate sorts ought now to be in cold frames, where they are far better than in the best constructed greenhouse. The treatment of the greenhouse must, therefore, be very different in many places according to the kind of plants with which it is now filled. If for Pelargoniums or other florists' flowers in bloom, ward off the sun by blinds, and if for the hardier stove plants keep the house more close and warm. All Pelargoniums, including the common Scarlet, that are to be forced before next March, should not be stopped or cut-in after this time, and all the early-struck cuttings should now or soon be planted out in beds in the reserve garden for a month or two; but as soon as they become too strong or succulent pot them. Another rule to be observed with forcing Pelargoniums is, that the pots should be full of roots, or the plants pot-bound, before they are brought into heat. As soon as they show for flowering, however, they may be shifted into larger pots or be well supplied with liquid manure. Any one can supply heat and moisture to flowers in winter, but much judgment and forethought are required to prepare the plants.

STOVE.

There being so much sunshine this season, house plants, and more especially stove plants, are in a more forward state than they usually are at this time; their management must, therefore, be a little varied for the next six weeks, giving them more water and keeping the house rather moist. Give air freely, especially on very hot days; this will prolong their growth and allow them sufficient time to ripen their wood.

PITS AND FRAMES.

Cuttings and plants divided for increase now find their way into these very useful structures. Seeds of Calceolarias, Pelargoniums, and many other families now come up readily in close pits without artificial heat. Grafted Camellias, Azaleas, Rhododendrons, Daphnes, &c., now do very well in close pits of this kind, taking care to shade them well from the sun. In short, all the houses may be relieved by thinning out the plants in summer; but plant pits and frames should never be empty at any time. Prepare a slight hotbed for a frame, and begin to increase such plants as you require a large stock of next season. Mangles's, Mrs. Pollock, and other Variegated and Zonal Pelargoniums are generally tardy strikers if left till late in the season; therefore, begin in time. Very little watering will, however, suit them until they make roots.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

On this, the 4th of July, we have had cloudy mornings and a falling barometer, but still no rain, and for several nights no dew, so that do what we will matters look not so bright as we would wish them to do. Our work has been chiefly a repetition of that of last week, and getting every bit of ground hood, and what was cleared of early crops well dug, ready to be planted as soon as a change in the weather shall come. The extreme heat is causing some of the Cauliflowers to be greenish and deformed, instead of firm and white as snow as we like to see the curd. Gave sewage water to Peas and other crops, and mulched as much as possible; but even then if a good row of Peas be allowed twenty pailsful of such water, saturating the ground well, it is astonishing how soon in such days as the 2nd and 3rd the foliage would throw so much of it again into the atmosphere.

Watering.—Except in some cases for merely refreshing the foliage, we are no advocates for frequent watering out of doors; if each watering is heavy enough to reach all the roots, and these waterings are frequent, the ground becomes chilled and the roots paralysed by the very abundance of the water that surrounds them, and also by the absence of the air which cannot well penetrate the caked surface if that is not broken after each watering. In the case even of crops requiring as much moisture as Peas, we prefer in such seasons as this to water well and then let well alone until the service of the pail is again required, and that the plants will soon indicate if we study their appearances.

Very frequent waterings that scarcely go beyond the surface, do more harm than no watering at all. Just look at established

plants in a field, say a field of Wheat, and note how far a very long time the plants hold up their heads rejoicingly to the sun, and never show that they do not receive a refreshing shower every other day. Such plants obtain their supply of moisture from beneath, and the greater the moisture thrown off by evaporation, the greater the quantity absorbed by the roots from great distances below the surface.

The chief evils of surface-dribbling are, that first the line of absorption from beneath is broken; evaporation, it is true, goes on rapidly from the surface, and the moist vapour does good to the foliage as it passes it, but until the applied water is exhaled the roots in the dry soil deeper down receive no benefit from the exhaustless moisture farther beneath them, but are in much the same condition as the roots of a plant in a pot would be where the water applied only penetrated to about one-third of the depth of the soil, leaving the lower two-thirds, as respects roots and soil, much as if they stood for some time in an oven. The second evil is, that the frequent surface-waterings encourage the plant in self defence to make rootlets near the surface, whilst the lower roots are rendered inactive; and then, as the sun exhales the surface moisture, these surface roots are parched up before they can do much for the plant, and thus our extra care has a tendency to promote a sickly condition of growth. The true rule to apply in all kinds of watering is, to give enough to reach to and a little beyond every fibre of the plant, and that done to give no more watering until it is absolutely required, and this rule applies equally to a plant in the open ground and to plant in a pot.

When plants are grown in small pots there is little danger of over-watering, though it is worse than useless to water them when the soil is already moist enough. An animal will scarcely drink unless it be thirsty, and even man will seldom take a drop more water than he absolutely requires. Most plants are equally sensitive, though we are slow to learn their modes and habits. Often, instead of being pleased, they would shrink if they could from the jug that visits the favourites in the window every day. In such weather as we had lately a plant in a small pot might need refreshing twice a-day. In dull cloudy weather it might benefit by being let alone for three days or a week. When a small plant is growing in a rather large pot the frequent and heavy waterings are much more disastrous than to a plant in the open ground. The soil unoccupied and kept drenched, even with fair drainage, becomes sour like the mud at the sides and bottom of a sluggish stream. To secure health in such a case, and yet from a good body of earth to avoid the trouble of frequent shifting, the rule should be in watering to give as much as will reach every fibre, but not more than will keep the outside of the ball generally moist, but not wet to saturation. The outside soil in such a case should only be somewhat moist until the roots begin to permeate the whole of it. Watering so as to reach every fibre is, therefore, the right rule. In a pot filled with roots, water all over so that every root shall have its allowance. In giving a large pot to a small plant, water chiefly at the centre, increasing the circumference of the direct moistening as the roots extend. Thus out of doors, if we had not been forced to allow some large favourite evergreens to cater for themselves by bringing up moisture from beneath to compensate for the evaporation from the foliage, we would have given them a dozen pailsful of water each—much as we once saw given to the beautiful specimens at the Dean of Winchester's, one of the secrets of their beauty in a rather light soil; but in the case of a newly-planted Pelargonium or Verbena we are equally convinced that deluging the soil much farther than the roots extended would rather impede than accelerate growth. The rule in the latter case should be, Give enough to extend a little beyond the roots, and stop patiently until your services are again required.

We have lately observed some beds that were watered regularly every day, and chiefly overhead with the rose of a watering-pot, but though treated in other respects alike, they were far from equal to others that only had help once in a week or ten days, and that applied rather close to the stems with the spout of a watering-pot, so that the liquid might reach the roots without greatly wetting the surrounding soil. So far as moisture to the roots is concerned, and we have made up our mind to water, we may sum up in the following directions:—Do not water so frequently as to puddle the roots; do not water so plentifully as to deluge the ground beyond the roots; do not resort too much to mere surface-watering either in the open ground or in a pot, and see that the water so given extends to all the roots, which you may easily know in the case of a pot by ringing it, and noticing whether the sound emitted

is dull or clear. Bear in mind that watering by dribblets and often, out-doors or in-doors, is the most fruitful source of ruin to plants. Give enough to reach every fibre when you give any.

To be consistent when, in accordance with the above, we speak of refreshing plants with the syringe, or even watering overhead with the rose of a watering-pot, we say we have no objection to that being frequently done, when the object chiefly aimed at is the mere refreshing of the foliage, or, as in the case of newly-turned-out or newly-potted plants, it is to diminish evaporation from the foliage until in their new position the balance between roots, and stems and leaves be again restored. Just as a good wash or a bath refreshes us when travel-stained and tired, so the water, however communicated, does refresh the foliage of plants, and we would use the syringe, garden engine, and rose watering-pot much more in this way if we could, only we must not suppose that this surface-refreshing will serve long as a substitute for a due amount of moisture at the roots. In watering the roots in some cases, even out of doors, it is useful to use the rose of a watering-pot, as thus mere air is conveyed by the water-drops into the soil, and if all the roots are reached, it is of less consequence how the moisture gets there, provided that the caked surface which would result from such frequent rose-waterings is guarded against by frequent surface-stirring. We prefer for general waterings the pail or the spout of the watering-pot, as thus we send the water intended for the roots at once where it is wanted, and with the least caking at the surface. Even in thus watering a flower bed we generally stir the surface soon afterwards, to prevent anything like a caked surface. Plants in a bed out of doors, or in-doors in a pot, will thrive all the better and be more benefited by the watering if the surface soil is loose instead of hard or caked. The natural tendency of much rose-watering is to make a hard surface. In this dry weather, though we knew our flower plants in beds wanted no more water at the roots, we knew they would have thriven better—that is, grown upwards faster if we could have moistened their foliage every afternoon or evening, but that mere refreshing would have been different from an attempted watering, which would have wet the soil for one-eighth or even one-fourth of an inch deep. It is such waterings we wish to guard people against, as in general they are worse than useless, so far as the roots are concerned.

For merely refreshing the foliage or lessening evaporation, we prefer the syringe or the engine to the rose of a watering-pot, as the water can then be thrown on much more lightly, but a practised workman can use the rose also lightly. When it is attempted to reach the roots by rose-waterings, it is important to keep the rose low, as then the water, having less force, will not cake the surface so much. In watering with the spout of a pot, the same mode is also of importance, and if not looked after common labourers will quite disregard it, as they stand nearly erect, hold the pot well up, and send out the jet with force enough to tear the soil from small plants. The end of the spout should be close to the ground, and the water be poured gently out, and if the surface is too dry to receive it it is best to come over the ground several times instead of having the water running to waste, or in rivulets to one place near the edge where least wanted. One man will thus water as if he thought of a gentle shower-bath for himself; another will water as if he thought, if thinking formed any item in the case, that if a jet of water were to be poured on his head, the more feet of descent the jet had, and, consequently, the greater its momentum and force the more refreshing it would be. After all such waterings stir the surface as soon as dryish, to keep moisture in and to admit air.

FRUIT GARDEN.

Much the same as last week. Gathered most of the Black Currants, Red and White for preserving, also Raspberries, knowing that owing to the flocks of blackbirds we should soon have few to gather. Netted the Currants and Gooseberries left, but even that will only be a partial protection. For a few weeks our winged visitors were comparatively few, and thrushes, especially, we picked up dead and dying from the drought; but now blackbirds have come to us in myriads. What fruit we cannot keep without protection, even though green, seems to be safe enough in neighbouring villages, even when entirely unprotected, but that, we believe, is partly owing to the want of shrubs in which to shelter, and still more to the presence of many children, from whom birds instinctively keep aloof. We shall commence directly to prick-out and layer Strawberries for next season's forcing, and we have planted-out the greater

portion of those forced last season. It is important where birds are very numerous to plant Strawberries in beds or quarters so as to be easily netted.

We shall be obliged to water Peach and Apricot trees out of doors to keep the fruit from falling. Apricots need more moisture at the roots than the Peach, and so much is this the case that in some places where the Apricots were a comparative failure, they succeeded after the borders were watered in summer and autumn. The moisture at the roots seems almost as indispensable as dry air when in bloom. All fruit houses wanted extra watering. The Peach house where the fruit is now becoming thin has had plenty of air night and day, but the front air-openings had all to be netted, as the blackbirds had attacked the fruit, which we never knew them do before. They are more shy of going in at the slid sashes at the top of the house. In our orchard houses we have had such birds, pheasants, and even peacocks nibbling the Cherries, getting in by the front openings, but as yet none have gone in at the top ventilators. The weather has been everything for securing good-flavoured Melons. A little shade is serviceable to most things in such weather, and it renders frequent waterings less necessary. All fruit plants in pots will be benefited by rich mulchings of rotten dung, &c.

ORNAMENTAL DEPARTMENT.

Our lawn at length is becoming brown, even in our heavy loamy soil, and until it turn green again the beauty of the flower garden will be greatly marred. With little watering, given chiefly to the roots, and the most part of the surface left loose and dry, the quantity of bloom is greater than we could have expected. A good watering to a long row of scarlet Gladiolus acted almost like magic. As we knew the bulbs were strong and rather deep we had left them to themselves, with the exception of a little mulching of rotten dung. We noticed, however, that the points of a number of leaves were becoming brownish, and only a very few flower spikes were showing. After stirring the surface we gave a good soaking of sewage, and the very next morning there were hundreds of spikes peeping from their sheaths, and every vestige of distress in the foliage was gone. If this weather continue we must give another watering eight days hence. Without it we are sure that the spikes would have been poor.

Twigged and otherwise secured plants in flower beds unsafe in our windy place. Hollyhocks and Dahlias will require more attention than they have yet received. One part of our Roses we have been obliged to leave to themselves, and they have given more cut flowers than we could have expected. Our best flowers have come from where the plants have several times been watered with sewage, &c. For first-rate Roses these things are almost essential—the best sorts, a loamy soil, plenty of rotten manure incorporated with the soil, a mulching in dry seasons, and plenty of manure water after the buds are fairly formed. Under these conditions we can smile at Rose enemies. The watering with us this season has been mostly out of the question. Now is a good time to insert buds on Briar or other stocks, and every young gardener, even for his own advantage, ought to practise budding even in his own time, that he may be expert at such pleasing work. For gentlemen, however, it is generally cheapest to purchase budded plants, just as a man whose sole work is to propagate young Heaths, will turn them out at a price which no gentleman's gardener could imitate, with hundreds of other matters demanding his daily attention.

It is now a good time to sow thinly Brompton and Queen Stocks, to receive a little protection in winter. As soon as we can we shall begin putting in cuttings of Verbanas, as new they are mostly free from their usual enemies, the worst of which is thrips, and it will be almost sure to come if this dry weather continue, and we have but little water to counteract it. As yet we have not lost a plant, and even the thirsty Calceolaria is still not affected. We would like to prune a number of Lanrels if we could. It is best to use the knife, as thus the cutting may be almost concealed.

In plant houses the chief object has been to keep them moist by syringing the stages, floors, &c., and yet waste as little water as possible. Plants set out of doors have been kept rather shady. When placed full in the sun the pots should be protected from the fierce rays. After the plants are kept a little shaded for a few days they will mostly stand the sun uninjured, but the roots close to the sides of the pot, when equally exposed, will be more or less injured, water how you may.

Pricked-off numbers of Cinerarias and Primulas, and potted

the first lots, placing the latter behind a south wall to be shaded, where they are thriving beautifully. Old cut-down plants of Cinerarias we shall plant in a shady bed, so as to take what good strong suckers we want from them. These two tribes alone help to make houses gay and lively in winter. Those who have favourite kinds of herbaceous Calceolarias which they wish to keep, should turn them out in a shady place after cutting them down, and depend on growing on again from the suckers or shoots that push from the roots. Florists' Pelargoniums are now chiefly standing in the full sun on the ground out of doors, and, except in extreme cases, we prefer watering the ground instead of the pots, so that the weed shall be well hardened before pruning. The moisture at the bottom is generally sufficient to prevent the plants flagging injuriously.—R. F.

COVENT GARDEN MARKET.—JULY 8.

The supplies are quite as heavy as last week, and most of the hothouse produce is of a very inferior description. A considerable quantity of foreign Apricots, Peaches, and Nectarines are also among the dealers, and the first instalment of 20,000 West Indian Pine Apples was offered for sale to-day in very good condition, at from 1s. to 2s. each.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples.....	1	6	0	0	Melons.....	each	3	0	6	0
Apricots.....	2	0	4	0	Nectarines.....	doz.	4	0	8	0
Cherries.....	lb.	0	3	1	Oranges.....	100	12	0	0	0
Chestnuts.....	bush.	0	0	0	Peaches.....	doz.	6	0	12	0
Currants.....	1/2 sieve	4	0	0	Pears (dessert) ..	doz.	2	0	0	0
Black.....	do.	4	0	5	Pine Apples.....	lb.	3	0	5	0
Flgs.....	doz.	4	0	8	Plums.....	1/2 sieve	0	0	0	0
Filberts.....	lb.	1	0	0	Quinces.....	doz.	0	0	0	0
Cobs.....	lb.	0	9	1	Raspberries.....	lb.	0	4	0	8
Gooseberries ..	quart	0	4	0	Strawberries... per lb.	0	6	1	0	0
Grapes, Hothouse..	lb.	2	0	5	Walnuts.....	bush.	10	0	15	0
Lemons.....	100	8	0	12	do.....	per 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes.....	doz.	2	0	3	0	Leeks.....	bunch	0	4	0	0
Asparagus.....	100	0	0	0	Lettuce.....	per score	0	6	1	0	
Beans, Kidney 1/2 sieve	4	0	0	0	Mushrooms.....	pottle	3	0	4	0	
Beet, Red.....	doz.	2	0	3	0	Must.& Cress, punnet	6	2	0	0	
Broccoli.....	bundle	0	0	0	0	Onions per doz. bells.	6	0	0	0	
Brus. Sprouts 1/2 sieve	0	0	0	0	0	Parsley.....	per sieve	3	0	4	0
Cabbage.....	doz.	1	6	1	6	Parsnips.....	doz.	0	9	1	6
Cucumbers.....	100	0	0	6	0	Peas.....	per quart	0	9	1	0
Carrots.....	bunch	0	6	1	0	Potatoes.....	bushel	4	6	0	0
Canflower.....	doz.	3	0	6	0	Kidney.....	do.	4	0	6	0
Celery.....	bundle	1	6	2	0	Radishes doz. bunches	0	6	0	0	
Cucumbers.....	each	0	4	1	0	Rhubarb.....	bundle	0	4	0	8
Endive.....	doz.	2	0	0	0	Sea-kale.....	basket	0	0	0	0
Fennel.....	bunch	0	3	0	0	Shallots.....	lb.	0	8	0	0
Garlic.....	lb.	0	8	0	0	Spinach.....	bushel	2	0	3	0
Herbs.....	bunch	0	6	3	0	Tomatoes.....	per doz.	3	0	4	0
Horseradish ..	bundle	3	0	5	0	Turnips.....	bunch	0	6	1	6

TO CORRESPONDENTS.

.. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

BOOKS (Notice).—There is no single work devoted to forcing Vines, Strawberries, and Cucumbers, but all of them are included in the "Cottage Gardener's Dictionary," a new edition of which with a supplement will be published this week. They are also included in Thompson's "Gardener's Assistant."

FACIATED MELON STEM (J. F.).—Fasciation only occurs in very luxuriant plants. We have seen examples of it in Asparagus, Ash, Holly, Daphne, and Antirrhinum, but never before in the Melon. It is the formation of an excess of woody fibre in the fasciated part, but the cause is unexplained.

GRAPEB NOT SWELLING-OFF (J. Bryan).—The few large berries in the bunches sent had been set (contain fertile seeds), but the multitude of small berries contain no seeds. You should assist the setting as was recently recommended in our columns. The bunches you enclosed were not thinned. They should have had three-fourths of the berries removed.

METEOROLOGY (Observer).—There is no doubt that a knowledge of meteorology is useful to the gardener, though not so much so as a know-

ledge of botany and chemistry. We recommend you to purchase Buchan's "Handy Book of Meteorology." A second edition has just been issued, and is really a new book, so much has been added since the first edition appeared, although that was published no longer since than last year. It is an excellent work. Its author is Secretary of the Scottish Meteorological Society.

GRASS OR GRAVEL (Emily).—On no account have your lawn supplanted by gravel. The grass may be "very brown" during this tropical dry heat, and it may be "very weedy" sometimes, but these are temporary defects, and easily prevented by watering, and using the spud to uproot the weeds. Nothing would compensate for the loss of the lawn in front of your drawing-room windows. Read the following, and repent that you ever contemplated destroying your lawn:—

"The grass, the grass, the beautiful grass,
That brightens this land of ours,
Oh, why do we rudely let it pass,
And only praise the flowers?
The blossoms of spring small joys would bring,
And the summer-bloom look sad,
Were the earth not green, and the distant scene
In its emerald robe not clad.
Then sing the grass, the beautiful grass,
That brightens this land of ours;
For there is not a blade by Nature made
Less perfect than the flowers.

"The grass, the grass, the feathery grass,
That waves in the summer wind,
That stays when the flowers all fade and pass,
Like a dear old friend, behind;
That clothes the hills and the valley fill,
When the trees are stripped and bare;
Oh, the land would be like a wintry sea;
Did the grass not linger there.
Then sing the grass, the honey green grass,
That to all such a charm can lend;
For 'tis staunch and true the whole year through,
And to all a faithful friend.

"The grass, the grass, the beautiful grass,
Oh, well may the gift endure,
That never was meant for creed or class,
But grows for both rich and poor.
Long may the land be rich and grand
Where the emerald turf is spread;
May the bright green grass, when from earth we pass,
Lie lightly o'er each head.
Then sing the grass, the beautiful grass,
That stays like a dear old friend;
For whatever our fate, it kindly waits,
And it serves us to the end."

SHADING BY WHITENING THE GLASS (An Irish Subscriber).—The details you refer to are probably these:—We have found a mode more simple than skim milk, with a little powdered whitening mixed with it—say as much whitening as the size of a walnut—reduced to a fine powder, and thoroughly mixed with two or three quarts of milk. We would advise those trying the scheme to do a piece of glass first, let it dry, and add to the milk or whitening as they require less or more shading. If it be put on quickly and thinly by one man with a brush, and another follow with a dry duster brush, merely dabbing it quickly with the points of the dry brush, the shading will have the appearance of shaded ground glass, and look neat. The least quantity of whitening in the milk will give as much shade as Hartley's rough glass."

CHERRY (Centurion).—Your doubt was well grounded; it is not the Black Tartarian, but the Early Purple Gage.

CLASS 55 AT THE LEICESTER SHOW (An Intending Competitor).—As "hardy fruits" are specified, we consider that any grown under glass would be inadmissible. You had better write to Mr. Cox, the local Secretary, and ask him if Grapes and Peaches may be exhibited in that class. His address is 37, Market Place, Leicester.

GLOW-WORMS (C. P.).—The female Glowworm lays her eggs in the earth, or upon the moss and low damp plants, to which they are affixed by a viscid secretion. The larvae feed upon various kinds of snails. If you have the means of providing the larva with these animals, the earth in which they live must be kept moistened. You will find an summary of the history of the insect in "Westwood's Introduction," vol. i., page 250.—W.

RIPENESS OF PELARGONIUM SEED (An Inquirer).—The seeds are ripe as soon as they become brown, when they usually separate, and are suspended in a kind of whorl and ultimately fall, having a sort of horn to them. The seed when quite hard and brown is quite ripe, and should be gathered and sown forthwith. We cannot say much for its germination; indeed, we think it abortive, but we trust we are wrong.

STOVE CLIMBER (J. K.).—It is hard to say which is the best stove climber, but our choice would be Stephanotis floribunda.

TEA PLANT MANAGEMENT (C. P.).—It succeeds admirably in a cool greenhouse, and does well in a compost of two-thirds sandy fibrous loam, and one-third turfy sandy peat, adding sand liberally. The drainage should be good, and a light airy situation should be afforded. When growing a good supply of water should be given, and when at rest it will be enough if the soil be kept moist. Its treatment does not essentially differ from that of hardwooded greenhouse plants. We fear it would not succeed out of doors in winter, unless it were planted against a south wall, and protection given during severe frosty periods.

CLEANING MELON SEED (J. P.).—Melon seed should be separated from the pulp by washing well in a saucer or basin containing water. This should be done effectually without injury to the seed, and when complete the light and bad seeds will swim, and these should be skimmed off, and the heavy good seeds will sink. Run off the water, place the seeds on a shelf to dry, and when dry put them away in paper.

CONDENSED STEAM IN VINERY (A Notice).—We are at a loss to account for the condensed moisture on the Grapes, especially as you leave air on day and night. We can only suppose you have not given up sprinkling the floors, or by watering plants have caused too much moisture in the house. Leave off fires at night, give a little air at top at night, and allow no more water to be taken into the house. It is not possible to remove the stains on the berries. Do not attempt it.

ICE PLANT TREATMENT (A Subscriber).—Your plant being strong we would make a bed for it by digging out a pit about 18 inches square, in a warm sunny situation, and deep enough to hold a barrowful of hot dung; cover

this with 9 inches thick of a compost consisting of sandy loam two-thirds and leaf mould one-third, well mixed, placing the soil taken out of the pit around the sides. In the centre put out the plant, turning it out of the pot with the ball entire, and give a good watering. If convenient cover the plant with a hand-glass, and if this has a moveable top place the top crosswise during the day so as to admit air, otherwise tilt it on one side. This may remain until the plant requires room, then remove it. The hand glass is not a necessity; the plant will do well without it. Water copiously overhead in dry weather. It will in that way be much larger and finer than if grown in a greenhouse.

GROWING MUSHROOMS AFTER CUCUMBERS (W. M.).—In such a case without removing the manure of the hotbed, the best mode is to take away the soil, insert spawn in the manure after breaking it up a little, and then replace with 2 inches of soil. If we had to do all this we would not only move the surface of the manure, but we would add a few fresh droppings if we could.

ANTS IN THE SOIL OF A POTTED APRICOT (W. B.).—Water your pot with guano water, or even with lime and soot water, made by mixing quicklime and soot in the water, and the ants will leave you. If you were to place tar on the wadding round the stem they will not pass it. Syringe the head with clear soot and lime water, and that will clear it for the time.

HYACINTHS (Sligo).—We cannot search florists' catalogues for prices. You had better write to two or more florists, tell them what you require, and ask for prices, &c.

ORANGE TREE—POTTED MUSCAT VINE (Salteton).—We would remove the fruit from the Orange tree, wash it well, and place it under glass where it can have the greatest heat and a free supply of air. The heavy crop last year was too much for it. You had better fruit the Muscat in the pot under glass. Even at your place, we do not think it would do much out of doors. Do not cut down now.

AMARANTHUS DISCOLOR (P. J. Neuhil).—Amaranthus "discolor" is not known to Mr. Gibson, of Battersea Park. He has beds of Amaranthus bicolor, tricolor, and melancholicus ruber.

PEACHES MILDEWED (Dorset).—The fruit is affected with mildew. The only remedy is dusting with flowers of sulphur as soon as a speck shows itself, and taking care that the roots are not suffering from dryness. Dryness at the roots and a moist atmosphere is a fruitful source of mildew. It will also be promoted by too dry an atmosphere with too much moisture at the roots, especially if the weather be dull.

TOBACCO POWDER (E. H.).—We are doubtful if the tobacco powder will banish thrips from Vines and red spider from Melons, but you should try on a small scale. "R. F." stated the other week, that though it destroyed fly it also injured the green fruit of British Queen Strawberry. Smoke and syringe.

OLD STRAWBERRY BEDS (Agnes).—In thinning old Strawberry rows or beds, the weakest shoots, and the shoots or crowns having the smallest beds, are cut out. This is done without interfering with the roots, consequently the slips removed would be of no value for planting when compared with runners having roots. It is only in good loamy soils that such a practice is at all desirable, but many are in alarm about making a fresh bed; and treated as above and fresh mulched every winter, we have known Strawberries bear well many years.

LOAM (Idem).—A loamy soil, as generally understood, is synonymous with a good garden soil. If rather stiff from having a portion of clay, it is called a clayey loam, and in that the Strawberry flourishes. In a lighter soil, a sandy loam, the Strawberry grows freely, but does not last so long.

WINTER CUCUMBER (Hortensis).—The best, hardiest, and most prolific winter Cucumbers are the old Lord Kenyon, or Lion House, and an improved larger variety called Volunteer. These are smooth-skinned, with little or no spine, and are not so well liked as the darker Cucumbers by many; but they are very good from September to May, but in summer are sometimes apt to be bitter. To have them at Christmas they should be sown by the middle of July.

PACKING GRAPES (Idem).—There are many modes of packing Grapes to go by railway. One of the best is to fix the bunches on cotton wadding or tissue paper on a board, tie them there, and then fix the board in a box, so that however moved the Grapes will remain the same. Another good plan is to fill a box full so that they cannot move, and place it inside another box.

PEAS IN DRY HOT SEASONS (S. S.).—"R. F." recommends syringing in such weather, chiefly to newly-planted subjects in flower beds. It would be of little use syringing rows of Peas, though they would be benefited by such a syringing in an evening after being watered at the roots.

From one-sixth to one-quarter of an ounce of the materials you mention to a gallon of water would be very useful in a watering at the bottom. The nitrate of soda would give the best growth, but we would prefer the guano for fruitfulness. Hence the propriety of changing the fertiliser. The watering will help to dislodge the moles. Placing tar in the runs will cause them to move, but to destroy them you must trap.

ERRATUM.—Fig. 12, for "Maroon," Camille Bernardin, read Prince Camille de Rebas.

CATERPILLARS ON A PEAR TREE (R. W.).—They are the larva of Tenredo clypeata.

DANLIS (A Subscriber).—A Self is a flower with petals all of one colour; a Fancy has petals of two or more colours.

PEA (H. Cullin).—It is a well-known variety of the common garden Pea, and is known botanically as Pisum sativum macrocarpum—that is, the Large-podded cultivated Pea. It is much cultivated in France, where it is called *Pois mange-tout*, or All-catchable Pea, because the shell is boiled and eaten with the peas in them.

HYBRID LATHYRS (S. & M.).—I being a profuse hearer is a merit, but the colours are too dull and confused to command public patronage.

PLANTS TO FLOWER IN A GREENHOUSE FROM OCTOBER TO MAY (A. A. T.).—In October Chrysanthemums will be coming on, and they are well supplemented by Primulas; in addition to which, bulbs such as Hyacinths, Tulips, Narcissus, and Crocuses, will tend to make the house gay. In March and April Cinerarias will be in fine bloom, followed by Calceolarias in May, and then by Polargeniums. These are indispensable for greenhouse decoration. You should also have a plant or two of *Dentzia gracilla* and *Dielytra spectabilis*, which, though hardy, are very handsome. Of greenhouse plants proper we may name *Camellia Alba plena* and *Pimbrata*, both white; Mrs. Abbey Wilder, white, striped carmine; La Pace, white, striped and shaded scarlet; Story, rosy pink; and Perfection, red. Azaleas—Etoile de Gand, light salmon, white margin; Flower of the Day, white, striped rose; Gem, crimson scarlet; Mars, orange scarlet; Extranei, v. et rose; and Gledstanesi formosa, white, striped and blotched with scarlet. Eppocris The Bride, white; and Hyacinthiflora, rosy scarlet. Also Corres Brilliant, scarlet; Acacia Drummondii, A. armata, A. oleifolia elegans, and A. longiflora magnifica, all yellow; Borenia Drummondii, pink; Chorozema cordatum splendens, orange and brown; Cyclamen persicum, white, rose, and red varieties; Cypripedium insigne, green, tipped with white; Cytisus racemosus, yellow; Eriostemon intermedium, lilac; Imantophyllum miniatum, orange scarlet; Leschenaultia formosa, orange scarlet; Luculia gratissima, lilac; Monochotum ensiferum, rosy purple; Rhododendron jasminiflorum, waxy white; and Val-lota purpurea, scarlet.

WEED ON LAWN (Syringa).—The weed enclosed is Plantain. It is best removed with a knife in showery weather, cutting the root a few inches below the surface. This is troublesome, but is the only effectual means of eradicating Plantain and other weeds.

GRAPES IN GREENHOUSE (Idem).—We can only conclude that the leaves turning yellow at this season are affected by red spider or mildew. The latter may be destroyed by dusting the bunches, leaves, and shoots with flowers of sulphur. The Grapes may not ripen from a deficiency of heat, but they do so admirably with us in a cool house without any fire heat whatever. Give air early, and reduce it to a minimum early in the afternoon. The kinds you have may not be suited for a cool house.

PROPAGATING IVY (Idem).—Ivy is propagated from seed sown as soon as it is ripe in a bed of light soil in a rather shady situation. Cuttings put in now, or from now to the end of August, in sandy soil in a shady border, and kept moist and shaded, will be well rooted by autumn. Ivy is also easily propagated by pegging down a branch, and covering it with soil to the depth of 2 inches for a length of 3 or 4 inches, watering in dry weather.

INSECTS (W. B.).—The patch of eggs and newly-hatched caterpillars on your Rose leaves appear to be those of Bombyx auriflva, the Gold-tailed moth; but the injury which the leaves have chiefly suffered appears to be owing to their having been gnawed by the larvae of a small Sawfly. We know no better remedy for the former than careful hand-picking.

NAMES OF PLANTS (T. E. W.).—1, *Astilbe japonica*; 2, *Lychnis chalcidonica*; 3, *Nepeta italica*. (*A. H. C. D.*)—*Cornus florida*, var. *scabra*. (*E. E.*)—*Pteris serrulata*, *Aspidium angulare*, *Adiantum bispidalum*, *Campanula spathulata*, *Nierembergia gracilis*. (*J. C. H.*)—Probably *He-racleum giganteum*, but cannot be certain without a specimen. (*A. Lady, Cheshire*)—*Epimedium macranthum*. (*F. D.*)—*Stachys betonica*. (*J. W. Dick*)—1, *Orchis maculata*; 2, *Cherophyllum corosifolium*; 3, *Hypochaeris radicata*; 4, *Rumex acetosella*; 5, *Lotus major*; 6, *Miconia repens*; 7, *Rumex acetosa*; 8, *Galium saxatile*. We must defer giving the names of some of the Ferns sent till next week.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending July 7th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 1	30.253	30.149	72	51	63	61	N.E.	.00	Cloudy; overcast; fine, slightly clouded.
Thurs. 2	30.118	30.069	79	59	65	62	N.	.00	Overcast, fine; very fine; clear and fine.
Fri. . . 3	29.958	29.919	72	51	63	61	N.W.	.00	Cloudy, overcast; fine; clear and fine at night.
Sat. . . 4	29.954	29.938	81	48	64	62	N.	.00	Cloudy; densely overcast; clear and very fine.
Sun. . . 5	29.9-9	29.935	76	43	64	62	S.E.	.00	Clear and fine; overcast, cloudy; slightly overcast.
Mon... 6	29.991	29.939	75	42	65	62	E.	.01	Fine and clear; overcast; clear and fine.
Tues. . 7	30.060	31.028	79	46	65	62	N.E.	.00	Very fine; overcast; clear and fine.
Mean	30.047	29.990	76.29	47.86	64.14	61.71	..	0.00	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

PROFITABLE POULTRY.

I BELIEVE the majority of farmers think that to make a profit of poultry is next to impossible; that if there is no

great loss from keeping them, and they can be kept out of mischief, the wife or sister may have her fowls for pin money, or to indulge her fancy for pets, but that as to profit it is all nonsense.

Some amateurs on the contrary think that they if had but room to keep half a dozen large yards of fowls, with grass land

for them to run over, it would insure them a little fortune. The truth lies, I think, between these two opinions. Fowls ought to pay well for what they eat, but not much for management. Of course, I do not allude to show fowls at £50 a-pen, but fowls and their eggs sold at the ordinary market prices.

Having cottages in my orchards which are laid down in grass, I can keep almost any number of fowls, so have five lots, of from one dozen to thirty in each place. The labourers' wives receive 1*q*. a-score for looking-up the eggs, which is all the money paid for labour. The fowls have as much good barley as they can eat without waste, once a-day in summer and twice a-day in winter. Chickens are all reared at home. The result is, that the eggs and fowls sold pay for the corn consumed, and leave a balance of from £5 to £10 a-year, whilst a large household is well supplied with poultry and eggs costing nothing. This has always appeared to me quite satisfactory. Some of your readers might, perhaps, like to know how this is managed, whilst others will think the result poor in the extreme.

Having made poultry a hobby for more than thirty years, I should be happy to know how to manage better, and will gladly take a lesson from those who obtain a better result. Having touched upon a good many subjects in "our Journal," I thought—Suppose I give my ideas on poultry management!

First, eggs pay well; chickens at a common market price do not pay at all. If you intend to sell eggs, Silver-pencilled Hamburgs will lay more eggs, particularly in winter, than any other fowls, and Gold-pencilled the next. No others are so profitable, and none prettier, but they will not bear confinement. As I do not believe fowls are profitable or long healthy in confinement, this is to me no objection; but though none pay like Silver-pencilled, I neither like to eat them nor their eggs, they are small and inferior in flavour. The Gold-pencilled laying nearly as well in winter, and their eggs being a little larger, will be preferred by many. Those who have several good grass runs will do well to keep both. As they seldom sit, being what are called everlasting layers, some other fowls must be employed to rear chickens. I have a cross between the Cochin and Dorking for this purpose. But suppose you have one farmyard or grass field only; in this case, I say, Do not on any account keep any pure breed if the supply of your own household and profit be your object. Are your fowls too much inclined to sit? Procure for next year's breeding a couple of well-bred Hamburg cocks of any colour you prefer. Are they too small? Get two Dorkings, change your cocks every year, and let them be well-bred birds, not mongrels. You can in this way have any kind of fowl as to size, &c., because the chickens will resemble their well-bred sire almost always. You will find the chickens much more easy to rear than those of a pure breed, and the fowls are generally more vigorous and healthy.

Having made up your mind as to what fowls to keep, remember that young fowls lay more than old ones, so never kill a pullet or keep a fowl two years old, unless an especial favourite. Kill off all the young cocks as soon as they are fit to roost; they are generally kept too long. In corn harvest commence to kill off the hens if in good condition, and they ought never to be poor.

At this time of the year eggs are cheap; if you keep the hens till they have given over laying, they will be moulting, and are then unfit to kill, and will for many weeks yield no return for their food. The chickens will do much better when part of the hens are killed, as the yards will not be so crowded, and the young pullets will have a quieter time of it when most or all of the young cocks have followed the hens. Some will say, "What are we to do with the hens? We cannot eat them, and they will sell for a mere nothing." If your cook cannot make an old hen in good condition better as boiled fowl than any young chicken, she has not learnt her business. To my taste nothing is so utterly flavourless as a young chicken boiled. I never tasted a white kid glove boiled in milk, but if boiled tender I think it would be nearly as good. A fat fowl boiled gently for two hours and a half is better than any chicken that was ever cooked. Now, do not go and kill some poor skinny creature of a Cochin or Brahma that has never had a full meal for a month, and whose breastbone is as prominent as the back fin of a perch, and then say, "It is just as I thought, catch me eating old hens again." But if the hen is of a respectable breed and fat, and does not come to table as tender as a chicken and a great deal better, be sure it has not boiled two hours and a half or more; if boiled to rags, that it has not boiled gently.

I have been thus explicit, because to be able to kill old fowls without loss is the only way to make fowls profitable; in other words, keep nothing but pullets, rear early chickens, always feed well, kill off every year, and you will find poultry profitable.—J. R. PEARSON, *Chilwell*.

NEWMARKET POULTRY SHOW.

THE classes most conspicuous for excellence were those for *Grey Dorkings*, which were throughout well shown, the chickens being a first-rate feature of the meeting. The *Game* classes were not less excellent, and to a pen of *Duckwings* the silver cup for the best pen of poultry shown was awarded. They were the property of Mr. Mathews, of Stowmarket; but by some mistake being, with several pens sent by the same exhibitor, entered in the wrong class, a protest against their competing was given in to the Committee, but afterwards abandoned, as the Honorary Secretary had, by letter to the exhibitor, engaged to correct the error; consequently this somewhat unusual engagement could not, under such circumstances, be otherwise than fulfilled. We cannot refrain from again advising exhibitors to be more careful in stating correctly at the time of making their entries the number of the class they purpose showing in; as very little care at that moment not only prevents trouble to the managers of shows, but the certainty, where rules are rigidly adhered to, of disqualification. *Cochin-Chinas*, with the exception of the first and second-prize pens, were so indifferent that the third premium was withheld. Some very superior *Game Bantams* were shown, among them being a pen of unusually good coloured *Duckwings*. There was not a single entry of *Sobrighs*, although prizes of the value of £2 5s. were offered. *Japanese*, *White-footed*, and *Silky Bantams* were better than usual. The *Black Spanish* class was the worst in the Show, and consequently no first prize was awarded. *Brahma-Footras* were good, but the dark-feathered were most perfect; each variety of feather, however, enjoyed a separate competition. Some very good well-grown *Houdan* chickens were shown in the Extra class, also *Brahmas*; but the *Sale* class unexpectedly proved an entire failure, and no second prize was therefore given. *Turkeys* had two classes, the first being exclusively for the Cambridge variety, and these were unquestionably good; but in the other class for any other variety of Turkey there was not a single entry. *Aylesbury Ducks* were very good; and in the "Variety" *Duck* class some *Buenos Ayren* of high quality were entered. The *Geese* were as good as could be desired.

A very excellent collection of *Pigeons* was entered, Mr. Falton taking a large portion of the prizes, likewise the silver cup for the best pen of Pigeons exhibited. A very large amount of money was taken at the gate, and the weather left the visitors to the full enjoyment of a protracted inspection.

DORKINGS (Coloured).—First, Rev. C. H. Crosse, Cambridge. Second, H. Savile, Rofford Abbey, near Olorton. Highly Commended, H. Lingwood, Needham Market; Dr. Campbell, Brentwood; F. Parlett, Great Baddow. Commended, W. Tippler, Roxwell, near Chelmsford.

DORKINGS (Any variety except Coloured).—First, H. Lingwood. Second, Dr. Campbell. *Chickens.*—First, Rev. E. S. Tiddeman, Childerditch Vicarage, Brentwood. Second, H. Savile. Highly Commended, H. Pickles. Commended, Lady L. Charteris, Attleborough.

GAME (Black-breasted or other Red).—First, Cup, and Second, for best pen of Poultry in Show, S. Matthew, Chilton Farm, Stowmarket. Highly Commended, H. Loe, Godshill, Isle of Wight. Commended, W. B. Jeffries, Ipswich; F. R. Hall, Cambridge (Black Red).

GAME (Any other variety).—First and Second, S. Matthew (Duckwing and Piles).

COCHIN-CHINA (Buff).—First, H. Lingwood. Second, Mrs. Christie, Glyndebridge, near Lewes. Third, Withheld.

CRÈVE-CŒURS.—First, Col. Stuart Wortley, Grove End Road, London. Second, Lady L. Charteris. Commended, Mrs. M. Seamons, Aylesbury.

HOUDANS.—First, H. M. Maynard, Holmwood, Ryde, Isle of Wight. Second, W. Tippler. Commended, Col. Stuart Wortley.

GAME BANTAMS (Any variety).—First, W. B. Jeffries, Ipswich. Second, F. Pittis, jun., Newport, Isle of Wight. Highly Commended, Rev. C. H. Crosse, Cambridge. Commended, J. Parlett, Huntingdon (Piles).

BANTAMS (White).—First, Rev. F. Tearle, Gazeley Vicarage. Second, J. R. Jessop, Hull. Highly Commended, Rev. F. Tearle.

BANTAMS (Black).—First, H. M. Maynard. Second, Messrs. S. & R. Ashton.

BANTAMS (Any other variety).—First, C. Bamford, Impington Hall, near Cambridge (Japanese). Second, J. S. Tharp, Chippenham Park (White Japanese). Highly Commended, J. R. Jessop, Beverley Road (Booted Bantams).

HAMBURGS (Golden-spangled).—First, H. Pickles, jun. Second, Messrs. S. & R. Ashton. Highly Commended, H. Pickles, jun.; H. Loe.

HAMBURGS (Silver-spangled).—First and Commended, H. Pickles, jun. Second, J. Robinson, Tailsworth, near Manchester.

HAMBURGS (Golden-pencilled).—First, F. Pittis, jun. Second, H. Pickles, jun. Highly Commended, C. Havers. Commended, W. M. Madd.

HAMBURGS (Silver-pencilled).—First, W. M. Mann, Kendal. Second, C. Havers.

SPANISH.—First, Withheld. Second, C. Bamford, Impington Hall, near Cambridge. Third, G. S. Hall, Ely.

BRAHMA-POOTRA (Dark).—First and Second, H. P. Loech, Woolpit, Suffolk.

BRAHMA-POOTRA (Light).—First, H. Downsett, Ploshey, near Chelmsford. Second and Commended, H. M. Maynard.

ANY OTHER VARIETY NOT BEFORE MENTIONED.—First, A. S. Rae, Ely (Silver-spangled Polish). Second, Lady L. Charteris (Buff Poland). Highly Commended, T. Jolly, Newmarket (Grey Malaya). Commended, W. Turner, jun., Ipswich (Partridge Cochine).

CHICKENS (Any variety except Dorkings).—First, Lady L. Charteris. (White Crève-Coeur). Second, Rev. F. Tearle (Silver-spangled Hamburgs). Third, H. Pickles, jun. Highly Commended, H. Lee. Commended, H. Savile (Dark Brahma Pouter); F. R. Hall, Cambridge (Game).
SELLING CLASS.—First, Rev. C. H. Cross. Second, Withheld.
TURKEYS (Cambridge).—First, C. Wright, Fulbourn. Second, C. Bamford. Highly Commended, R. W. King, near Newmarket.
GUINEA FOWLS (Any variety).—First, C. Bamford. Second, W. Peddar, Kennett.
DUCKS (Ronen).—First, H. Dowsett. Second, J. F. Upsher, Sutton.
DUCKS (Aylesbury).—First and Second, Mrs. M. Seamons, Aylesbury.
DUCKS (Any other variety).—First, Messrs. S. & E. Ashton (Carolins). Second and Highly Commended, F. Pittis, jun. (Black East Indian).
GEESE (Any variety).—First, Mrs. M. Seamons. Second, C. Bamford (Tonlouse). Highly Commended, C. Bamford (White); H. Saville (Sebastopol).

PIGEONS.

CARRIERS.—First and Second, E. Fulton, Deptford. Highly Commended, H. Yardley, Birmingham.
TUMBLERS.—First, Second, and Highly Commended, R. Fulton.
OWLS.—First, H. Yardley. Second, Miss F. Eastern, Hull. Highly Commended, G. S. Hall.
POUTERS.—First and Cup for best pen of Pigeons, R. Fulton. Second, H. Yardley.
BARBS.—First, H. M. Maynard. Second, W. B. Jeffries. Highly Commended, R. Fulton.
FANTAILS.—First and Second, H. Yardley. Highly Commended, H. M. Maynard; G. S. Hall.
JACOBINS.—First, J. Thompson. Second, H. M. Maynard. Highly Commended, H. Yardley. Commended, R. Fulton.
TURBITS.—First and Highly Commended, J. Thompson. Second, H. Yardley.
ARCHANGELS.—First, H. M. Maynard. Second, H. Yardley.
RUNTS.—First and Highly Commended, T. D. Green, Saffron Walden. Second and Commended, H. Yardley.
NUNS.—First, H. Yardley. Second, E. Cockledge, Little Bradley, Newmarket.
 ANY OTHER VARIETY NOT BEFORE MENTIONED.—First, J. Thompson. Second, Highly Commended, and Commended, H. Yardley.
SELLING CLASS.—First, H. Yardley. Second, Miss F. Eastern (Tumblers). Highly Commended, H. M. Maynard (Swallows).
 Mr. Edward Hewitt, of Birmingham, was the Judge.

OUNDLE POULTRY SHOW.

THE Northamptonshire Agricultural Society has for many years added both poultry and Pigeons to the many attractions of its annual meetings, and the collection this year was certainly considerably in advance of those previously brought together. This division of the Show when ready for public inspection proved exceedingly well arranged, and the attendance of visitors all the time the Show was open proved how interesting it was to the company generally. Much trouble and inconvenience was caused by the pens, which were supplied by Messrs. Turner, of Sheffield, not arriving in due time, though the stands were fixed and ready a long while previously. The man expected to fix the pens never appeared, and a few men had to make the attempt at the last moment, as best they could, with string. After a delay of at least twenty-four hours from the time originally contemplated, the Show was such as to compensate a large company for the annoyance thus caused.

The Grey Dorkings were one of the chief features of the Show, and of this variety Mr. Longland exhibited a collection such as is rarely surpassed. The chickens shown by this gentleman were undoubtedly the most matured of any we have seen this season, and in first-rate condition. In the classes for Spanish the competition of adult birds was small though good, the chickens being, however, generally good throughout the class. Many excellent Game fowls were shown, and Mr. S. Deacon took a great portion of the premiums. Cochins were numerous and good, and here again several pens of finely grown chickens were exhibited; and of Brahma Pootras as early chickens the same statement holds good. The Aylesbury Ducks and Geese were remarkably good.

We noticed in the Bantam class (here open alike to every variety of Bantams), birds of very novel character, being evidently a cross between the Japanese Bantam and the Silky Fowl. They were so extraordinary as to attract the special attention of most poultry-breeders; and a pen of Frizzled Bantams in the same class was scarcely less worthy of attention.

In Pigeons the Society's rule was to exhibit pens of three different varieties from each subscriber. The competition was very restricted as to entries, but the birds were unusually good. The Show was most successful, and the weather all that could be wished for.

DORKINGS (Any colour).—First, J. Longland, Grendon. Second, T. Tatham, Kingsthorpe. Third, R. Wood, Clapton, Thrapstone. Commended, J. Carter, Farret Fen, Peterborough; Mrs. M. Seamons, Hartwell, Aylesbury. *Hens*.—First, J. Longland. Second, R. Wood. Highly Commended, W. Prentice, Aldwinckle, Thrapstone; Marchioness of Exeter, Stamford. *Chickens*.—First and Second, J. Longland. Highly Commended, Mrs. M. Seamons. Commended, R. Sykes, Geddington. *Pullets*.—First and Second, R. Wood. Highly Commended, R. Sykes; J. Longland. Commended, Mrs. M. Seamons. *Cock*.—First, J. Longland. Second, J. Beasley, Chapel Brampton. Third, T. Tatham.
SPANISH.—First, Burch & Boulter, Sheffield. Second, J. Stephens, Walsall. Third, W. R. Bull, Newport Pagnell. Commended, C. Wright, Northampton. *Chickens*.—First and Second, Burch & Boulter. Highly Commended, W. R. Bull. Commended, J. W. Smith, Gundle. *Cock*.—First, W. R. Bull. Second, C. Wright.
GAME (Any colour).—First and Third, S. Deacon, Polebrook Hall.

Second, Capt. Wetherall, Leddington. Highly Commended, S. Deacon. Commended, Capt. Wetherall. *Cock*.—First, Capt. Wetherall. Second, S. Deacon. Third, H. Lotan, Gandle. Highly Commended, Capt. Wetherall. *Hens*.—First, S. Deacon. Second, H. Lotan.

COCHIN-CHINAS (Any colour).—First, J. N. Beasley, Chapel Brampton. Second and Third, W. A. Taylor, Manchester. Highly Commended, J. H. Dawes, Moseley Hall, Birmingham; C. Wright; J. K. Fowler, Aylesbury. Commended, J. Stephens, Walsall. *Chickens*.—First and Second, W. A. Taylor. Highly Commended, J. N. Beasley. Commended, J. Longland. *Cock*.—First and Second, W. A. Taylor. Highly Commended, Marchioness of Exeter.

HAMBURGS (Any variety).—First, W. A. Taylor. Second, Burch and Boulter. Highly Commended, T. Pinfold, Newhaven (Spangled). Commended, W. Barford, Aylesbury (Golden).

BANTAMS (Any colour).—First, W. A. Taylor (Game). Second, Capt. Wetherall (Black-Red Game). Highly Commended, S. Deacon (Game); J. N. Beasley (Japanese); W. A. Taylor (Game). Commended, S. Deacon (Game); J. K. Fowler (Game).

ANY OTHER DISTINCT BREED.—First, J. K. Fowler (Brahma). Second, J. K. Fowler (Crève-Coeur). Third, T. Pinfold, Newhaven (Black Breda). Highly Commended, W. F. Marshall, Branstion (Hondan); Capt. Wetherall (Crève-Coeur). Commended, G. Turner, Uppingham (Dark Brahma).

GEESE (Any colour).—First, Mrs. M. Seamons. Second, Ladies Fitzwilliam, Harrowden House. Highly Commended, S. Deacon.

DUCKS (Aylesbury).—First, Mrs. M. Seamons. Second, J. K. Fowler. Highly Commended, Mrs. M. Seamons; J. K. Fowler.

DUCKS (Louen).—First, R. Wood. Second, J. K. Fowler. Commended, R. Wood; T. Burnaby, Pipewell.

DUCKS (Any other variety).—First, J. N. Beasley. Second, S. Deacon (East Indian).

TURKEYS (Any colour).—First, J. N. Beasley. Second, J. A. W. Underwood, Warmington.

SELLING CLASS.—First and Second, W. A. Taylor (Spssn and Buff Cochins). Third, C. Wright (Partridge). Highly Commended, J. K. Fowler (Aylesbury Ducks). Commended, J. Stephens, Walsall (Black Spanish); J. Longland (Dorking and Cochins).

PIGEONS.—First, H. Yardley, Birmingham (Fairies, Gwis, and Ice). Second, H. Yardley (Carriers, Pouters, and Runts).

The Judge was Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, Birmingham.

SNAITH POULTRY SHOW.

THE fourteenth annual Show of the Snaith Agricultural Society took place on the 2nd inst. There were ninety-four entries of poultry, Pigeons, Rabbits, and cage birds. The quality of the fowls shown in the classes for the best cock and hen of any variety, and in those for Game and Bantams, was very good. The Guinea Fowls and Rabbits were also very good, likewise Tumbler Pigeons, and those shown in the class for any breed. The following is the list of awards:—

ANY BREED.—First, J. Senior, Dewsbury. Second, E. Akroyd, Bradford. Highly Commended, W. A. Taylor, Manchester; J. Thresh, Bradford. Commended, W. & F. Pickard. *Cocks*.—Second, E. Akroyd. Highly Commended, J. Senior; Messrs. Gamble & Woodward; Messrs. W. & F. Pickard. Commended, J. Thresh.

GAME.—First, E. Akroyd. Second, J. C. Comps.

PHEASANTS (Golden).—First, W. A. Taylor. Second, J. Senior. Highly Commended, Messrs. Newbitt; G. Holmes.

PHEASANTS (Silver).—Prize, G. Holmes.

SPANISH (Black).—First, Messrs. Newbitt. Second, J. Thresh. Highly Commended, J. Elwood, Goole; G. Holmes. Commended, Messrs. W. and F. Pickard.

COCHIN-CHINA.—Prize, W. A. Taylor.

BANTAMS.—First, J. Senior. Second, T. C. Harrison, Hull. Highly Commended, G. Holmes; C. Gravill, Thorne.

GUINEA FOWLS.—First, C. Harrison, Hull. Second, G. Holmes. Highly Commended, F. T. Carr, Balno Lodge. Commended, Mrs. Bradley, Pollinston.

RABBITS.—*Buck*.—First and Second, C. Gravill. *Doe*.—First, C. Gravill. Second, W. S. Hornby. Highly Commended, C. Gravill. Commended, W. S. Hornby. Extra Stock.—Prize, W. S. Hornby.

PIGEONS.

CARRIERS.—First, Dr. Thompson. Second, C. Strickland.

CROPPERS.—Prize, Messrs. Newbitt.

TUMBLERS.—First, Messrs. Newbitt. Second, C. Strickland.

JACOBINS.—First, Messrs. Newbitt. Second, Dr. Thompson, Snaith. Highly Commended, G. W. Bullace, Sykehouse. Commended, G. W. Bullace; J. Robinson.

FANTAILS.—First and Second, Messrs. Newbitt. Highly Commended, D. Townsley.

ANY BREED.—First, D. Townsley. Second, J. Thresh. Extra Second, C. Strickland; Messrs. Newbitt; Dr. Thompson. Highly Commended, D. Townsley. Commended, C. Strickland.

CANARIES.—First, M. Holmes. Second, A. Jennings. Highly Commended and Commended, T. Hutchinson.

RED CAPS.—First, Waterworth. Second, W. Fenton. Highly Commended, M. Brain; Messrs. Newbitt.

Mr. E. Hutton, Pndsey, Leeds, officiated as Judge.

BARNSTABLE POULTRY SHOW.

THIS was held in conjunction with a Horticultural Exhibition, in the Market House, Barnstable, on the 1st and 2nd inst. There were 200 entries of Poultry, Pigeons, and Cage Birds. The following is the prize list:—

COCHIN-CHINA.—First, Col. Stuart Wortley, Grove End Road, London (Buff). Second, L. Patton, Taunton (Buff). Commended, S. R. Higham, Morcham Bishop.

BRAHMAS.—First, Miss C. Boyle, Barnstable. Second, G. Pagsley, Barnstable.
DORKINGS.—First and Second, L. Patton.
FRENCH (Any variety).—First, Col. Stuart Wortley (Crève-Cœur). Second, E. Leworthy, Newport, Barnstable.
SPANISH.—First, J. Joice. Second, H. Bright. Commended, W. Boyle, Barnstable.
MINORCAS.—First, H. L. Trowin, Kilkhampton. Second, H. Leworthy, Newport, Barnstable. Commended, S. Northcote, Upton Pine.
ANGONAS.—First and Second, H. Leworthy (Black-tipped White).
ANDALUSIAN (Blue).—First, R. Stone, Newport, Barnstable. Second, R. H. Nicholls, Newport, Mon.
GAME.—First and Second, Rev. G. S. Cruwys, Crnwys Morchard, Tiverton. Commended, E. Maunder, Northmolton (Black-breasted).
POLANOS.—First, J. Hinton, Hinton, near Bath. Second, R. Andrews, Barnstable.
HAMBURGERS (Gold or Silver-pencilled).—First, W. Clement, Barnstable (Gold). Second, R. H. Nicholls (Gold).
HAMBURGERS (Gold or Silver-spangled).—First, A. Snell, Bishop's Tawton (Silver). Second, J. Delmar, Ponghill (Gold).
ANY BREED NOT PREVIOUSLY MENTIONED.—First, R. Newcombe, Heanton, Panchardon (Indian). Second, E. Maunder, jun., (Malay).
BANTAMS (Any variety).—First, G. F. Hodson, North Petherton. Second, H. R. Higham (Gold-laced). Commended, J. R. Higham (Black-breasted); W. Dale, Weston-super-Mare.
TURKEYS.—First, L. Patton. Second and Third, J. Keal, Hircomb.
GEES.—First, L. Patton. Second and Third, J. Keal. Commended, F. Broyk, Irish Borough.
DUCKS.—First and Third, L. Patton (Ronen). Second, A. W. Jones (White). Commended, R. Petebidge (American).

PIGEONS.

CARRIERS.—First, C. Eulpin, Bridgewater. Second, E. S. Kaal.
POUTERS.—First and Second, C. Eulpin.
JACOBS.—First, W. Westcott, Barnstable. Second, C. Eulpin.
TUMBLERS.—First, W. Westcott. Second, C. Eulpin.
FANTAILS.—First and Second, C. Eulpin.
BARBS.—First, T. C. Smith. Second, A. D. Smith.
TRUMPETERS.—First, J. G. Gilbert. Second, C. Eulpin.
ANY OTHER VARIETY.—First, C. Bulpia. Second, W. Cooke, Barnstable. (Runts).
BRITISH AND FOREIGN CAGE AND OTHER BIRDS.
CANARIES.—First, Mrs. Boyle. Second, Mrs. E. Palmer.
GOLDFINCHES.—Prize, J. Sellick, Barnstable.
PARROTS.—First, G. T. Gaydon (African). Second, J. Clament (African Grey).
DOVES.—Prize, G. Dowdle (Ring).
 Dr. Scott, and the Rev. J. P. Sydenham, officiated as Judges.

PROGRESS OF GROWTH.

I SEND you an account of the increase in weight of a grey Dorking cockerel hatched on the 18th of February.

April 13	1 lb.	7 1/4 ozs.	June 4	4 lbs.	1 1/2 ozs.
May 5	2 "	6 "	" 7	4 "	6 "
" 11	2 "	11 1/4 "	" 10	4 "	9 "
" 16	3 "	2 "	" 14	4 "	12 "
" 18	3 "	4 1/2 "	" 18	5 "	1 1/4 "
" 25	3 "	14 1/2 "			

Will breeders of grey Dorkings oblige by giving similar statements of the progress of their early birds?—H. S.

NORTH BRITISH COLUMBIAN SOCIETY.—The prize list has just been issued, and is very rich. There are three prizes—20s., 10s., and 5s. in each class, besides twenty-three silver medals valued at two guineas each. There must be a large Exhibition, and a prize gained there ought to be considered a columbian blue ribbon.

WINTERING AND BREEDING CANARIES.

I SHALL feel obliged if you can inform me whether Canaries will live through the winter in cages in a room without fire, and whether they are better in a large flight cage against the wall, or in a large, open, wire aviary cage in the window during our northern winter weather?

I should also like to know if a patent gas stove with a pipe up the chimney would sufficiently warm a room 14 feet by 12 feet, and whether so burning the gas would injure Canaries and other small foreign birds?

I also need directions as to the safest and best method of wintering Canaries, and the dimensions and particulars of the best style of cage for breeding purposes.—W. D. SKELTON, JUN.

[Canaries in health will withstand almost any amount of cold, and it is nothing unusual in a severe winter to have to break the ice in their drinking-vessels twice or thrice a-day. I know several instances in which they are kept in conservatories with no protection and no artificial heat all through the winter. It is quite immaterial whether they are kept in a large aviary cage in a window, or in a flight cage against the wall—that is, as far as regards health; but birds kept in an open aviary cage

will be much more likely to become dirty. They require no special treatment which might be classed under the head of wintering them. In any ordinary winter they will suffer no inconvenience from the low temperature.

I have in my bird-room a small gas stove which I used with great success in the early part of this breeding season. Owing to the unusually fine weather we experienced, I was induced to begin much earlier than usual, and I made a practice of lighting-up my stove in the evening to keep up the temperature during the night. My stove is of the simplest construction and cost only a few shillings including the man's time in fixing, and would do well for "W. D. S.'s" room. It is simply an upright cylinder of common thin sheet iron, about 6 or 7 inches in diameter, and about 2 feet high, covered at the top, and having a pipe to convey away the hot vitiated air. I use simply an ordinary bat's-wing burner, and when the gas is turned full on it will generate sufficient heat in two or three minutes to render the room uncomfortably hot. A very small flame is sufficient to keep up a comfortable temperature. The main point to be observed in its use is the finding a suitable place for the outlet of the pipe. This should be in a place entirely free from draughts, for the down draught will extinguish the light, besides returning to the room the noxious vapour which it is the object of the pipe to convey away. My pipe finds its outlet immediately under the roof of my house, not through it. I question whether communication with a chimney would do. I have known it fail.

There is an apparatus for heating small rooms which I have seen in an office in this town (Sunderland), which is simpler than my own. In it a single jet of gas is introduced into the mouth of an iron pipe (an ordinary rain-water pipe being used), which traverses the side of the office under the desks against the wall, rising from a few inches above the floor at one end, to about 3 feet at the other, where a small escape-pipe up the corner of the room conveys the hot air to a vacant space above the ceiling. The principle is the same in both cases, the iron pipe in the one serving as the sheet-iron cylinder in the other. The cost of the gas is next to nothing, and not the slightest injury to the birds results from its combustion.

"W. D. S." will see my remarks on breeding cages in No. 364 of the Journal. I shall be most happy to answer any queries from the uninitiated, and shall at all times esteem it a pleasure to do so.—W. A. BLAKSTON.]

FOUL BROOD.

DURING the spring of the present year I paid a visit to a brother bee-keeper who resides within a few miles of London. His apiary was apparently a flourishing one, consisting of about a dozen stocks in various kinds of hives all well stored with honey, and for the most part working vigorously. There was, however, one weak colony, which happening to be domiciled in a Woodbury frame hive, I lost no time in examining. Much to my own astonishment, and to the discomfiture of its owner, I found it far gone in foul brood. This discovery prompted an examination of two other colonies in moveable-comb hives, and both proved to be infected with the same terrible disease. One was of moderate strength, and in this foul brood was decidedly manifested, although not nearly to so great an extent as the one first examined; whilst in the third, which was a wonderfully strong and apparently prosperous stock, only a few tainted cells could be discovered, scattered here and there amongst immense masses of healthy brood. My hospitable entertainer seemed scarcely able to realise the fact that his seemingly flourishing apiary could in reality be smitten by so fearful a malady, and declared that if this were foul brood he had been familiar with it for the last eighteen years. His experience was that he considered the natural life of a stock of bees was limited to five or six years, at the end of which period it was bound to die out, leaving the comb filled with what he had always called "abortive brood," but which was in point of fact identical with that for which I had testified so much abhorrence, and which I had stigmatised as "foul brood."

This state of things opens up the question whether there may not be what may be termed a chronic form or phase of foul brood, which, although ultimately fatal in its results, is yet of such comparatively slow growth as to admit of a certain degree of prosperity in the infected apiary; the stocks of which flourish, and throw off swarms in the usual way for two or three years, only succumbing when the disease has run its course in five or six years.

It seems difficult to over-estimate the importance of the subject. My own experience of the pest during the year 1863 was fully detailed at the time, and I now purpose, if the Editors will afford me space, laying before the readers of "our Journal" an exhaustive paper on foul brood from the pen of that distinguished German apiarian the Baron von Berlepsch.—A DEVONSHIRE BEE-KEEPER.

CAUSING SECOND AND THIRD SWARMS.

This is an age of progress; but so far as I am aware, the expedient adopted by Mr. Lowe, of Edinburgh, for causing second and third casts to make their exodus at an early hour of the day has not yet been reported. The process, however, does not apply to top swarms—at least it failed with me on several occasions last summer.

As most apiarians know, the fact of giving food to the inmates of a hive, and especially food of a particular quality, such as pure honey, has a maturing influence, and causes great commotion and activity. It is also well known that when "piping" in the evening is strong and long-continued, a swarm may be expected on the following day. It is, however, impossible to predict with certainty when the expected colony will take wing. The exodus, however, may not only be hastened, but may be occasioned almost at the desired hour by giving the hive a little stimulating food. To gentlemen engaged in business, who permit natural swarming, and wish to have their aftercasts lodged as early in the day as possible, this hint will, I presume, be acceptable.—R. S.

ASIATIC BEES.

I AM indebted to the kindness of the Rev. Henry de Romestin, English chaplain at Baden-Baden, for the following interesting notes of Mr. Cori's experience of Asiatic bees. This gentleman, who resides near Teplitz, in Bohemia, received these bees from Smyrna, and appears to consider them a distinct race from the Egyptian bee (*Apis fasciata*). In this opinion, however, I cannot but believe him to be mistaken. It is well known that *Apis fasciata* is indigenous in Syria, and it would appear more than probable that it extends also to Smyrna, whilst any one who is at all familiar with the Egyptian bee can scarcely fail to recognise it in the description which Mr. Cori gives of his "Asiatic Bee."—A DEVONSHIRE BEE-KEEPER.

"May, 1867, was a bad month for bees in Bohemia. The honey season began with the 26th. In June there were seventeen good days. The neighbourhood is not particularly good.

"In the spring the only Asiatic bees were one hive under medium strength. On the 20th of May, a small artificial swarm was made, and the original stock divided into two before the new queens were hatched, making two 'miniature swarms.' The artificial swarm of May 20th sent out a strong swarm after five weeks; then an equally good second swarm, a third swarm good enough to keep, and last of all a fourth.

"The second and third swarms had each two queens, and were, therefore, divided. So the one weak stock became nine, of which six were by July 28th in a state to give no anxiety for the winter. In the same season and neighbourhood the black bee scarcely swarmed at all.

"The Asiatic bee has two yellow rings, and whitish hairs, in shape longer and more wasp-like. The drones have the first ring reddish yellow, the stomach decidedly yellowish, with one or two almost imperceptible black spots, and are larger than the black drones. The queen has the first three segments dark reddish yellow, the rest dark brown. She begins to lay before the black, the Hungarian, and Dalmatian queens.

"A hasty stock sent out six swarms the same year.

"Some original comb had somewhat smaller cells than the black bees; but this difference was not noticed in comb built afterwards. They worked earlier in the morning, and later in the evening than any other bees. They are quieter than the black bee, unless excited, when they are worse, and their sting is more painful than that of the black bee."

OUR LETTER BOX.

RESULTS OF HATCHING (*H. L.*).—The time is passed when the insertion of the results you have sent were interesting.

STAVELEY POULTRY SNOW (*Far West*).—It is quite certain that the Secretary neglected to do what he ought to have done, but it is useless occupying more space with a detail of his mistakes.

DOUBING GAME BANTAMS (*Subscriber*).—Dnb your Game Bantams as soon as they have done growing. It must not be done while they are soft-feathered. They should be snake-headed, hard-feathered, and have the wings carried up and close to the body. The cock should not have too much tail, and should not carry it upright or over the back.

CHICKENS HATCHED IN JUNE (*Old Subscriber*).—You may go on setting your eggs safely. We do not know why, but country people are all opposed to June chickens. There is a Hampshire saying—

"Chicks that are hatched, when there's making of hay, Will never grow up, but fade away."

We have, however, many good June chickens now, and are still setting eggs. We believe the cause may be traced to the eggs being kept too dry during the great heat. We are glad you are successful with your poultry. Ireland does not sell a fifth of the poultry and eggs she can produce without effort.

HOLDAN CHICKENS (*Bessie*).—We greatly prefer the chickens that are nearly black. They become lighter as they grow older, but for that reason they should, when young, be dark. From what you say, we should not think you had been deceived in any way. The eggs have hatched well, and the chickens have the principal points of the breed. We should not get rid of them, but would wait and see how they turn out.

WHITE CREVE-COEURS (*H. M. B.*).—White Crève-Coeurs are scarce, but like White Spanish, they are little considered, and are not valuable.

FACE OF AN ANDALUSIAN (*J. B., Jun.*).—The rules of Andalusian fowls are but little cared for, as the birds are seldom shown. The best specimens we have seen have always had the lower part of the face and the feet off white, the upper part of the face red.

PREVENTING SOFT EGGS (*A. M. S.*).—As your fowls have all the appliances necessary for the formation of egg-shell, the fact of laying soft eggs can only be attributed to want of condition. Your feeding is not good, and lacks nourishment, with the exception of the barley. Tail wheat is a good plying for small chickens. Fowls do not like buck-wheat, and pellard does not nourish and help them sufficiently. Give them barley or oatmeal twice every day, and let the mid-day meal be barley, or Indian corn for a change. If you wish for good table poultry all the year round, you should set hens every month so as to have a constant supply of young poultry. The sister to the nice juicy pullet you set in October, is an old hen in the following February. It is cruelty to try anything to prevent hens from being broody. It is their nature, and they must be so.

SILVER PHEASANTS (*Idem*).—We have kept Silver Pheasants for many years. They are amongst the boldest and most cheerful of that family, and if yours are moping about they are out of health.

REWARDING LAYING (*Lemon Buff*).—We know of no food that will retard the laying of Cochlin-China pullets. Keeping them short of food will do it; but as your object is, doubtless, to encourage growth, you will find that low condition will injure them far more than early laying. We know no law of nature that can be altered or set aside without paying the penalty. We believe the smell of putrefied meat is not injurious to chickens. We have been told it is beneficial rather than otherwise to chickens and their owners. It is therein the reverse of vegetable matter.

PIECING JUDGING (*R. Fulton*).—It would be invidious to insert the list you have sent. Many you name we know would not act as judges.

OLD STRAW HIVE BULGINS (*H.*).—If, as we imagine, the combs are very old as well as the hive, no time should now be lost in driving the bees into a new hive and establishing them as an artificial swarm on the old stance. Three weeks after the issue of the first swarm is the best time for this operation, but a few days later will do very well. The best mode of driving bees was fully described by Mr. Woodbury, in page 105 of our last volume. If, on the other hand, the combs are not too old, the bees should be driven and the combs transie red to a frame hive in the manner described in page 319 of our twelfth volume.

BEEES NOT SWARMING (*H. Wade*).—We should make an artificial swarm in the manner often recommended in these pages, and last described by "B. & W." in page 179 of our last volume. We cannot tell why the stock did not swarm naturally, but there seems to be something peculiar in the season in this respect, for the scarcity of swarms is a very general complaint.

GERMAN CENTRIFUGAL HONEY-EXTRACTING MACHINE (*G. J.*).—The square platform is of such a size as just to revolve freely within the exterior box. The four combs stand in their natural position on the four sides inside of, and in close contact with the strained fishing line. The best mode of Ligurising your stocks was fully detailed by Mr. Woodbury in No. 315 of our New Series.

GLASS SUPERS (*John H.*).—The Avington honey glasses are made by Messrs. James Couper & Sons, at the City Flint Glass Works, Glasgow. The beauty of finish of these manufactured there, both for Mr. Mitchell and himself, is testified by "A DEVONSHIRE BEE-KEEPER."

DYING MOSS GREEN (*Verdant*).—We should try soaking the moss first in a solution of Prussian blue, and then in a solution of gamboge. If any of our readers will give information on the subject we shall be obliged.

POULTRY MARKET.—JULY 8.

There is a slight falling off in the demand, and the supply increases, but owing to the best prices are maintained for lots of first-rate poultry.

	s	d.	s	d.	s	d.	s	d.
Large Fowls.....	3	6	0	0	Pheasants	0	0	0
Smaller do.	3	0	3	6	Partridges	0	0	0
Chickens	3	0	2	3	Guinea Fowls	0	0	2
Geese.....	5	6	6	0	Hares	0	0	0
Ducklings	2	6	3	0	Rabbits	1	4	1
Pigeons	0	3	0	9	Wild do.....	0	8	0

WEEKLY CALENDAR.

Day of Month		Day of Week.		JULY 16—22, 1868.			Average Temperature near London.			Rain in last 41 years.		Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year
				Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	h.	Days.	m.	h.			
16	Th	Royal Horticultural Society's Leicester		75.9	49.7	62.8	16	4	af 4	8	af 8	4	af 1	24	af 4	26			5	46			196	
17	F	[Show opens.		76.1	51.0	63.6	15	5	4	7	8	46	1	31	5	27			5	52			199	
18	S	Royal Horticultural Society, Promenade.		74.6	50.0	62.3	19	6	4	6	8	36	2	37	6	28			5	56			200	
19	SUN	6 SUNDAY AFTER TRINITY.		73.2	50.0	61.6	21	7	4	5	8	33	3	33	7	●			6	0			201	
20	M			72.9	50.0	61.5	22	8	4	3	8	50	4	20	8	1			6	4			202	
21	TU			73.6	50.6	62.1	18	9	4	2	8	8	6	25	8	2			6	7			203	
22	W	Royal Horticultural Society's Leicester [Show closes.		73.4	51.2	62.3	23	11	4	0	8	29	7	32	9	S			6	10			204	

From observations taken near London during the last forty-one years, the average day temperature of the week is 74.2°; and its night temperature 50.3°. The greatest heat was 91°, on the 17th, 1894; and the lowest cold 37°, on the 19th, 1866. The greatest fall of rain was 1.60 inch.

THE STRAWBERRY, AND ITS CULTURE.



EVER was there a drier or more trying season for the Strawberry, and, it might be added with equal truthfulness, never were Strawberries better in growth, flavour, and abundant produce. The vigorous appearance of the foliage and the splendid crop of berries, convey to us a most useful lesson as to the great importance of deep culture for the successful production of fine crops of this the most delicious of hardy fruits, and as most

decidedly necessary to enable them to withstand so dry a season as the present. What a season it is for the full development of flavour! Surely if a variety fails to "tickle the palate" this year it is high time it were discarded, or, if not discarded altogether, only grown in a more suitable climate: for I am well aware that in discussing the individual merits of fruits, as well as of flowers, it is wrong to make sweeping assertions, and to say, "Well, I have tried such a variety under different aspects, and have bestowed the most skilful treatment on it, and yet it fails in approaching sufficiently to the degree of merit which would entitle it to be kept; it must, therefore, be condemned," when, very likely, the same kind may be met with elsewhere good in every respect.

To cultivate Strawberries successfully is not by any means a difficult matter, nor does it require any great amount of skill, yet there are a few points which must be closely attended to, otherwise but poor results will follow. No plant will bear a greater amount of ill-treatment, hence the miserable samples of fruit which are so frequently to be met with; and, again, no plant will better repay the cultivator for the small amount of care and labour which is requisite to produce healthy vigorous plants, and, consequently, fine fruit. Sometime ago I remember being amused, as I strolled along a certain grass walk overshadowed by the boughs of fruit trees, by the person who accompanied me exclaiming, as he pointed to a Strawberry border on either side of the walk, of which the plants presented a most diminutive appearance, "These are our Strawberry beds." "Ah!" said I; "and how old may they be?" "Why," said he, "Master says they are thirty years old." And as I afterwards discovered, the owner of the place was very fond of and most enthusiastic concerning his Pines, Grapes, and orchard-house fruit, but he did not care for Strawberries: and certainly I thought if he never tasted any but the fruit produced by his own venerable beds, it is not unlikely he might continue of the same opinion.

The mode of culture which is followed here differs but slightly from others which have been advocated in the pages of this Journal, yet as the results attained are all that can be wished, it may be worth while to give the particulars.

The beds are prepared by trenching the soil 18 inches deep, and properly incorporating a good layer of well-rotted dung and charcoal, or coal ashes, with the upper portion of the soil. Early planting is of the greatest im-

portance; the young runners are therefore encouraged to emit roots by stirring a trowelful of leaf mould among the soil for each plant, into which the offset will quickly root. Early in July, or at the latest in the beginning of August, as soon as the plants are ready for removal, they are separated from the parents, and planted in the prepared beds. The rows are 2 feet apart, and the plants 1 foot apart in the rows. I have seen it advised to have the rows but 1 foot apart, and to remove each alternate row after the first year's fruiting; but this is a mistake, because it is found that young plants in rows 2 feet apart ripen their fruit very much earlier than those more thickly planted; and this is a great advantage, as then the two and three-year-old plants which have the fruit overshadowed by their more vigorous foliage form a nice succession to the yearling plants.

Immediately after the fruit is all gathered, a line is stretched on each side of the rows, so as to just touch the tips of the leaves; the runners are then separated with a spade, and the alleys only are cleared. If any young plants have taken root between the parent plants, as will most likely be the case, they are permitted to remain. As much dung as can be covered is then forked in, and the plants at once commence to grow vigorously, the fresh young roots greedily feeding on the manure, so that by the autumn the rows are one mass of green healthy foliage. This treatment is continued in the following season, and after the third crop of fruit is taken, the plants are hoed-up, as they are found to decline in vigour after the third year.

Two waterings of liquid manure are given in the year. The first soon after the plants exhibit signs of activity in the spring, and the second as the fruit commences to swell. These are no mere surface-wettings, but thorough root-waterings. If the plants are growing in a well-manured loamy soil of a sufficient depth, no further waterings are necessary; but to plants on a shallow soil, or one of a very sandy nature, additional waterings are not only highly beneficial, but are absolutely necessary to success in dry seasons, if fruit of good quality and of fair size is required. From experience I should say it is very advisable only to use liquid manure at every second or third watering, clear water to be used at all other times: for although the constant application of a liquid manure may cause the fruit to gain something in size, yet any addition to the size of fruit which is attained in this way is decidedly at the expense of flavour, and in this opinion I believe I am borne out by the decision of the judges at the late metropolitan exhibitions in the case of fruit, in the production of which sewage had been freely used.

In the selection of materials for preventing the fruit from coming in contact with the soil, pebbles, or any rank grass or rushes which may be obtainable, answer very well; but where nothing of the kind is to be had, common draining tiles, of about 2 inches in diameter and 1 foot long, placed side by side, do admirably, and are much better than flat tiles or slates, as they admit the rain freely to the soil. Roberts's patent Strawberry tiles are also very useful, but they are best adapted to support the fruit of single plants. Whatever material be used, it ought certainly to quite

cover the soil, otherwise the fruit will be splashed by the first thunder-shower which may occur.

In packing Strawberries for travelling, flat tin boxes are frequently used, but I very much prefer wooden boxes stout enough to resist any pressure to which they are likely to be subjected in their transit. Boxes 13 inches long by 6 inches wide, and 2½ inches deep, inside measurement, will hold six dozen fine fruit in two layers of three dozen each. The boxes are made of half-inch board, with the exception of the ends, which are three-quarters of an inch thick. A leaf is placed under each fruit and between every two fruits, and the top layer is covered with leaves three or four deep; on these the lid is firmly closed, and the fruit is pressed with just sufficient firmness to keep it in its place without bruising.

Although in most classes of fruits good standard kinds have had the advantage of being tried for a respectable number of years, yet it is not so with the best kinds of Strawberries, despite the eloquent assertions of a certain gardening Rip Van Winkle, who, after a thirty-years sleep, awoke a few weeks back, as I saw in the report of a Gardener's Society, and strongly advocated the merits of Wilmot's Superb!

In the selection of aorta, size, quality, and time of ripening, combined with fruitfulness, vigour of growth, and hardness of constitution, are the principal points to be kept in view. Out of a rather large collection I have selected a few kinds which not only possess most of these good qualities, but which also give a most satisfactory succession of such fine fruit as a gardener may well feel proud to have placed on his employer's table.

Amongst the earlier-ripening kinds *Le Breton's Marguerite* most worthily holds the first place, for, unlike most early sorts, its fruit is very large, having a fine flavour, and the plant is a most abundant bearer. Next to this may be named *Oscar*, of good flavour, and very prolific; and then comes *Trollope's Victoria*, the hardest and most abundant bearer of all Strawberries. For giving a good supply for cooking and preserving purposes, and also for affording some fine fruit for the dessert, this kind with me has no equal.

Dr. Hogg is a first-class sort in every respect, quite superseding *British Queen*; the fruit is very large, and of the finest flavour. *Duc de Malakoff* is a unique variety, worthy of general cultivation; its enormous size, peculiar shape, and dark colour causing a dish of it to form a novel feature in the dessert. I had the curiosity to weigh twelve fruit of this kind, gathered from plants planted in July, 1867; the combined weight was just 1 lb., and occasionally a berry may be found to weigh 2 ozs. *Sir Charles Napier* is a most excellent sort, of handsome shape, fine flavour, and a good bearer; it also travels well. *John Powell* is a splendid kind, having a pleasing acidity just brisk enough to be most palatable and refreshing. *Bicton Pine* is a good white kind; it is also useful for variety. *Rivers's Eliza* is one of the best late Strawberries in cultivation—good in every respect.

Black Prince, although small, is useful for its earliness, ripening, as it does, some days before any other kind.

If all that has been said concerning the good qualities of *The Lady* is correct, I can only say that after two years of unceasing devotion, she has not deigned to reward my attention with one charm which I could appreciate, and, therefore, I conclude "she's as fickle as she's fair."—EDWARD LUCKHURST, *Egerton House Gardens, Kent.*

PANSIES.

Most thoroughly do I echo the sentiment of your reporter when, in speaking of Messrs. Downie, Laird, & Laing's Pansies at Birmingham, he says, "Surely such lovely flowers must be deserving of more attention than they now receive, especially in the south of England." They are deserving of it; but in the general discredit that now unfortunately attends most florists' flowers, I fear the Pansy is so involved, that it will require much perseverance to enable us to re-establish it in the position it so well deserves, and which it once held. My earliest recollections of Mr. Turner, of Slough, are connected with the Pansy, when, in his garden at Upton, he grew it as well as he loved it. His change to Slough brought other matters under his notice and care, and I fancy the situation was not so suitable; but be that as it may, the Pansy no longer forms one of the attractions of his garden. It is omitted from his catalogues, a sure sign of its declining popularity. The eminent firm above mentioned, however, have done their best to introduce its culture, and from their having their northern establishment at Edinburgh and their southern one at Stanstead Park, are enabled to have

a much more lengthened bloom than if they were dependant on either one or the other alone.

There are many persons who can see no difference between one Pansy and another in the same class, yet who can go off into ecstasies over the smallest imaginable difference in a Fern, and think nothing of the absurdities of an *Athyrium Filix-femina multo-diffo-coronatum*, or who can see marvellous differences between *Tricolor Pelargonium Tweedledum* and *Tricolor Tweedledee*, but who have an infinity of sharp words and extraordinarily funny sayings about florists' microscopic eyes. Well, well, a reaction will come some day, and we poor old conservatives will be found to have some followers. Already the grand chromatic of red, yellow, and blue is giving way, foliage is needed to relieve the vulgarity; and ere long, perhaps, my lady will confess to a weakness for Carnations, and *made-moisells*, who goes into raptures over her *Stellas*, *Lobelias*, &c., may perhaps own that she cultivates a few *Auriculas* on the sly, unfashionable though it may be; and the venerable doctor, who talks so eloquently of his *Cannas* and sub-tropicals, may own that *Pansies* are worthy of cultivation. Indeed the tables may be turned, and these things accounted "weeds, sir, weeds." I live in hope of a return to the good old times, when florists' flowers were the pleasure and glory of many a garden which now is given up to chaos for nine months in the year, and is like a Turkey carpet for the remaining three; not that we can do without the bedding-out system, but I want to have room for all, and so for our Pansies.

Last autumn I received from Messrs. Downie, Laird, & Laing a collection of the two divisions into which Pansies are now arranged, the Show and the Fancy kinds. They were planted in my garden at Deal, and looked very promising at the end of February; then a change came over the spirit of my dream, and I had to remove to Westwell. My Pansies were amongst the first of my removals, but any one who knows what such things are and require, will not be surprised to hear that I had not the bloom from them that I hoped to have had; besides, not knowing the position or the quality of the soil of my garden here, I placed them on a sunny bank instead of in some more shady portion of the ground. The exceedingly dry time that we have had has been most unfavourable to them; and yet, with all that, I was greatly charmed with them, giving me their beauty as they did in the first days of my sojourn here, when all was strange and new, and one had hard work to get reconciled to the breaking-away of ties of so many years' standing. During their time of blooming (in the open ground, I should say), I have taken the opportunity of marking some of the best, and now give the result of my notes.

SNOW PANSIES.

Yellow Grounds.

Gem.—Dark yellow, edged with rich purple; a bold dense eye and blotch. Very fine.

Alexander Whamond.—Rich golden yellow, bronze purple belting. A very striking flower.

Emily Lyle.—Golden yellow, with rich bronze purple belt, large solid eye and blotch. A flower of remarkably fine properties.

J. B. Downie.—Bright yellow, bronze belt. An excellent flower.

Prince of Wales.—Very clear yellow ground, with dark purple belting, good dense blotch and eye.

William Austin.—Bright golden yellow, deep rich belt; very round and smooth.

White Grounds.

Mary Russell.—White, broad purple belting. Very pure and good.

Cupid.—Pure white ground, dark purple belting. An excellent flower.

Lavinia.—White ground, light purple belting.

Lady Lucy Dundas.—Clear white, deep purplish maroon belting. A very fine flower.

Princess of Wales.—Pure white, belted with rich purplish maroon; dense blotch. Very fine.

Selfs.

Alexander McNab.—Dark self, beautifully shaded.

Ladyburn Beauty.—Intensely dark. Very fine.

Miss Ramsay.—Pure white. Very fine form.

Mr. J. Graham.—Dark plum colour. Very fine.

Rev. H. Dombain.—Very dark, and fine form.

Yellow Queen.—Deep rich yellow self.

PURPLE PANSIES.

Miss J. Kay.—Light purple laced with mauve, with pure blotch of dark bluish purple.

Ninian Niven.—Belted with light rosy carmine, dark blotch. Very large and distinct.

Earl of Rosslyn.—Pale crimson, large dark blotch. Very ourious and distinct.

John McNab.—Light yellow laced with purple; large dark bronze blotch. Quite distinct.

Pigaro.—Deep violet purple; side and lower petals edged with white.

Lady Montgomery.—White, belted with violet; dark dense blotch. Of fine form and quality.

Oriana.—French white, shaded with rose; large purple blotch.

Queen Mab.—Pure white, clouded and blotched in each of the petals.

I have no doubt there are many others quite as good as these, but, as usual in such cases, I only give those which I have been enabled to bloom under my own eye. Some others not quite up to the mark I have omitted.—D., *Deal*.

WHAT IS A ZONAL PELARGONIUM ?

Will you say in your next Journal what is a Zonal Pelargonium, and thus settle some dispute which has taken place in this quarter?—J. McD.

[The whole of the Pelargoniums known as "Scarlets," though their flowers are of en pink, and even white, owe their production to three species—P. zonale, P. inquinans, and P. Fothergillii; and inasmuch as the earliest of them were the progeny of P. zonale they have been comprehensively termed Zonals, though no zone is on the leaves of some of them; and though the name is misleading, it is no more so than calling those "Scarlets" which include plants with flowers of other colours. In short, the term "Zonal" is intended to include a section of Pelargoniums well known as bedders, without any reference to their being zone-leaved. Wishing to know if our opinion coincided with that of a well-known authority, but not a cultivator of these flowers, we wrote to him to ask his opinion. This is his reply:—"I regret that this zonal question has been again mooted. I believe it arose from the disappointment received by an exhibitor, who would not allow that his competitor's plants were all Zonals, he taking it for granted that a Zonal must have a zone fully defined in the several leaves of the plant. The term Zonal has been taken from the original plant, Pelargonium zonale, the old Horseshoe, from which the present race are all descendants. This is one view of the question. But when some of the seedlings produce plain leaves without any sign of a zone, we are told these are not Zonals. In one sense of the word they certainly are not so; but these plain-leaved plants vary in no other way from those in whose leaves the zone is fixed—habit, colour, growth, are all the same. But the florist chooses to subdivide these varieties into Golden-edged Variegated, Silver-edged, Golden-leaved, Bronze and Gold Zonals, Bicolors, or simply green leaves margined with white. It was one of these latter plants that caused this question to arise.

"I think myself it is absurd to quibble on this point. They are all doubtless in character true Zonals, but some varieties are minus the zone, at least it is not developed. Whether the colouring matter of the zone is absent, or why it is not visible, I think no man can venture to say. I can but feel that all are truly Zonals, though not developing a defined zone."

We are thus sustained in our opinion, as we also are by the facts, that some of the Zonals which usually have no zone on their leaves will, under a change of culture, develop zones on them; whilst, on the other hand, those usually with zoned leaves will, under different treatment, produce leaves not zoned.—Ems.]

THE HOT WEATHER, AND ABSENCE OF RAIN.

COMMON as the expression is, that "we never knew such dry (or such wet) weather before," there are many who at the present time, the beginning of July, believe that the last few weeks have exceeded all similar periods for heat and the small quantity of rain that has fallen, and in some cases it is asserted there has been no rain for six weeks or more. Now, a certain amount of deduction must always be made from mere casual assertions or grumbings, but it would be well to correct all false notions that may exist in the matter of long-continued drought or rain. On close examination it will be found that neither the one nor the other continues unchecked for so long a period as is often asserted. I find in looking over a register

of rainfall kept here, that only on three occasions during the last fourteen years has there been a period of twenty consecutive days without rain, and one of these was in winter, when the want of it was not felt. Dry periods have been frequent enough, and the driest of them, lasting thirty-four days, was between August 21st and October 9th, 1865. During that time there was only 0.08 inch of rain, but that falling on two occasions reduced the number of consecutive days actually without rain to a less number than might be supposed. Between the 7th and 30th of June, 1858, no rain was registered; in 1863 there was no rain from the 27th of June to the 21st of July, while during the past month (June), a little rain fell on the 2nd, 4th, and 22nd, but it barely amounted to half an inch, most of it falling on the 22nd. June being also preceded by four unusually dry months, it is not surprising that vegetation is suffering much, and that great alum exists in many places as to the water supply for domestic purposes, more especially as the dry weather has set in so early in the season, and wells and streams are either drying up or getting low. Even deep-rooted plants, as trees and shrubs, have made less growth than usual, and many of them will grow no more this season, while the progress made by such as commence growth late has been small indeed; for instance, Rhododendrons in dry situations have scarcely made any progress. Although the foliage of most deciduous trees and shrubs pushed vigorously, and the growth has been robust, it has been short, and must be so, as in many cases ripening at the points has commenced. I do not think that in this there is anything to complain of; but in the case of evergreens, such as the Rhododendron, a continued dry season may be fatal to many of them. Three or four years ago some established plants which had been planted many years, were pointed out to me at Bary Hill, near Dorking, as having been killed by the dry autumn, and possibly this year the same result may be experienced at other places.

As regards dry periods, we must not forget that a drier one than even the present has occurred before, as the following record of the rainfall in five consecutive months will show.

RAIN.			
1857-58.	Inches.	1868.	Inches.
December	0.49	February	1.35
January	0.79	March	1.29
February	0.77	April	1.21
March	0.80	May	1.92
April	1.93	June	0.51
	4.78		6.28

From the above it will be seen that the winter and spring months of 1858 were even drier than those of the present year, at the same time the rainfall of May and June, 1858, exceeded that of the same months this year; but 1858 was very dry.

This season, however, in addition to being dry, has been early as well, most plants having been in a more forward state by the end of May than they have been for many years; but I am not certain that they are relatively so forward at the end of June, notwithstanding its dryness. Having for many years noted the first appearance of Wheat ears in quantity, and in the same locality, I have to record seeing them one day earlier this season than I have observed in any previous year; the next earliest being 1859, while 1860 was the latest. There was a difference of just fifteen days between the earliest and latest year. Hot dry weather also urges many plants on prematurely, but the above examples will show that the date of the Wheat harvest is less influenced by variations in the atmosphere than is often supposed. The ripening of fruits is more influenced by the condition of the atmosphere at the time, and the growth of plants whose roots only penetrate a short depth into the soil is still more affected. The long-continued absence of rain, however, affects all.

With regard to temperature, the past month has been much less remarkable for heat than dryness, and September, 1865, shows both a higher night and day temperature. I find the mean night temperature of that September to have been 53°, and that of the day 78°, as against 49° and 74° in the past month, a marked difference when the much shorter days which we have in September are taken into consideration. June, 1857, was also a hotter month than the June of the present year, and portions of other months have been still warmer. Whilst the weather up to the present time has been very dry, dew has been almost as scarce as rain, and, perhaps, nothing affects vegetation more than dry withering winds at night from the north-east, and such have often occurred. Thunder has rarely been heard, and the hot days which in former years frequently ended in a thunderstorm, have this season often given place to

a greater fall of temperature at night than was expected; but still no rain. The heat, so great in the second week in June, has decreased so much that at the time I write, July 6th, the temperature is below the average of ordinary seasons. Extreme heat is, therefore, not the cause of the dryness, for although it has been very warm, the thermometer in the shade has never risen higher than it did on the 14th of August last year, and not quite so high as it did during some of the hottest days in the summers of 1850, 1855, 1857, 1858, 1859, and 1865. The heat, instead of increasing after the longest day, has diminished; and the hottest days which occurred in former years being after that period, it is not unlikely that we may experience the same this season.

As heat is not one of the characteristics of the season, to what are we to attribute the scarcity of rain? Perhaps the most likely theory is, that having had considerably more than the average amount of rain in the last three years, a dry season was necessary to restore the balance; and if cycles of ten years or more to a considerable extent resemble each other, the present year may be expected to be unusually dry, if it has to do little more than make up a quantity equivalent to the rainfall of the preceding four years; for I find the total rainfall for the years 1861, 1862, 1863, and 1864, was 94.95 inches, while the amount in the next three years—viz., 1865, 1866, and 1867, was 92.71 inches, nearly equalling that of the previous four. Although the first six months have been remarkably dry, there does not seem to be any certainty of the drought continuing. The autumn of 1859 was an exceedingly wet one, although the early part of the season was so dry.

As to the effects of the dry weather on vegetation, there are few cultivators in the southern and eastern districts of England who have not for weeks looked on their various crops with great anxiety and alarm. Strawberries came in, one kind after another, with a rapidity that shortened the season. Lettuces ready for use one day had run to seed by the next, while the anxious cultivator poured almost in vain canful after canful of water on his next crop to prevent it following the example of the first. Cabbages changed their hue from a pale crisp green to a sickly blue, and later in the season became the prey of caterpillars. Potatoes, promising well at one time so far as crop went, are threatening to arrive at a very small size, and in many cases are too far advanced to benefit much by rain without injury to their quality or danger of disease. Peas, alas! will soon be over, the pods not filling, although I have seen the haulm more infested with mildew. Against this list of evils we have the counterbalancing benefits of Scarlet Runners and Dwarf Kidney Beans doing well; and Ridge Cucumbers, Tomatoes, and Onions are also enjoying the near approach to the heat of their native climes. Although the growth of fruit trees and shrubs may have been shorter than usual, the wood will probably ripen well.

Of hardy fruits, as already stated the season for Strawberries was short, and Raspberries, which promised well, have suffered by continued drought, but Currants and Gooseberries have been plentiful. Pears are rather a thin crop, but Plums are abundant, and Apples a full average. The greatest drawbacks, however, of a dry summer are the lack of herbage for cattle, and the very slight hay crop, which has in many places not been worth cutting. Many pasture fields have passed from the green to the brown condition, and may now be said to be white, the few remaining blades or stems being bleached to that colour. The dry atmosphere seems to have even reached the roots of plants which usually penetrate deep, as Yarrow, Plantain, and Clover, and they are fast passing into the condition of the grasses.

In the flower-garden most plants have been arrested in their growth where they could not be watered, or rather those planted in May have made but little progress, but they have flowered well and in many cases prematurely, Calceolarias especially. On the whole the occupants of the flower garden have benefited rather than otherwise by the dry weather, and many of them are in a condition of fair promise if rain fall soon. In beds, however, containing trees, shrubs, and other robust subjects, which rob the bedding plants of their proper support, these, except where they have been assisted with water or otherwise, are in anything but a happy condition. In beds well prepared before being planted with fair-sized bedding Pelargoniums, Verbenas, Lobelias, and Gazanias, these, after having been once watered, have made satisfactory progress. Nierembergias have not done so well, and Viola cornuta, as I calculated on a few weeks ago, has ceased blooming much earlier than it ought to have done. Possibly watering might

have saved the beauty of this plant as well as secured the more robust growth of others, but where water cannot be had many plants must take their chance, and probably a large proportion of them will do as well without as with unlimited quantities of cold spring water. Here we have not watered anything excepting plants in pots, or in raised artificial mounds or beds; all those on the level ground have only received a slight watering at the time of planting, and none since. The progress of the more tender subjects as Coleus, Castor-oil plants, Tobacco, ornamental Maize, and some others has not been so rapid as I expected, and excepting Calceolarias, which I fear will flower out, nothing as yet has arrived at the condition which can be called good. One of the plants at present in its best condition is the Golden Feverfew, which is really a useful plant. I wish I could say as much of *Dactylia glomerata variegata*, a much older acquaintance. *Centaurea candidissima* threatens to be more green than before, while *Cerastium* is evidently suffering much from the drought, which on the whole seems to favour *Petunias*, *Tagetes signata*, *Tropæolum*, and that very pretty annual *Portulaca Thellusoni*; but the beginning of July is too soon to pass an opinion on the merits of flower garden plants. I may state, however, in respect to the important family of *Pelargonium*, that the dry season has proved the superiority of the robust varieties over those of more limited growth, and with me two old kinds of no great merit, Punch and Magenta, are about the best of their class at the present time, none of them having had any water, excepting naturally, since they were planted.

Those who keep registers of the weather may be interested to know, that from the 21st of April to the 22nd of May we had only 0.11 inch of rain, but that fell on four days. A little rain also fell on May 22nd, 23rd, 24th, and 25th, and a very heavy thunderstorm occurred on the 29th. In June there were slight showers on the 2nd and 4th, followed by hot dry weather, with a little more rain on the 22nd, making only 0.51 inch in all. The hottest days during June were the 13th, 14th, 16th, 17th, 20th, 21st, and 27th, the maximum temperature being 90° on the 20th, and the same degree of heat was registered on the 14th of August last year. The winds have changed frequently without any change in temperature. The barometer has generally been high, the extreme maximum reading during the month being 30.07 inch, on the 26th at noon, and the lowest 29.43 on the 22nd, at the same time of day. Greater extremes, doubtless, have been attained, but these are the highest and lowest of my readings, which are always taken at noon. Thunder has scarcely been heard since the 29th of May, and little or no lightning has been seen.—J. ROBSON.

NOTES ON THE ROYAL BOTANIC SOCIETY'S JULY SHOW.

THIS, like the Society's preceding two Shows, was a great success in every point of view; but one circumstance diminished the extent, variety, and beauty of this as it has done of other exhibitions—namely, the practice, now becoming too general, of continuing the show longer than one day. This prevents many horticulturists from exhibiting, because the second day entails an expense upon them which the prizes are not sufficiently large to cover, and in many instances employers do not like their plant houses denuded for a longer period than one day. Another serious objection is, that when the exhibitor comes from a long distance his employer's plants are spoilt by the time they are brought back again; for a whole week is occupied in taking them to and from the show, and by the time they are placed in their former quarters most of their beauty and freshness will have gone. Nothing destroys the beauty of a plant so soon as keeping it in an exhibition tent two or three days; and the case of fruits is still worse, for to keep a dish of Peaches, Strawberries, Figs, and many other fruits longer than one day after they have been gathered, is to spoil them entirely, and render them perfectly useless. Add to this the great expense which has chiefly to be borne by the exhibitor, and there is, I think, enough to deter many from bringing their productions to an exhibition which is to be continued beyond one day. I therefore think that the Royal Botanic and other societies would do well to discontinue the two or more days' show, unless it be once now and then on any special occasion like the great International Horticultural Exhibition of 1866, or the Manchester National Exhibition, when a very large expenditure is incurred, and when the funds will admit of the exhibitor being properly remunerated for his trouble.

The plants exhibited were generally well grown, and in very good condition, considering the very hot and trying season we have had. Amongst the new and rare plants a very curious Bromeliaceous plant from the South Sea Islands, said to be a *Puya*, was exhibited by Messrs. J. Veitch & Sons. It has hard spiny leaves, and a strong branching habit, and bears a stout upright flower stem, which was

covered with green blossoms, having a bright metallic lustre, and large yellowish orange anthers. It is certainly a most singular-looking plant, and a great curiosity. From the same firm also came fine plants of *Dracaena Chelsoii*, *Croton Veitchii*, and *Alocasia Chelsoii*. These are all fine additions to our collections of stove plants, and were deservedly awarded first-class certificates.

Mr. Fraser again exhibited Show and Fancy Pelargoniums in fine condition. It was a matter of much surprise to many how these plants could be made to retain their beauty under such trying weather as we have had. All, I am sure, will join me in according him unqualified praise for the way in which he has shown his plants at the different exhibitions this season.

Cape Heaths were shown in good condition, and formed a very effective portion of the display. Those exhibited by Messrs. Williams, Jackson, Rhodes, and Peed were especially good. Fine groups of *Orechia* were also shown in good condition by Messrs. Barnett, Young, and Mr. Wheeler.

Some splendidly-grown Lycopods were exhibited by Mr. Parsons, gardener to R. Attenborough, Esq., Turnham Green, and the large collections of fine-foliaged plants were especially attractive. Mr. Baines, from Bowden, near Manchester, staged his collections of stove, greenhouse, and other plants in his usual excellent style. They were greatly admired, and formed one of the finest features of the Show. His *Ixora javanica* and *Clerodendron Thomsonae Balfourii* were wonderfully fine. Mr. Peed's plants were also in good condition; his *Allamanda grandiflora*, *Ixora coccinea*, and *Pteroma elegans* were exceedingly well grown.

The fruit, perhaps, formed one of the finest attractions of the Show. Mr. Barnes, of Bicton, had numerous Pine Apples, and amongst them were magnificent Queens beautifully finished; Black Prince, weighing 12½ lbs., and measuring 22 inches in circumference; the copper-coloured Montserrat, and a Brown Sugarloaf, weighing 6½ lbs. Mr. Carmichael, gardener to His Royal Highness the Prince of Wales, also exhibited some fine Pines. His *Queens* were especially good.

For collections of fruit there were seven competitors, all of whom had good collections, but the gold medal was very justly awarded to Mr. Miller, gardener to Earl Craven. His was a magnificent collection, and consisted of two fine Queen Pines, three bunches of Foster's White Seeding Grape, hardly ripe, but exceedingly fine bunches; three bunches of Black Hamburg, perhaps as fine as any ever exhibited, the only weak point in them appearing to be want of colour; they were in every other respect excellent examples of good Grape-growing. The other fruits in this collection were two finely-formed and well-ripened Trencham Hybrid Melons, Waterloo Cherries, Elrage Nectarines, and Violette Hative Peaches, both of which were well coloured, and a fine dish of British Queen Strawberry. Mr. Clarke, gardener to Earl Cowper, and Mr. Bannerman, gardener to Lord Bagot, also exhibited fine collections. Mr. Bannerman likewise had some fine Black Hamburg Grapes, as also Mr. Hill, Mr. Wallis, and Mr. Kettlewell. Bunches of Royal Vineyard were also exhibited in fine condition. These were large and handsome.

Mr. Standish's Royal Asot Grape was exhibited in good condition, both at this and the previous exhibition. This I think likely to prove a most valuable Grape, and one that will hang on the Vine in good condition quite as long as Lady Downe's. It seems to be an everlasting-fruited variety, and the flavour I considered excellent.

Mr. Meredith sent up a splendid basket of Grapes, beautifully ripened, and exhibited in a style not yet surpassed by any one, and equalled by a few only. Mr. Hill and Mr. Osborne also exhibited fine baskets. The Muscats were badly ripened, showing that it is not always a bright hot summer that is required to bring this fine Grape to perfection, and amply demonstrating the fact that this and many, if not all, other kinds of Grapes, do not require so much light to ripen them perfectly as is generally supposed. As a rule I have generally grown finer Grapes in a dull season than in a very hot sunny one. This again proves that any aspect will suit the Vine, and that all which is required is a moderate amount of skill and foresight in its cultivation, and the proper appliances for heat and ventilation, and lastly a properly-made Vine border.

Tolerable examples of Black Prince were exhibited by Mr. Meads, but I have seen this variety shown in much better condition both by him and Mr. Hill.

Peaches and Nectarines were shown in quantity, and were good, and Mr. Osman's Figs were generally admired; they were a very even dish, and beautifully ripened. There were only two exhibitions of Plums, and the best of these was from Mr. Thomas. Fine Black Cherries came from Messrs. Miller, Young, and Cross, and Melons were numerous and generally very good. A few good dishes of Strawberry only were exhibited; among these were wonderfully fine Bicton Pine, Frogmore Late Pine, Empress Eugénie, La Constante, and British Queen.—J. WILLS.

SPECIAL GLADIOLUS EXHIBITION.

I AM glad to say that some progress has been made in this matter. Since my last communication I have been to Paris, and my kind and valued friend M. Souchet has promised to be a competitor, as have also M. Eugène Verdier and M. Loise. At home I have received assurances of support from Messrs. Carter & Co., Holborn; Mr. Charles Turner, of Slough; Mr.

Bunyard, of Ashford, and others; so that it only requires a vigorous effort to carry the matter out effectually. The Crystal Palace Company will, I have every reason to believe, act in their usual liberal manner. My desire is to have three classes of exhibitors—nurserymen, amateurs, and foreign growers, so as to make the competition as wide as we can. I hope all who prize this fine flower will let me hear at once.—D., Deal.

PLANTS IN FLOWER DURING JUNE.

<p>June 1st. <i>Deutzia crenata gracilis scabra</i> <i>Euonymus latifolius</i> <i>Cotoneaster Simmondsii</i> <i>Buddlea globosa</i> <i>Lonicera sempervirens</i> <i>Peroetya angustifolia</i> <i>Phillyrea media</i> <i>Pyrus aria intermedia</i></p> <p>„ 5th. <i>Rhamnus catharticus alnifolius</i> <i>Eschscholtzia</i> <i>Phalaris canariensis</i> <i>Robinia pseud-acacia hispida</i> <i>Spiraea cuneifolia arifolia ulmaria filipendula japonica</i> <i>Mecocopsis cambrica</i> <i>Tilia europæa</i> <i>Vaccinium huxifolium</i> <i>Dietamnus fraxinella alba</i> <i>Onobrychis sativa</i> <i>Rhododendron hirsutum huxifolium</i></p> <p>„ 10th. <i>Philadelphus coronarius</i> <i>Achillea millefolium millefolium roseum tomentosum</i> <i>Alchemilla alpina</i> <i>Amsonia latifolia</i> <i>Anemone rivularis</i> <i>Sedum acre sexangulare</i> <i>Forsteriana rupestris purpureum album</i> <i>Orchis maculata</i> <i>Arenaria cespitosa</i> <i>Catananche cœrulea</i> <i>Kalmia latifolia</i></p> <p>„ 13th. <i>Delphinium Barlowii Hendersonii</i> <i>Dianthus deltoides caryophyllus laciniatus</i> <i>Clematis integrifolia</i> <i>Callichroa platyfolia</i> <i>Erachycome lathyridifolia</i> <i>Adonis æstivalis</i> <i>Onosma tauricum</i> <i>Papaver bracteatum</i> <i>Silene maritima plena</i> <i>Viola cornuta</i> <i>Potentilla Hopwoodiana</i> <i>Antirrhinum majas</i> <i>Peotstemou Scouleri Shepherdii geutiarioides</i> <i>Fyethrum roseum</i> <i>Achillea clavennæ</i> <i>Aquilegia glandulosa Skinoerii</i> <i>Campanula nitida plena</i> <i>Gladiolus psittacinus Caudyft</i> <i>Inula glandulosa</i> <i>Lathyrus latifolius grandiflorus</i> <i>Lupinus compactus nivalis nanus</i> <i>Lysimachia ciliata nummularia quadrifolia</i> <i>Mealyanthes trifoliata</i> <i>Eriothera biennis</i> <i>Ethionema membranaceum</i> <i>Erinus alpinus</i></p>	<p>June 18th. <i>Amorpha fruticosa</i> <i>Andromeda lucida</i> <i>Astragalus tranguacantha</i> <i>Conuba japonica</i> <i>Aconna sanguinea</i> <i>Cytisus biflorus</i> <i>Genista florida</i> <i>Lavender</i> <i>Lathyrus magellanicus</i> <i>Plomia Russelliana</i> <i>Anchusa italica</i> <i>Lupinus luteus</i> <i>Acerolinum roseum</i> <i>Sphenogyne speciosa</i> <i>Lychnis dioica plena</i> <i>Gypsophila elegans</i> <i>Whitlavia grandiflora</i> <i>Fyethrum parthenium</i> <i>Pæonies</i></p> <p>„ 22nd. <i>Campanula grandis</i> <i>Verbascum thapsus</i> <i>Collisia bicolor</i> <i>Asphodelus luteus</i> <i>Gilia tricolor achillifolia capitata</i> <i>Erigeron canadensis</i> <i>Thalictrum aquilegifolium</i> <i>Campanula carpatia</i> <i>Tradescantia virginica</i> <i>Polebium angustifolium</i> <i>Ligustrum vulgare</i> <i>Cineraria maritima</i> <i>Dianthus cœsius</i> <i>Lilium tigrinum</i> <i>Cscolearias</i> <i>Koniga usritima</i> <i>Phlox Drummondii</i> <i>Heliotropes</i> <i>Viburnum opulus sterilis</i> <i>Spiræa aruncus tridentata</i> <i>Erigeron Villarsii</i> <i>Mimulus moschatos</i> <i>Polemonium Richardsonii</i> <i>Tropæolum</i> <i>Mimulus cardinalis</i> <i>Convolvulus minor</i> <i>Petunias</i> <i>Delphinium ajacis</i> <i>Bartonia aurea</i> <i>Linaria bipartita cymbalaria</i> <i>Hemoracllis falva</i> <i>Lathyrus odoratus</i></p> <p>„ 26th. <i>Eryngium Bourgatii</i> <i>Lupinus angustifolius</i> <i>Calendula Pongei, double</i> <i>Fuchsias</i> <i>Lilium maritagon</i> <i>Heuchium coronarium</i> <i>Lupinus hirsutus</i> <i>Weigela rosea</i> <i>Aster alpinus</i> <i>Platystemon californicum</i> <i>Statice armeria rosea</i> <i>Lilium Thunbergianum</i> <i>Eutoca viscida</i> <i>Chrysanthemum carinatum</i> <i>Merina persica</i> <i>Nuphar lutea</i> <i>Nymphæa alba</i> <i>Hottentotta palustris</i></p> <p>„ 30th. <i>Campanula aggregata</i> <i>Gnaphalium margari-taceum</i> <i>Cistus ladaniferus</i> <i>Verbenas</i> <i>Sambucus nigra</i> <i>Lotus corniculatus</i> <i>plenus</i></p>
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—M. H., Acllam Hall, Middlesbrough-on-Tees.

STOCKS.

Stocks! What need to say anything about Stocks? Everybody grows and knows about their culture perfectly well. Such,

or something like it, may be the exclamation of some readers when their eye catches the heading of this paper. But the hundred questions which have reached me of late about the culture of Stocks make out a very different case. Indeed, I am inclined to think that to popularise and instruct in the fine varieties of Stocks is very far from being a work of supererogation. The decorative capabilities of the finest varieties of the Intermediate Stock are not so well known or acted upon as they deserve. The effects which can be produced by the purple, white, and scarlet varieties, both for spring and autumnal gardening, are scarcely equalled by any of the new popular plants. In saying this, the practice and experience of many gardeners is the only corroboration that I would appeal to.

For instance, in the end of March, 1867, I sowed in a cold frame a quantity of the East Lothian Scarlet, White, and Purple Intermediates. In May these were transplanted to where they were intended to bloom for the season, and up to November the amount of double bloom which they produced is known to many who saw them here (Archerfield), and at other places in the Lothians. In November nearly the whole of the doubles were lifted and potted. They continued to bloom more or less the whole winter and spring, and were planted out in March with a good crop of bloom on them. Since then they have made fresh growth, and are new, notwithstanding that great quantities of bloom have been cut from them, literally a cloud of bloom; and it is hard to convince any one who has seen them that they have been in bloom for twelve months. For spring and early summer flower-gardening these Stocks are unapproachable, and cannot be too strongly recommended.

The way to have the finest bloom early in summer and all through the season is to sow in June in the open border thinly, and when 2 inches high, and before they become drawn, transplant them into beds in rows 6 inches apart each way. Till they get fresh hold of the soil and begin to grow, they require shading, and watering should the weather be dry. By the early part of October they will have formed bloom-buds, and it can be seen which are double. They should then be potted up into 6-inch pots. For this purpose use light rich soil, such as equal proportions of loam and leaf mould, with about a fifth of the whole of sand. When potted set them in a shady sheltered place, or better still, where it can be afforded, in cold pits or frames. Here they soon establish themselves; and if cut bloom through the winter is not an object, the bloom-buds may be pinched off them. A moderately dry place where they can be protected from severe frost will suffice for their winter quarters. If they can be afforded space in cold frames under glass or in vineries or Peach houses at rest, they will grow more or less all winter, and can be had in pretty full bloom by the middle of March, when, if spring display be the object, they can be planted with immediate effect; but for coming into bloom in May and the three following months they are best not allowed to bloom till after being planted. Those who have not seen rows or beds of these, entirely of double-flowering plants, can have little idea of how splendid they are.

To sow in spring for late summer and autumn blooming they are well worthy of being more carefully treated than is general in the case of Stocks. I would advise their being sown in heat early in March, and when they form the rough leaf to be pricked off in boxes 2 inches apart each way; and before they become crowded to be potted singly into 2 or 3-inch pots, and kept in cold frames till well established, but not potted, when they should be planted out about the first or second week of May where they are required to bloom. Managed thus they are prevented from making tap-roots, and receive no check when planted, but come much earlier into bloom than when allowed to remain in the seedling bed or rows till finally planted out. It matters very little about their blooming a month earlier as far as their late blooming is concerned, for their blooming powers are so great that if they begin to flower in the end of June they will bloom into winter. To do this, however, they must have deep rich ground. When plants are plentiful it is a good plan to put up a quantity into 6-inch pots and keep them in reserve, so that the singles can be lifted out of the beds or lines and be replaced with doubles. In dry sheltered situations where the winters are not severe, the mid-summer-sown plants can be planted after the summer bedding plants are removed in October; but in this case it is best to keep a reserve that can be protected to meet contingencies.

For pot-culture the value of the ordinary Intermediate Stock has been long recognised, in some localities especially, and for the London market they are grown by the thousand. To have

fine plants for the greenhouse or conservatory in March, April, and May, June-sown plants lifted in October and potted in 6 or 8-inch pots will bloom magnificently, and when large specimens are required it is only a question of room, shifting into larger pots, and tying them out. I have seen Mr. Lees at Tynninghame have them, I should say, nearly 3 feet in diameter and one cloud of bloom. Certainly these have but few rivals for this purpose, taking their sweetness, purity of colour, and immense show of bloom into consideration; and as they require but very ordinary means or accommodation for their culture, they are emphatically the plants of the millien.—D. THOMSON (in *The Gardener*.)

IMPROVEMENTS IN LIVERPOOL.

SEFTON PARK.

Of all the towns in Great Britain, Liverpool stands first, not only as regards its commercial importance, but the number of its public buildings and places of resort for recreation after the toils of everyday life. At present the Corporation of this vast town, second only in importance to London, are busily engaged in forming new streets through blocks of property, where the buildings are found to be too close together to be healthy to live in, and where streets are desirable for the opening-up of the town. They are also widening several of the narrow streets, and pulling down whole blocks of court property, which are found by the Medical Officer of Health, Dr. Trench, to be unfit for human habitations. They are likewise building a large block of buildings to be used as dwellings for working men, at moderate rents; and last, but not least, in this sanitary reform, they are constructing three large parks on the outskirts, but, at the same time, of easy access even from the centre of the town. These parks form an almost complete cordon round the town, and will when complete be of immense benefit in keeping down the high death rate which has heretofore been such a slur upon the town, as they will form places of easy access where the people can get a breath of fresh air, and healthy and vigorous exercise, which is denied them in the middle of the town, and at the same time see and admire all the beauties of Nature which are thus brought home, as it were, to their very doors.

These parks are called Stauley, Newsham, and Sefton Parks, and lie respectively—Stanley on the north side of the town; Newsham on the east; and Sefton on the south, the river Mersey being on the west.

Newsham Park is nearly finished; Stanley and Sefton Parks have only been commenced a short time, but will both be completed in the course of two or three years. The two first mentioned are of a rather restricted area as regards the ornamental portion, but the latter, of which we propose giving our readers a short account, will, when finished, be the largest public park in Great Britain, including even Hyde and Regent's Parks.

This extensive piece of ground, consisting of about four hundred acres of land, purchased from the Earl of Sefton for the sum of £275,000, lies at the south end of the town, in the district of Toxteth Park, and between the fashionable suburbs of Wavertree, Mossley Hill, and Aigburth. The land strikes one as having been made especially for a park, being composed of large table lands, gently sloping and undulating towards the centre of the park, where there is a small stream running down to the Mersey, the whole being beautifully adapted for landscape effect. It is also situated so as to be entirely removed from the smoke and the business portion of the town, and being surrounded by residences of wealthy merchants, &c., is at once framed, as it were, with an outside border of well-grown trees and wooded hillocks, which will go far in improving its appearance when finished. A portion of the park outside the circular drive is to be devoted to the building of villas, &c., by the sale of which the Corporation expect to be reimbursed to some extent for their large outlay.

Considered in an artistic and landscape-gardening point of view, we may say that the new park will present, when finished, a feature quite novel in this country. The works are being carried out by, and from the designs of Mr. Edouard André, principal gardener to the city of Paris, and Mr. Lewis Hornblower, the well-known architect of Liverpool. These gentlemen defeated twenty-seven competitors, and received the first prize of 300 guineas, in the competition invited by the Corporation in the early part of last year. Since that time there has been considerable delay occasioned by the differences of opinion which have arisen in the Council as to the carrying out of the design; but now that the contract for the roads,

sewers, lakes, &c., has been given to Mr. S. Campbell, the contractor, of Liverpool, it is hoped that the work will progress quickly and favourably.

The whole of the roads, drives, lakes, plantations, &c., have been staked out, and the good soil taken off and stored in heaps for future use in forming the plantations.

One great and pleasing feature will be the rockwork, of which it has been decided to employ a large quantity in the shape of grottoes, waterfalls, &c., in the two streams which run down the valleys towards the great lake. These works are being carried out with great spirit by M. Combaz, of Paris, who, as an artist in his particular branch, is well known in all parts of the Continent. He has executed the rockwork in the Bois de Boulogne, Bois de Vincennes, and new park of the Buttes-Chanmont, in Paris, and other works at Brussels, for the King of the Belgians, Ghent, Lille, and Cologne. From what we have seen of the work already executed by him in the Sefton Park, we are certain he will please the public of Liverpool as well as he has done the Parisians.

The main attraction, we have no doubt, will be that portion immediately contiguous to the lake and streams. The longer of these streams rises in a large grotto at the head of the valley, and after running over several small falls and rapids, and encircling small islands, flows into the main lake, twelve acres in extent, at the junction of the smaller stream, which also rises in a waterfall about 15 feet high, and runs over several small falls into the main lake.

On the banks of both rivulets, which will be broken here and there with rough pieces of rock, summer houses and kiosks will be erected at various points, where good views can be obtained, and on the islands huts will be built for the waterfowl to breed in, &c. These objects, together with the meanderings of the rivulets and falls, will have, we doubt not, a charming effect, as the visitor will have at every turn of the winding walks a fresh scene with which to feast his eyes. Boat-sailing and rowing will be allowed on the large lake, and will prove a great boon to the inhabitants of the district, as, with the exception of the Mersey, which is extremely dangerous on account of the numerous eddies and strong tides, there is no place in the neighbourhood where this healthy exercise can be indulged in. Amongst other features which this park will possess, there will be a large piece of land of a circular form, well sheltered, nearly forty-eight acres in extent, set apart for the reviews of the Volunteers of Liverpool. There will be ample space for 10,000 men to be manoeuvred.

Another portion is set apart for a cricket ground. It will be oval in form, and well wooded all round in order to shelter it from the cold winds that often blow in this part of the country. There is also to be a cricket pavilion, and two smaller pavilions flanking it, one on either side, one for the scorers, and the other for printing the cards.

Among other architectural objects which will adorn the park, will be a grand entrance, and two smaller ones, with lodges flanked on either side by handsome iron gates, Curator's and head gardeners' houses, two restaurants, several boathouses, sheep cot, deer house in rustic wood, several rustic shelters for horsemen, a large aviary, a band pavilion surrounded by three rows of large trees, numerous kiosks, &c., and stone, iron, rustic, wooden, and rocky bridges.

Such a multiplicity of architectural ornamentation might seem exaggerated, if one did not think of the immense area of the park, and the large number of points of sight naturally afforded by the undulations of the ground.

The various plantations and clumps of trees which are, with the lawns, the main adornment of a public park have been well cared for, and will occupy large spaces. On the sides most remote from the town they form complete woods, only cut here and there by the lines of sight. It was necessary to give great care and attention to the position of the planting, on account of the barrenness of ground, which was formerly exclusively cultivated fields, and they have been arranged so that the plantations may shelter from the sea breezes, which blow there throughout the greater portion of the year. With the help of such shelter it will be quite possible to cultivate in the undulations of the glades of Sefton Park, collections of numerous ornamental plants, and even some of those beautiful-folaged plants which have for some years back formed the chief attraction in the Parisian parks and gardens, and in Battersea Park, where Mr. Gibson uses them so tastefully. The use of foliage for the decoration of gardens has been too much neglected in this country, and we hope that trials in that direction will end in giving to such plants the position they deserve. In

this lino Sefton Park will have a powerful auxiliary in the new Botanical Garden.

The Corporation propose making a new Botanical Garden to replace the old one, which is badly situated, and daily being destroyed by the smoke of the town, and which is, together with the conservatories, unworthy of a town like Liverpool. Messrs. André and Hornblower have reserved in their design a piece of ground, nineteen acres in extent, centrally situated in the best part of the park, and with a southern aspect, for this purpose. In the centre of this garden there will be a grand conservatory 300 feet long, from the raised terrace of which views of the whole of the park are commanded. We shall give a more detailed description of the Botanical Garden, if the scheme is, as it is hoped, to be carried out without delay.

In the meantime the walks of the park are being actively proceeded with, and we have no doubt that it will be completed in the time specified.

EARTH HEAT.

(Continued from page 4.)

Turf Pits.—I will not say that our continental neighbours did not first direct attention to earth heat, but previously the horticulturists of this country had this agent actively at work, and by it a great impetus has been given to horticulture. At the time when earth heat was first brought prominently into notice abroad, we had already the nucleus formed from which have sprung greater results than from any other system. I allude to the introduction of orchard houses by Mr. Rivers, and his subsequent invention of the Curate's or Ground Vinery, and other economical structures for the cultivation of fruit trees. It is tolerably plain that these structures are all dependant for any heat they may possess beyond that of the open air on the absorption of the sun's heat, and their retention of it, thus enabling the cultivator to secure several degrees more warmth not only by day, but at night, and at other times when the sun's rays are obscured, as they often are in our cloudy and fickle climate, for the earth within the structure has then a greater heat, which is being constantly radiated. Of these structures, however, I shall have occasion to write hereafter, and I only now allude to them to establish the facts:—1st, That our horticulturists have been long conversant with earth heat; 2nd, That they have made as good a use of it as those of other countries; and, 3rd, That they liberally diffused throughout the world the knowledge resulting from a life of careful observation and experience.

Turf pits are not now so common as they formerly were, but they still do good service in the temporary protection of plants. I find them very useful, and that in two ways—namely, as a means of protection, and for furnishing fibrous loam for potting. The situation for them should be sheltered from the north, and it is well if the east and west winds are broken by a fence of some kind at a little distance off, so as to deprive the site of the sun's rays for as short a time as possible; and if there is a dry and sandy or gravelly soil give that the preference; in short, select a dry sheltered situation. Some take out the soil and form a sort of pit, but this I consider a great waste of time, and altogether needless, for it is only seeking damp, which is as destructive to plants as frost. Except for large plants, I would not make a pit, but would have all above ground. Mark out the size of the lights or other covering, forming the pit so that the internal face shall be a few inches within the outside of the lights or coverings, for it is necessary that they should rest on the turf walls; to throw off the wet the lights must slope from north to south, and this inclination of the roof will cause the bed to be narrower than their length. For 7 feet lights the bed will need to be made 6 feet 3 inches wide within the turf walls. The back wall, too, will be higher than the front, and the end walls will slope from back to front. The back should be 1 foot 6 inches higher than the front.

Having marked out the size, and square, so as to fit the lights or covering, the turf should be cut as thick as the fibres will allow, but for potting purposes not thicker than 3 inches. The pieces may be of any length and width, but are most convenient when not too large. I like them 18 inches by 9 inches, but size is quite immaterial. In forming the walls commence by placing a layer of turf all round, the same as bricks in building a wall, putting all headers, and then stretchers in the next course, so as to cross the joints and band the work, making the inner face perpendicular to the ground, but sloping the

external face inwards, which will give stability. All the sods should be placed grass side downwards, and to keep the lights or covering from the turf it is well to have a frame of wood for the lights to rest on, or for securing the covering to. Nothing answers so well as a frame of red deal, and it need not exceed an inch in thickness. The frame will make all secure. The front wall, as already stated, will be less in height than the back, and both will be thicker at the base than at top; but the back wall will need to have a wider base than the front one, as it has to be carried higher. Eighteen inches in thickness for the base of the back, and 15 inches for the front wall, both reduced to 9 inches at top, will form a very good pit, nearly if not quite frost-proof. Turf pits thus made will last two seasons, but I do not keep them beyond the autumn following that in which they were made, for it is impossible not to covet the fine material which these turf walls are after they have stood for a time. The walls may be of any height and thickness, but the above heights are quite enough for the majority of plants needing protection in winter.

It would be difficult to name all the plants that may be wintered in turf pits, as they are very numerous, but I will endeavour to give an idea. In the first place these pits are far better than any heated house for growing *Cinerarias*, *Calceolarias*, *Humeas*, and similar plants for spring-flowering, and which are impatient of a dry, fluctuating atmosphere. With a single covering of mats over the lights, and 6 inches of straw put on so as to overhang the sides and ends about 1 foot, no frost that we have in our climate will penetrate to the interior; indeed, in the memorable winter of 1860-61, frost did not pass through the sides of some turf pits that were at the time filled with these plants. It does not matter how long the plants are kept in the dark, if the frost continues, but do not uncover too hastily upon a thaw, and expose too suddenly to day-light, but shade for a few days from bright sun, and admit air freely. When the *Cinerarias* are advancing for flowering, they must, of course, be removed to more suitable quarters, as they will need more light, but even they will do better in turf pits than elsewhere, being freer from insects, and making stronger growth. *Calceolarias* and *Humeas* may be safely wintered in turf pits, and a considerable saving of fuel thus effected, at the same time that the vigour and beauty of the plants will be increased. The pit will be available for other plants when those named are cleared out, and may be used with or without lights for *Pelargoniums* and similar plants that need protection in spring. When these are cleared out the pit may be filled quite to the top of the walls with hot sweet dung, a frame placed on it, and soil put in; a good crop of Melons or Cucumbers may thus be obtained, and with a great saving of dung. By afterwards mixing the dung with the turf a most excellent compost is formed, especially for top-dressing fruit trees.

In addition to the plants above named, there are many others now kept in heated houses which may be more healthily wintered in turf pits. Such are *Heaths*, *Azaleas*, *Camellias*, and most *New Holland* plants. These when young are best kept cool, and having air in mild weather no great disaster comes through damp and mildew; all that is necessary is to give a covering of dry litter sufficient to keep out frost, and even a small degree of that is not half so injurious as fire heat. For these plants the soil at the bottom of the pit should be taken out to the depth of about a foot below the ground level, and a good bottom formed of rough cinders, and then over these some finer ashes; but it is well to wash them, using those remaining in a sieve with quarter-inch meshes. Six inches in thickness will be enough. The pots need not be plunged in the ashes, but should be set on them. The pits if made as described will answer for good-sized plants.

Probably the greatest use made of turf pits in this country is that of protecting hardy plants, of which in most gardens there are great numbers needing protection by reason of their being only recently propagated, and therefore not of a size safe to plant out. Among these are the best kinds of evergreen and deciduous shrubs and climbers, especially such as are used for covering walls and planting in sheltered situations, also many of those neglected herbaceous plants which are now deservedly receiving a share of attention. For *Roses* in pots, also, and especially the *Tea-scented* varieties, no better place could be found. All the pots should be plunged to the rim in ashes or sawdust, and if no sashes are at command wood shutters will do in their stead. They need not be heavy and large, but light and of moderate width, so as to be convenient for putting on and for removal; and over them in severe weather a covering of dry litter will be needed, always giving the plants

the full benefit of any mild period for exposing them fully. Next to wood, straw shutters are excellent for protection. They should be made in a kind of frame, and may be of any convenient size, but ought not to be too thick. I have seen them made of thatching straw, 1 inch or from that to 1½ inch thick, so as to be impervious or nearly so to wet, and such will be sufficient for all the plants needing slight protection in winter, or which are nearly hardy. These shutters have done excellent service with Mr. Fish, who was the first to tell us how to winter bedding *Calceolarias* in cold frames, depending on earth heat for their preservation. Frigi domo is another good protecting material. A light wood frame should be made, and the material tightly tacked to it, also to cross pieces from the back to the front of the framework, so as to keep the frigi domo from bagging and holding the wet. Bast mats are also good for covering turf pits, having pieces of timber laid across the pit to keep the mats from the plants.

Turf pits are very good for sheltering *Calceolarias*, *Verbenas*, *Gaznias*, *Ageratum*, *Cupheas*, *Fuchsias*, *Lobelias*, *Variegated Alyssum*, and all the nearly hardy bedding plants; but it is desirable to keep these in frames in order to have them strong for planting out and for spring propagation. Cuttings of the plants named should be put in in August and be well rooted and hardened-off before winter, taking care not to allow the soil to become saturated with rain, but to keep it dry. *Calceolaria* cuttings, of course, should not be put in until October. Glazed lights will be necessary for protecting bedding plants, and there should be sufficient covering to keep out frost.—G. ABBEY.

(To be continued.)

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

AGAVE DASYLIRIOIDES (*Dasyliirion*-like *Agave*). *Nat. ord.*, *Amaryllidaceæ*. *Linn.*, *Hexandria Monogynia*.—Native of Mexico. Flowers green and brown.—(*Bot. Mag.*, t. 5716.)

ABUTILON VEXILLARIUM (*Standard-flowered Abutilon*). *Nat. ord.*, *Malvaceæ*. *Linn.*, *Monadelphia Polyandria*.—Native probably of South America. Flowers scarlet and yellow. Requires a warm greenhouse.—(*Ibid.*, t. 5717.)

NASONIA PUNCTATA (*Dotted (cinnabar red) Nasonia*). *Nat. ord.*, *Orchidaceæ*. *Linn.*, *Gynandria Monandria*.—Native of the El Sismo mountains in Peru. It is synonymous with *N. cinnabarina*, which is a much more characteristic name.—(*Ibid.*, t. 5718.)

PÆONIA EMODI (*Himalayan Pæony*). *Nat. ord.*, *Ranunculaceæ*. *Linn.*, *Polyandria Polygynia*.—Native of Himalayan mountains. Flowers white.—(*Ibid.*, t. 5719.)

PHARBITIS NIL, *var. LIMBATA* (*White-margined Pharbitis*). *Nat. ord.*, *Convolvulaceæ*. *Linn.*, *Pentandria Monogynia*.—Native of North Australia. Flowers purple, with a white margin.—(*Ibid.*, t. 5720.)

SACCOLABIUM AMPULLACEUM ROSEUM.—Native of Moulmein. Introduced by Messrs. Rollisson.—(*Floral Mag.*, pl. 393.)

CLEMATIS John Gould Veitch.—Imported from Japan by Messrs. Veitch & Sons. Flowers pale blue, double.—(*Ibid.*, pl. 394.)

AZALEA Sir Robert Napier.—Flowers bright crimson. Raised by Messrs. F. & A. Smith, Dulwich.—(*Ibid.*, pl. 395.)

AURICULA John Waterston.—Grey-edged variety, very fine. Raised by Mr. Cunningham, Kilbrachan, near Johnstone, Scotland.—(*Ibid.*, pl. 396.)

AZALEA Lizzie.—“This fine *Azalea* has twice passed the ordeal of the Floral Committee, on one occasion receiving a first-class certificate, and on the other a certification that its high character had been well maintained. Its chief peculiarities are its smooth surface, which gives it a perfect outline, its distinct markings, which take the form of stripes of bright carmine on a pure white ground, varying in breadth and disposition, and its great substance, which results in the long endurance of the flowers. We learn from Mr. Kinghorn, by whom it was raised, that this latter quality is very noticeable, the plants standing much longer in flower than those of any other variety. The flower opens with a greenish tinge, and blanches as it expands, so that the fully developed flowers have a pure white ground, which is well set off by the well-defined and elegant markings. Like most of the varieties Mr. Kinghorn has sent out, this new striped *Azalea* is one which may be recommended with the highest confidence. We learn that the constitution and habit of the plant are all that can be desired.

“The improved varieties of greenhouse or Indian *Azalea*

are certainly not surpassed, if equalled, either for exhibition or conservatory decoration, as by a selection of the earliest, the medium, and the very late sorts they can be had in bloom from Christmas till the end of June. The earliest and most forward plants may be introduced to the forcing house from about the middle of October, at intervals, to keep up a succession of bloom. All the varieties, observes Mr. Kinghorn, at whatever season they bloom, are much improved in quality by being kept in rather a close warm temperature while expanding their blossoms."—(*Florist and Pomologist*, 3 series, i., 145.)

NOTES AND GLEANINGS.

The following competitors (those marked with an asterisk (*) being Chiswick students) had certificates awarded at the GARDENERS' EXAMINATIONS in April, at the Society of Arts :—

	Age.	Floriculture.	Fruit and Vegetable Culture.
A. Bradloy, Greenwich	25	2	2
F. W. Burbidge,* Richmond	20	1	—
D. Cargill, Liverpool	26	2	1
C. Fryer, Lambeth	27	2	—
J. C. Higgs, Southampton	27	2	—
R. Ioglis, Richmond	25	2	2
W. Jones, Richmond	20	2	2
R. L. Keenan, Richmond	25	1	1
R. C. Kingston, Royal Polytechnic Inst. ..	21	—	1
C. Lawton, Hull	24	2	2
J. Macpherson, Southampton	22	2	—
J. McArdle,* Richmond	21	2	2
M. Middleton,* Richmond	21	2	2
A. Parsons, Edinburgh	24	5	2
J. R. Pocock, Bromley	32	5	5
F. C. A. Thomson, Liverpool	23	5	2
B. Wyane,* Richmond	22	1	1

The prizes offered in these subjects by the Society of Arts and the Royal Horticultural Society, were awarded to the following competitors :—

	Floriculture.	Fruit and Vegetable Culture.
R. C. Kingston.....	.....	S.A. first prize, £5 R.H.S. first prize, £5
R. L. Keenan	S.A. first prize, £5 R.H.S. first prize, £5	.....
B. Wyane .....	.....	S.A. second prize, £3 R.H.S. second prize, £3
F. W. Burbidge ..	S.A. second prize, £3 R.H.S. second prize, £3	.....

The *Gardeners' Chronicle* prize of £3, offered for the above subjects, was awarded to Mr. Kingston, who has also gained the first prize in chemistry (£5) and the Prince Consort's prize of 25 guineas; and Mr. Keenan has won the Society of Arts' first prize in botany (£5) and the Royal Horticultural Society's first prize in botany (£5).

At the Tuesday Meeting of the Royal Horticultural Society, August 18th, Three Prizes will be offered for Twelve GLADIOLUSES, the first prize being £3, the second £2, and the third £1.

A TIME FOR ALL THINGS, EVEN FOR CUTTING DOWN THISTLES.

DR. ADAM CLARK has made this curious calculation: Suppose that each Thistle bears 80 heads, each containing only 300 seeds: the first crop is 24,000; the second, 576,000,000; the third, 13,824,000,000,000; the fourth, 31,776,000,000,000,000; the fifth, 7,962,624,000,000,000,000,000, a progeny more than sufficient to stock not only the surface of the whole world, but of all the planets of the solar system, so that no other plant or vegetable could possibly grow, allowing but 1 square foot for each plant. This wonderful power of reproduction should teach every man to regard the Thistle a common enemy—to be attacked and destroyed wherever found.

And here it may be well to introduce the substance of a communication to the *Journal of the New York State Agricultural Society*. A farmer had a field, about thirty-five years ago, completely covered with Canada Thistles; he cut them, and not one ever revived. This curious fact led him to a long series of experiments to discern if the particular date at which they were cut might not explain the phenomenon. For many years, therefore, he has cut the Thistles, marking dates, and watching the results. He practised this cutting every day in the season

except Sundays. For four years past he has cut them on August 15th, 17th, 18th, 20th, and 24th, and not one has lived. His reasoning as to their destruction is, that at this period the pith is not full in the stalk; that rain and moisture settle in the stalk, and they rot to the root.

This is certainly worth a fair trial. If by the simple observance of certain dates the roots of the Canada Thistle will die, and thus prevent numbers of plants from springing up, the world has gained an invaluable blessing. It is an experiment that will cost nothing, and in any event the Thistle will be cut off.—(*Prairie Farmer*.)

WORK FOR THE WEEK.

KITCHEN GARDEN.

Celery.—This is a thirsty plant, and, like the Asparagus, delights in the richest liquid manure after it has fairly begun to grow. Never put off earthing-up the earlier rows too long, but earth-up a little at a time—indeed, those who prefer earthing-up their main crops in succession instead of all at once, should also bear this in mind. *Cabbages*, if the first sowing for early spring use is not yet in the ground, there is no time to spare. *Peas*, a last sowing may now be made of some of the earlier sorts. A sowing of dwarf varieties may be made towards the end of the month where the situation is very favourable and means of protection can be resorted to. *Potatoes*, those who are partial to young Potatoes may now plant some tubers saved from the earliest crops. If previously greened in the sun they will grow more vigorously. The rows may either be covered with litter on the approach of frost, or they may be dug up and the produce kept in dry sand. *Tomatoes*, keep these fastened to the wall or fence, thin out the shoots and leaves, and pinch out the points before the clusters of blossoms, where early fruit is desirable. Without the assistance of a wall they will not do much good north of London, except in favourable situations. For their culture, for that of Capsicums, &c., and for the forwarding of early crops, dwarf walls with sloping borders ought to exist in every garden. When a gardener crops rather closely his fruit-tree borders, in nine cases out of ten it is the result not of choice but of necessity, for he is aware that the somewhat inferior condition of his fruit trees will not be such an unpardonable evil as being behindhand with a good early supply of the best vegetables. The succession crops are now mostly confined to salad plants, such as *Endive*, which should be planted out in succession about once every three weeks. Continue to sow *Lettuces* and small salads, only as the Lettuces do not run to seed in the autumn, you may now sow more of them at a time than could be done for summer supply without waste.

FRUIT GARDEN.

Take advantage of the first showery weather for hudding the stocks of stone-fruit trees, and for inserting buds of esteemed kinds upon the branches of established trees. Propagation by budding, though generally confined to stone fruits, may also be resorted to with advantage with scarce varieties of Apples and Pears. The principal work here is to guard the crops from birds and insects, and to keep the trees clean and free of superfluous wood.

FLOWER GARDEN.

The summer climbing Roses, such as the Ayrshire, Boursalt, Banksian, and many of the Evergreen and Multiflora divisions are now fading off for the season, leaving blanks in the roseray, along the arcades, and on pillars, walls, banks, and other positions, which will not be filled up again in many places till next June. Twenty years ago this would have been thought of little consequence; but in these days we are so accustomed to a rich display of autumnal Roses, that from May to November the roseray is expected to exhibit a perpetual succession of bloom. We cannot possibly do away with our beautiful summer gardens without losing the best feature of our flower gardens; we must, therefore, endeavour to clothe our summer climbers by budding on them autumnal-flowering Roses, using those only that are of a rather dwarf, compact habit, so that they may not interfere with the free habit of their foster-parents. Hybrid Perpetuals and Chinas are best suited for this work, unless, indeed, the climbing Roses are against walls with favourable aspects, when the dwarf Bourbons and a few of the Tea-scented kinds may be employed instead of the China Roses. The prevailing tint in summer climbers is whitish, and as some of the sorts to be budded on them may be expected to flower occasionally at the same time with them, it may be as well to make

use of high-coloured varieties, but individual taste will determine this. A few white varieties would relieve the other colours in the autumn. Among China Roses, perhaps, the best whites for this purpose are Clara Sylvain and Infidélités de Liaette, to which you may add any other white sort you may already possess. Among the higher colours in the China section, there is great room for choice. As China Roses are not so particular about the kind of stock they are on as many of the Perpetuals, they had better be worked on the Ayrshire varieties, while the Hybrid Perpetuals should be budded on the Boursault and Banksian Roses. The dwarf Bourbons should also be worked on the freer kinds, and being more tender than the Chinas and Perpetuals, should have the more favourable situations. Any one having a large Banksian Rose against a house or south wall, may easily establish a selection of Bourbon and Tea-scented Roses on it, and in severe winters these could be saved by covering them with mats. None of the Tea-scented varieties, and but few of the dwarf Bourbons do well on their own roots in our climate. There are few good white Roses among the Bourbons, perhaps Acidalic is the best of this colour, while there is no want of good sorts with rose, red, and crimson flowers. Among the old Perpetuals the Crimson, or La Perpetuelle, and William Jesse are, perhaps, the best; but in this class the difficulty is to pick out a bad variety. The work in the flower garden at the present time is in a great measure routine. Attend to the regulating of all plants and beds, and keep everything as clean and neat as possible. Remove dead leaves and flowers, and keep a sharp eye to insects. If we be favoured with rain some of the biennials will be fit to thin out a little, and the young plants may, if required, be pricked-out in nursery beds for transplanting. Hoe the ground amongst the plants frequently, not only to destroy weeds, but also to promote the growth of the plants.

GREENHOUSE AND CONSERVATORY.

If you see well to the watering and staking of the plants in the open air, and that they are not crowded together, nor too much shaded by trees or buildings, it is all that can be done for them, preuming all the best specimens and delicate plants that are not in flower in the conservatory to be luxuriating under the cool refreshing shelter of cold pits, where not a leaf or bud is seen out of place, and where the slight sprinklings from the hand syringe in the evenings supply the place of the absent night dews, and the thin calico frames ward off the sun when powerful. Now when many begin to cut down their Pelargoniums, let me guard the inexperienced against two extremes. Formerly we used to cut our plants to mere stumps, and now some leave the shoots by far too long for the sake of making large specimens next year, and with care this may be effected; but the safest way for beginners is to cut the lower side shoots of this season's growth to three or four eyes, and if the plants are tall to cut in the centre shoot to one or two eyes. Three-years-old plants make the finest specimens for ordinary use, providing the roots are healthy. Very old plants of Pelargoniums that are to be discarded had better be planted in the open ground, and they will furnish in September good cuttings, which may be kept in store pots through the winter, and they will come in useful for succession next summer.

STOVE.

Few stove plants will require potting after this time, except newly-propagated ones, which must be hastened through their nursery stages with all possible speed. Any little plants that are difficult to preserve through the winter should be kept rather dry from this time to harden their growth, and also, if practicable, cuttings of them should be put in. There are many plants that will stand over the winter if crammed in the cutting pots and placed near the glass on shelves, when the old plants can hardly be kept by the greatest care. Give more air and less water to stove plants in general after this time; this will harden and prepare them for another long winter. Before advancing further let us ascertain if those stove plants which we have lost or found difficult to keep in former winters are in good condition; examine the pots, and if the soil is not in a proper state shake it from the roots and repot them in light soil. Sandy loam is better for wintering delicate stove plants in than composts containing either peat or leaf mould; peat is very apt to become sour in a close stove in winter, but in frames and greenhouses nothing suits them better. In the beginning of the growing season all kinds of stimulants were in requisition to insure a rapid growth; but from this time all safe modes of retarding vegetation should be resorted to in order

that the season's growth may be ripened as much as possible. These general rules may be of more use than minute details.—
W. KEANE.

DOINGS OF THE LAST WEEK.

Watering.—In addition to what was stated last week, we must remark, that in using sewage water from mansions, &c., let it be proved that it is not too strong before employing it freely. In our case, and as the matter resolved itself simply into using it or giving no water at all, though the sewage consisted of all that comes from a general establishment, as stableyard, laundry, kitchen, &c., and rain water on yards, if there had been any rain, yet owing to the absence of rain, although the sewage would have done admirably for Cabbages, Cauliflowers, and similar crops of that kind, it would have been too strong to have applied to pot plants at all tender without being diluted with clear water. Sometimes when the sewage is pumped up in barrels this mixing is not very easily done, and in such a case we compromise the matter by half watering with the sewage, and then coming over the plants again with clean water. On the same principle we find that such sewage communicated to Peach trees in pots, might be a little over-strong for them, whilst it would answer well for trees planted out in the soil, whether in the open air or under glass. For most purposes we have used this sewage just as we took it, and even on flower beds it did no harm when sparingly applied at the roots, care being taken that the liquid was not spurted over the leaves. In our case, except under some circumstances, we know that owing to the body of water used the liquid will seldom be too strong for general purposes. Pure water must be obtained for mansions, even if it should have to be carted as in such a season as this, and when it has served its purpose it may be brought in as a useful aid to the garden, instead of being allowed to run to waste as is generally the case. We never thought of using the house sewage merely as a substitute for watering until four years ago, when we were even worse off for water than now. The main drain here terminates in a rather large reservoir, and as that filled the liquid found its way where it could, leaving its mark in a rank vegetation which nothing would eat. An iron pump was placed over the reservoir, so that we can easily fill a large barrel to be moved by a horse, and for watering at the roots we shall not be quite run out so long as this supply lasts, and it will so far last as long as there is a laundry in use, dishes to wash, and carriages to clean.

The great thing for the inexperienced to bear in mind is simply this, that the less the clean water used, the stronger will be the sewage, and the more dangerous its application in its unweakened state. Thus we have used the liquid as it came from all parts of a stableyard without any addition. We have seen liquid that came from another yard that had no rain water, and little of clean water of any sort mingled with it, and that we would not have used without six times its bulk of clean water added to it. We can give no test in this matter, but experience and observation, and the experience is soon gained by trying the liquid on a few plants at first, and remarking its effects before using it freely. For general purposes of watering we prefer our sewage to pure water, but as no rain has yet reached us on this the 11th, we foresee that if it do not come soon all efforts to refresh foliage with water will be with us out of the question.

Some of our correspondents have been amused at the small quantities of strong manures, as guano, we recommend to be mixed in water; and some of them have told us that when they used double and triple the quantity they had too much reason to rue it, and go back to the smaller quantity. In fact, all manure water should be given weak, there is then no danger; and after the first trial or two there need be no difficulty with sewage water, as the safe strength may be easily determined. Satisfy yourself by practice before using it largely.

Recently we used sewage water rather freely at the roots, not only of Cauliflowers, which it just suits, but also to Verbenas, Calceolarias, Scarlet Pelargoniums, &c., and a day or two after the foliage looked blacker and healthier in consequence. This sewage was strong enough to leave its scent on the ground for an hour or two, but the earth soon takes away all scent of that kind. On this account, however, unless suitably prepared, such sewage should not be used near living-rooms. We are thus particular, in the hope that others scarce of water may have this supply to go to.

KITCHEN GARDEN.

We were obliged to water Cauliflowers, Lettuces, Turnips, &c.,

as the latter were becoming quite hard. Sowed Cabbages for the early spring crop; a few Cauliflowers, Turnips, Lettuces, Endive, and the last row of Peas, watering the ground in every case before sowing, and then covering with mat, litter, &c., to keep the moisture in a little before the plants appeared. We have been able to keep young crops alive without watering by shading with dry litter, evergreen boughs, &c. Sowed an earth pit of *Dwarf Kidney Beans*, soaking the drills first, and these if necessary we can protect in the autumn. Here we may state that, against our wish, we have sown more this year of the small black Kidney Bean, which produces long clear pods. We do not know how it may hold out for continuous bearing, but as yet it has been the most fertile variety we have ever met with, producing a vast number more flowers and pods than leaves. From a small border we have gathered large quantities for use both fresh and pickled. At one time we held this little black Bean in but small estimation, and always had an idea it produced speckled instead of clear green pods; but now, if it hold out, we shall assign it a first place, as being superior for out-door cropping to China or Robin's Egg, Duns, Yellows, Fulmer's, and all the rest of them. The Robin's Egg in such a season would be apt to produce many dumpy pods, with a seed swelling at the end before the pod had attained its full length. From plants of this little black Bean we have gathered a dozen pods, straight and clean, fully 5½ inches long, and no mark of a seed in them. From its dwariness we shall give it a trial for forcing next season. Succession crops, though young, have been attacked with the black fly that is frequently so troublesome on Broad Beans, and these have been syringed with lime water and soap water, and they are now nearly free from such enemies.

We have several times mentioned that that fine Pea, Veitch's Perfection, did not produce enough to please us; but this season, dry though it has been, it has been with us more prolific than any other of the large Peas.

FRUIT GARDEN.

Strawberry runners will be very scarce with us this season, and the crop of fruit has almost dried up. Trees in orchard houses have had extra watering, and merely to save watering we have shaded the glass with whitened water. Some nice Figs have been gathered from the most forward orchard house, also some good Plums, the house having been made more forward by shutting up earlier and giving air later. We are at a loss for clean water for syringing, and have used with good effect sewage for root-watering. Used also sewage water for watering the Vine borders, which are out of doors, as, after the covering had been removed, they were becoming dry, and as the soil, from the sun striking freely on it and being but slightly touched on the surface, became as warm as we wished it to be. After the watering, we covered the borders slightly with horse droppings and a little litter, which will protect them from the fierce sun a little, and if a good shower should come some of the virtues of the covering will be washed into the soil.

Nearly finished thinning late Grapes. This could only be done in the morning and evening, owing to the heat. Cleared out all the plants from the second vinery, and washed all the stages, &c., then covered them with a point of lime and sulphur, and daubed all the pipes with sulphur and soft-soap, also doing the same on the wall where there was any chance of the sun's rays falling on it. This was done by way of precaution to keep the red spider at a distance. The floors and stages were also damped in the hottest part of the day, as we do not care to syringe over the foliage. We never think that plants do much harm in such houses until the fruit begins to ripen, then the less watering in the house the better; but in very hot weather the dryness may be carried too far, and a little sprinkling of water will help to keep the bunches plump and full. Figs have also needed extra watering, but nothing repays the trouble better. Provided the water is not stagnant, it is scarcely possible to over-water a Fig tree after it has fairly taken to growth. Plants in pots run a risk of throwing off their fruit every time the soil becomes dry. In pits and frames where Melons and Cucumbers were growing, ran a brush, with a paint made of lime, soot, and sulphur, near the top inside, to moderate the reflection of light, and yet emit some sulphurous fumes when the sun shines strongly. These fumes are the greatest annoyance to the red spider. As to the mere sulphur itself in its natural state, the red spider will walk in it as unconcernedly as among dust or earthy particles. The fumes should never be too hot; when they are given off from flues or pipes the heating material should never be warmer than 160°. When the fumes

are caused by the sun's rays striking on a wall, they will rarely be so warm as that. In such bright weather when good Melons cannot have the shade of foliage, they will be all the better of a thin piece of paper being suspended over them.

ORNAMENTAL DEPARTMENT.

Very much the same as last week. Hoed and forked beds of shrubs, &c., to fill up cracks. Some Rhododendrons are suffering from the drought. Proceeded with securing Hollyhocks and Dahlias. As we could not water, the spikes of the former will be shorter than usual. We prefer Dahlias to have only one stout stako, which is hidden as the plant attains maturity, and to this stake all the side shoots retained are loosely lashed, which keeps them secure and yet does not give the plant an artificial appearance. Secured Carnations with twisted wires instead of stakes, and proceeded with layering them and making cuttings as we could. The lawn was becoming a little patchy with green vigorous spots here and there, and, therefore, first switched it over with the daisy knife, and then very lightly with the mowing machine, so as not to dip where there was nothing to cut. Plants in beds we watered at the roots chiefly with sewage water. Could we have the grass brightly green again the flowers would look much better.

Shifted for the conservatory into larger pots, strong plants of Feathered Cockscombs and Fuchsias. Shifted Balsams into larger pots for succession. Gave more shade and water to Ferns. Begonias and Caladiums come in well in shady parts of corridors, greenhouses, &c. The former are very impatient of any flowers or leaves falling on their foliage. All plant houses are benefited by keeping the floors and stages moist, instead of drenching the plants too much at the roots. See last week as to Pelargoniums, Chinese Primroses, Cinerarias, &c.

All greenhouse plants out of doors and in pits and frames might be exposed at night fully were we sure of no thunder storm occurring. When there is any danger the sashes may be raised back and front so as to give a free current of air. In such weather we reduce the air to many plants during the day that they may require less water, and give it freely at night. We are not much afraid of a high temperature during the day, provided there is enough of air to prevent the accumulation of condensed vapour.

Now is the best time for sowing *Calceolarias* to flower early next spring. The following is an excellent plan:—Fix on a shady place and there put a hand-light half filled with rough ashes. Fill a 6-inch pot to within 1 inch of the rim, half with drainage, the other half with, first rough soil, then finer, and then very fine sandy loam with a little leaf mould or peat. Press, water well, and in six to ten hours sow on the surface, give a dusting of silver sand over the seed, and press lightly. Place a square of glass over the pot, plunge the pot nearly to the rim in the ashes, and until the seedlings appear give enough of moisture by watering the ashes and not the surface of the pot. When the seedlings appear raise the square of glass a little, then in a short time remove it at night, replacing it during the day; give air by the top of the hand-light, and as soon as the seedlings will bear it expose them fully; prick out and keep in a cool shady place, and they will be healthy and strong.—R. F.

COVENT GARDEN MARKET.—JULY 15.

THERE is in the market a vast accumulation of fruit both English and foreign, the latter comprising Pines, Grapes, Peaches, Nectarines, Apricots, and Melons. The vegetable market is not so well supplied.

VEGETABLES.

	s. d.	s. d.	s. d.		s. d.	s. d.	
Artichokes doz.	2	0	3	Leeks bunch	0	4	0
Asparagus 100	0	0	0	Lettuce per score	0	6	1
Beans, Kidney ½ sieve	4	0	0	Mushrooms ... pottle	3	0	4
Beet, Red doz.	2	0	3	Must.& Cress, punct	0	2	0
Broccoli bundle	0	0	0	Onions per doz. bchs.	6	0	0
Brns. Sprouts ½ sieve	0	0	0	Parsley per sieve	3	0	4
Cabbage doz.	1	0	1	Parsnips doz.	0	9	1
Capsicums 100	0	0	0	Peas per quart	0	9	1
Carrots bunch	0	6	1	Potatoes bushel	4	6	0
Cauliflower doz.	3	0	0	Kidney do.	4	0	6
Celery bundle	1	6	2	Radishes doz. bunches	0	6	0
Cucumbers each	0	4	1	Rhubarb bundle	0	4	0
Endive doz.	2	0	0	Sca-kale basket	0	0	0
Fennel bunch	0	3	0	Shallots lb.	0	8	0
Garlic lb.	0	8	0	Spinach bushel	2	0	0
Herbs bunch	0	3	0	Tomatoes per doz.	3	0	4
Horseradish .. bundle	2	0	5	Turnips bunch	0	6	1

		FRUIT.					
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	
Apples	½ sieve	1 6	0 0	Melons.....	each	3 0 to 6 0	
Apricots	doz.	2 0	4 0	Nectarines.....	doz.	4 0 8 0	
Cherries	lb.	0 3	1 0	Oranges.....	100	12 0 0 0	
Chestnuts.....	bush.	0 0	0 0	Peaches.....	doz.	6 0 12 0	
Currants.....	½ sieve	4 0	0 0	Pears (dessert) ..	doz.	2 0 0 0	
Black	do.	4 0	5 0	Pine Apples	lb.	3 0 5 0	
Figs	doz.	4 0	8 0	Plums.....	½ sieve	0 0 0 0	
Filberts.....	lb.	1 0	0 0	Quinces.....	doz.	0 0 0 0	
Cobs.....	lb.	0 9	1 0	Raspberries.....	lb.	0 4 0 8	
Gooseberries ..	quart	0 4	0 8	Strawberries..	per lb.	0 6 1 0	
Grapes, Hothouse..	lb.	2 0	5 0	Walnuts.....	bush.	10 0 16 0	
Lemons.....	100	8 0	12 0	do.....	per 100	1 0 2 0	

TO CORRESPONDENTS.

•• We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

Books (R. Miller).—Stephens's "Book of the Farm."

SUPPLEMENT OF "COTTAGE GARDENERS' DICTIONARY" (W. S. W.).—The Supplement contains all necessary additions down to the end of last year.

CATALOGUE OF BRITISH PLANTS (M. H. A.).—We know of no such catalogue as you mention.

GASOMETER NEAR VINERY (G. Brown).—It will not be at all injurious to the plants either in a vinery or in the open air.

SEEDLINGS (N.).—There are very many better varieties of Pelargoniums and Fuchsias than those you enclosed. If the only merit of the Petunia is the yellow in its leaves it would not be valued. If the seedling Pelargonium with tricoloured leaves, not two of which are alike, proves permanent in this peculiarity, it may be a desirable acquisition.

SEEDLING VERDENAS (G. Mason).—They were so shrivelled that we can only say that the trusses are good and the colour (crimson) very rich. You had better send them to the Floral Committee as you propose.

RATING NURSERYMEN'S GROUNDS (An Old Correspondent).—If overseers rate them improperly, the remedy is to appeal. It is useless to complain unless the remedy has failed in procuring redress.

ROLLISSON'S CUCUMBER (W. S.).—Your notes refer to statements you made in a contemporary Journal, and our readers would not know to what you refer.

VEITCH'S EARLY ASHLEAF POTATO (J. R. P.).—The sample sent is very good of this very good early variety. As the tubers are quite ripe we have no doubt that you will succeed in raising a second crop this year, for it is a quickly-growing and quickly-maturing variety. We shall be glad to hear the results of your experiments, and at the same time to know when you planted, and when you took up each crop.

EXHIBITING GRAPES (James Murray).—We cannot advise, not knowing the terms of the exhibition. If the prize is merely for the best Grapes, attention need only be paid to the weight, ripeness, colour, and bloom. If to artistic arrangement, then it must be left to the exhibitor's taste and opportunities.

STRAWBERRIES FOR SUCCESSIONAL BEARING IN A STIFF SOIL (A Subscriber).—Taken all in all, you cannot have three better than Keens' Seedling, British Queen, and Eleanor, but as you do not like Keens', you might substitute Premier, or Premier, and as the British Queen does not bear well, you might have Dr. Hogg, or the fine-flavoured and rather free-fraiting Myatt's Eliza, an old sort but good.

FIGS (G. S.).—The cause of your first crop of Lee's Perpetual being firm and "like solid meat," is because the flowers have not been fertilised, or only partially so. This is very apt to be the case with the first crop.

FROGMORE LATE PINE STRAWBERRY (W. H. M.).—The following is the description given in Hogg's "Fruit Manual":—"Fruit very large, conical, and cockscomb-shaped, with a glossy neck like the Old Pine. Seeds not deeply imbedded. Skin glossy, bright red, becoming dark red, and almost black when ripe. Flesh tender and very juicy, red throughout, richly flavoured, and a good deal of the Pine aroma when well ripened."

ROSES (Idem).—If you know what constitutes a good Rose, then the requisite number of such good Roses would constitute a good stand of them. Each variety ought to be shown accompanied by leaves of that variety.

BUDDING AND COTTINGS OF MANETTI ROSES (Ballinasloe).—"You may bud Manetti stocks as soon as, and as long as the bark will run. When you bud very late the bud should be ripe. Early in the year a little eye will take as well as a ripe one; the slice being sapper it will often take better. If the weather is not stormy but hot, as now, put either a Dock or other leaf over the newly-inserted bud. Always water the stocks a day or so before budding, and also afterwards. Watering causes a greater flow of sap. With a trowel scoop away the ground, and remove the snekers, cutting them clean from the stocks. Bud as low as you can do on the main stock. You may bud, if you like, on the wood of the current year, and also on the brood, but it is best to bud on the main stock if the bark will separate and run. After you have budded the stocks let the wood remain on, and in September you may remove a portion of it for propagation purposes. It strikes very easily. Tread in the shoots, 10 inches

long, firmly; and in winter shake amongst them horse litter or straw. Bury the stocks 5 or 6 inches deep, and leave a leaf or two on the shoot above ground. Give them a little water occasionally in the hot autumnal weather. Roses generally, I hear, are at this time in a sad state from excessive heat and fungoid diseases. I have three men employed in mulching and watering my Roses. I scrape away an inch of ground over the roots, put on three shovelsful of black decayed horse and pig manure, water copiously, and then return the removed earth over the dug. Finally, buy Alfred Colomb, it runs Charles Lefebvre cleanly. It is the best Rose that has been out for years, and is first-rate in its bloom and also in its foliage, growth, and habit. The best light-coloured Rose of late date is Princesa Mary of Cambridge. It only wants more intensity and fixedness of colour.—W. F. RADCLYFFE."

COMPOST FOR POTTED ROSES (Rose).—"The best compost for pot Roses is one-third each of rich stiff clay, sand or fine ashes, and decayed black dung. Let me add that Pelargoniums, Fuchsias, Roses, Strawberries, Hollyhocks, and Dahlias all like cow dung. For the last two it is, perhaps, the best of manures. It contains more potash than any other animal manure; hence, as potash is the grand constituent of a Strawberry, it is also excellent for that delicious fruit; in a word, I believe it to be one of the best of manures. The same may be said of soot, which contains nitrogen and carbon. For pot Roses use a skewer to make holes in the soil to let in the water.—W. F. RADCLYFFE." "The Garden Manual" will suit you. It will be sent free by post from our office if you enclose twenty postage stamps with your address.

LIST OF SUPERIOR ROSES (Henry Worrall).—"I presume good growers, hardy Roses, free bloomers, and constant bloomers are desired. Yellow—Gloire de Dijon, Céline Forestier, and Triomphe de Rennes. These Roses should have plenty of room, and do not require to be cut much. *Blush*—Marguerite de St. Amand, La France (new), Caroline de Sansal, Mdlle, Emile Boyau, Madame Knorr; and for the autumn, Souvenir de Malmaison. *Brilliant Crimson*—Charles Lefebvre, Alfred Colomb, the two best; Senateur Vaise, Lord Macaulay, Lady Suffield, Maurice Bernardin, Duchesse de Caylus, Madame Victor Verdier, Lord Clyde, Madame Boutin, Maréchal Vaillant, Mdlle. Annie Wood, fine, but shows an eye; Madame Julie Daran, Leopold Premier, George Prince, Gabriel de Peyronny, and Dr. Spitzer. *Pale Dove Pink*—Baron Gonnella. *Rosy Pink*—Julia Margottin. *White*—Baronne de Maynard, Madame Freeman, Marguerite Bonnet (fleshy white), Madame Alfred de Rongement. *Dark Crimson*—Pierre Notting (a grand Rose), Vicomte Vigier, Duc de Cazas, Souvenir de Comte Cavour, Eugène Verdier, Baronne Pelletan de Kinkelin. *Maroon*—Prince Camille de Rohan, Souvenir de Dr. Jamain, Empereur de Maroc. *Rose Colour*—Baronne Prevost, Comte de Nanteuil, Thorin (new), La Duchesse de Morny, Charles Ronillard, John Hopper, the best, one of the finest Roses in England. Its colour is crimson rose. *Pink*—Comtesse Cecilie de Chabillant. *Waxy Flesh*—Mrs. Bosanquet. I conclude with a few words on new Roses. Alfred Colomb is the finest by far. Horace Vernet and Antoine Ducher are excellent growers with fine foliage; they are large and fine, with deep petals, but they have not yet been full enough. Fisher Holmes is a nice red Rose. Charles Verdier is distinct, and I think it will be good. Mdlle. Marguerite Dembrin when not tucked in the side is extra fine. Princess Mary of Cambridge is an improved Auguste Mie, and taken at all points is the best Rose of light colour, as Alfred Colomb is the best of the rich colours that has come out lately.—W. F. RADCLYFFE."

VINES CUT BACK NOT STARTING (Thistle).—Cutting down Vines six years old to within 2 inches of the ground was a bold proceeding. The reason of their not starting is, that no eyes were left below the cut, but it is not unlikely that the Vines will yet start. More length of stem should have been left, cutting down to the lowest young wood on the stem from which the Vines would have pushed fresh canes freely. Vines will in most cases push from the old wood, as there are many embryo buds or eyes which remain dormant for a number of years. We have had them push vigorously on stems of twenty years' growth.

SEEDLING CARNATIONS (L'Amour).—The seedlings are seldom so good at the first flowering as at the second and afterwards, but you will be able to form an opinion in the first year of flowering as to whether they promise anything good in form and colouring. If you have room for them in the border by all means retain them, for if not good in a florist's eye the flowers may be valuable for bouquets.

AMARYLLIS SEED SOWING (Amateur).—The seed should be gathered when ripe, and we prefer to sow it at once in pots well drained, and filled to within an inch of the rim with a compost of two-thirds rich yellow loam, and one-third sandy peat. We then put on a little of the same kind of soil, but finer and dry, make the surface even by patting it with the bottom of a flower-pot, scatter the seed over it rather thinly, and cover with a quarter of an inch of fine soil, the least possible depth being left to hold water. The pot is then placed on a shelf in the stove, and it is not watered until the beginning of February, when the soil is moistened by a gentle watering. We then plunge the pots in a hotbed and encourage growth, keeping the soil moist. The pot remains in the hotbed as long as there is any heat, and the soil is preserved in a moist condition, and a good heat is given so as to keep the young plants in a growing state as long as possible, but giving a short rest by diminishing the supply of water in November, December, and January. In February they are again placed in a hotbed, and forwarded in a brisk heat with plenty of moisture, and when they have made a growth, which they will do by June, we pot them off singly in pots about four times the diameter of the bulbs, and so that the bulbs are buried to the neck. They are again returned to the hotbed, giving water abundantly and atmospheric moisture, keeping them well supplied with moisture up to October, when the supply is diminished, but so long as there is foliage give enough water to keep it from flagging. The pots are top-dressed in January, removing the old soil down to the roots, and it is replaced with rich rather strong loam from rotted turves. Do not disturb the roots or interfere with the ball, but if the drainage be defective rectify it. Plunge the pots in a hotbed, encourage growth with water as required and atmospheric moisture, and in May shift the plants into a larger size of pot, not disturbing the roots or ball beyond removing the crocks and any soil not adhering to the roots. Return the plants to the hotbed and keep them growing as long as they appear disposed to do so, giving a good supply of water, and when growth ceases remove them from the hotbed by degrees and set them on a shelf in the full sun in the stove, giving water so as to prevent the leaves flagging, diminishing it, however, when these show signs of going off, and keep the soil rather dry during the

winter. These plants by the third year will have strong bulbs for flowering, and the treatment is then the same as for old plants. If inconvenient to sow the seed when ripe, it may be kept in a dry place and sown early in February. We have kept it in silver sand in a flower-pot in a stove until February, and we cannot say which is the better plan; both proved good.

STATICE HOLFORDI PROPAGATION (*Idem*).—It is propagated by cuttings, the side crowns being taken off close to the stem and with a sort of beel. The base of the cutting is pared smooth with a sharp knife, and a few of the leaves are trimmed off to admit of its being placed in the soil. The cutting-pot should be well drained, filled to within an inch of the rim with sandy peat, and then to the rim with sand, and the cutting should be inserted in the centre. It is well to place the cutting-pot in one of a larger size, and to fill the interval between the two with small crocks to near the top, and the remainder of the space with silver sand. The rims of both pots should be level. That will allow of a bell-glass being placed over the cutting and resting on the sand between the pots. Give a gentle watering, and plunge in a bottom heat of from 75° to 80° and a corresponding top heat, being careful not to make the soil very wet but yet to keep it moist. Shade from bright sun, take off the bell-glass occasionally, and, after wiping it dry, replace it. When the cutting begins to grow tilt the glass a little on one side, and by degrees remove it. The best plants of *Statice* are obtained from seed, such being more free in growth and less liable to die off than plants from cuttings.

TREATMENT OF OLEANDER AFTER FLOWERING (*Idem*).—Your plant with two stems coming from near the soil and 3 feet 6 inches in height, is leggy. We would cut both shoots and branches down to 6 inches, and take two or three shoots from each, rubbing off the others. The plant will not, however, flower next year, but we would take off the points of the shoots again in April next year, at 6 inches above the points where they were last cut, and you will obtain plenty of shoots for a good head in the following year. The shoots coming from the flowering stem will be the flowering shoots of next year, and the prominent buds at their apex are flower buds which will not open this season. If you wish the plant to bloom next year these shoots must not be cut off; but we would put them in cuttings, cut down the old plant, and obtain a specimen. No plant is worse grown than this, and few equal it in its fine heads of bloom and general usefulness for decorative purposes.

CUTTING-BACK LARGE OLEANDERS (*Old Subscriber*).—We would not now cut back your trees to the old branches but defer it until next March. If you cut them now they will probably not push until late and will make a weak growth, as the eyes upon such strong wood will not start so freely as those from younger and smaller shoots. After being cut back the plants should have a moist atmosphere, and be kept rather warm and close until they break. We think they will break freely and strongly if cut in next spring. We were under the impression that you intended to cut back the very thick stem, and that prompted our former reply.

CYPERUS ALTERNIFOLIUS VARIEGATUS (*Charlton*).—We would pot the plant now in very poor sandy soil, and encourage it with a moist growing heat and an abundant supply of water. Your plant has had quite enough rest. It requires to be kept well supplied with water when growing, and rather dry in winter. It succeeds admirably in a stove, and is of easy culture.

RAISING LAPAGERIA ROSEA FROM SEED (*J. G.*).—The pod of seed will

no doubt ripen this season. The seeds should be kept until the beginning of March, and then sown in small pots. We take a rather large and deep seed-pan, and drain it to the depth of about an inch, the pan being 4 inches deep. We then half fill a number of 2½-inch pots with a compost of fibrous sandy loam broken and made fine, but use the rougher portion for the bottom of the pot, just placing one crock over the hole; we then fill to the rim with the finer portion of the peat. The pots are then set on the crocks in the pan and as closely together as possible, filling the intervals between them with cocoa-nut refuse, and making it level with the rim of the pot. In case of no refuse being at hand, a little moss may be placed over the crocks, the pots set on it, and the intervals between the pots filled up with silver sand. A hole is then made in the centre of each pot, and so deep that the seed when put in shall be covered with its own depth of fine soil. A thin layer of moss is then placed all over the surface, but not so deeply as to hide it entirely, and a gentle watering is given. The pan is then placed in a hotbed and kept constantly moist, and wet after the seeds have germinated. Not having a heated house you may employ a hotbed; if not, we think the warmest part of the cold pit would prove suitable. Being in pots the plants can be transferred into larger pots when they attain a size fit for repotting. If the pots be placed in a hotbed, gradually harden off the plants before removing them to a cooler place. You will find particulars of the after-management in our last Volume, page 90.

HANDY EXOTIC ORCHIDS (*W. R. H.*).—The following we know to be in cultivation in this country. We cannot say whether they are grown in Ghent:—*Cypripedium acaule* (bunilo), *C. guttatum*, *C. pubescens*, *C. spectabile*; *Goodyera pubescens*; *Opherys lutea*, *O. fusca*, *O. speculum*, *O. lenthredinifera*, *O. quadripunctata*; *Orchis foliosa*, *O. laxiflora*, *O. longicornis*, *O. papilionacea*, *O. Robertiana* (longibracteata), *O. nigra*, *O. sambucina*; *Platanthera flava*; and *Scrapia cordigera*.

COCKCHAFFERS (*E. C.*).—It is impossible to banish these insects when in their winged state.

INSECTS (*A. Roe*).—The insects found in your dwelling are weevils, and we believe their scientific name is *Curculio cupreus*.

NAMES OF PLANTS (*A Subscriber from the Commencement*).—We cannot undertake to name plants unless we see their flowers. (*E. E. Jarrett*).—*Orobanche minor*, or Smaller Broomrape. It is neither an *Orchis* nor a *Fungus*. (*C. Hall*).—We cannot identify your plant unless you send us one of its flowers, and if a leaf accompanied it all the better. (*Four-years Subscriber*).—We cannot name plants from their leaves only. (*A Subscriber*).—1, *Pteris argentea*; 2, *Aspidistra elatior*; 3, *Polypodium aureum*; 4, *Adiantum hispidulum*; 5, *Pteris serrulata*; 6, *Pteris* sp. (barren); 7, *Croton pictum* var.; 8, *Croton discolor*; 10 and 11, Specimens too small; 12, *Croton pictum*. (*J. G.*).—1 and 2, *Pteris aquilina*, common Brake. (*W. F. P.*).—1, *Lathyrus pratensis*; 2, *Linaria cymbalaria*; 3, *Lotus major*; 4, *Euphorbia lathyris*; 5, *Potentilla reptans*; 6, *Prunella vulgaris*. (*G. M.*).—3, *Poa trivialis*; 5, *Gantheria Phellos*; 6, *Stipa pennata*. (*Ceres*).—1, *Juncus bufonius*; 2, *Isoplexis setacea*; 3, *Holcus lanatus*; 4, *Lolium perenne*; 5, *Lolium italicum*; 6, *Triticum caninum*; 7, *Bromus secalinus*; 8, *Avena flavescens*; 10, *Dactylis glomerata*. (*J. M. W.*).—1, *Spirea Douglasii*; 2, *S. Nobleana*; 3, *S. sorbifolia*; 4, *Thujopsis dolabrata*; 5, *Abies Menziesii*; 6, *Cupressus sempervirens*. (*J. C.*).—1, *Origanum vulgare*; 2, *Goodenia ovata*; 3, *Polygonum vacciniifolium*; 4, *Swainsonia galegitolia*; 6, *Pernettya (Arbutus) mucronata*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending July 14th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 8	30.061	30.048	86	49	65	62	S.	.00	Very fine; clear and fine; very fine at night.
Thurs. 9	30.163	30.051	85	45	67	62	E.	.00	Clear and fine; overcast; heavy clouds.
Fri... 10	30.096	30.042	81	51	67	63	E.	.00	Very fine; cloudy; heavy clouds, overcast.
Sat... 11	30.132	30.100	84	56	67	63	N.E.	.72	Fine and clear; overcast; rain, heavy storm, thunder, lightning.
Sun... 12	30.040	29.977	79	56	67	63	S.E.	.26	Showery, cloudy, heavy showers; densely clouded; thunderstorm.
Mon... 13	30.003	29.993	84	52	67	63	S.E.	.35	Clear and fine; very fine; fine, clear starlight.
Tues. 14	30.009	29.975	85	56	68	64	N.E.	.00	Very fine; clear and fine; cloudy, fine and clear.
Mean	30.072	30.032	83.43	52.14	66.85	62.85	..	0.98	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

FACTS CONNECTED WITH POULTRY CULTURE.

Our correspondent Mr. George Manning, whose remarks before the Food Committee of the Society of Arts we published, suggested the examination of Mr. Brooke, of Newgate Market, and the following are some extracts from his evidence:—

Mr. Brooke: Messrs. Broome & Co., are large poultry, butter, meat, and provision salesmen, at Nos. 10 and 11, Newgate Street, Newgate Market. I am the manager of the poultry business. I have been all my lifetime in the poultry trade; my father was a dealer in poultry in Norfolk, and I have been a salesman from the age of eighteen. I have been in Leadenhall Market thirty years, and in Newgate Market eight years, and the whole class of trade has come under my notice. I have also given evidence on the Game laws in 1846, and have been consulted by the Government in reference to the markets. I was sent by Messrs. Broome to France to examine for myself the markets of Paris, as well as to go through the different parts of the country which supplied poultry to the Paris markets, which markets in the country are so well regulated by the local authorities as

to be worthy of the consideration by those who take an interest in the growth and value of our home-grown farm produce. The time of sale is regulated—tolls are paid—no sales take place outside the markets, and all is order and open trading—besides which all the goods are sold—none are taken home. (The Paris wholesale markets cast into the shade any we have in London; the system of order is complete, but the exaction of *octroi* is odious). This takes place at Honan, Dreux, La Flèche, Le Mans, Nogent Le Roy, and a great many other parts, where poultry is fed largely. These markets are held weekly, and very large quantities, to the extent of from 3000 to 6000 fowls and Turkeys, are brought, besides other articles of farm produce. I was induced, in consequence of seeing this, to try if I could introduce something of this small-farmer system into England and Ireland, because I find that in Ireland large quantities of poultry, which I may call the raw material, are produced cheaply, but they do not fetch the breeders anything at all equal to what they might if properly fattened. In some parts of Ireland the fowls are very inferior, and yet if it were not for the quantity of poultry which comes regularly from Ireland, fowls would be worth in London at the present season half a guinea each. I need not say that the mode of procuring poultry is one well worthy of attention, because we find that fowls weighing 4 lbs. might be produced just as easily and as cheaply as fowls weighing only 2 lbs. each, if attention were paid to having good breeds, such as the Dorking, Cochins, and the best French breeds, with the Malay, crossed with the Essex or Lincolnshire fowls. I find that the fowls which have been sent into

Lincolnshire and Yorkshire, from whence we get large supplies, have completely changed the breeds—thirty years ago they were quite small, and now they are large and fine. This was all brought about by Mr. Charles Clarke, of Boston, who bought the best stock and gave away the eggs to the farmers and cottagers.

The Chairman: The size depends upon better breeding and better feeding?

Mr. Brooke: Exactly. In Essex, likewise, the quantity of poultry is kept up, whilst in Norfolk, some parts of Cambridgeshire, Suffolk, and other counties, poultry has gone completely out of cultivation, in consequence of the absorption of commons and waste lands, as well as that small cottagers are not allowed to produce poultry; while the English farmers' wives and daughters have forgotten the habits of their ancestors, in sad contrast to the French farmers' wives, whose greatest pride is their dairy and their poultry. The suggestion I would make would be simply this—that where there are cottagers and small farmers, the gentlemen in the immediate neighbourhood should find a supply of good stock, and then distribute the eggs for breeding purposes, the cost of which would not be more than 5s. or 10s., and by that means the recipients would do as they have done in Sussex, where a very large quantity of chickens are raised all the year round in the district of Heathfield, in a radius of about twenty miles; during the next three months we shall have sent to London from that part of the country £1000 worth per week, which will show what can be done by industry and method. The supply for London is of very great importance, because we must not only consider that there are 3,000,000 of people to supply food to here, but we also supply a radius of fifty or sixty miles round London when our supplies are above the demand for home consumption, in consequence of the railways being so accessible. That is not the case in France; the poultry nearly all goes to Paris, and there is hardly any demand in other towns. In this country the supplies are required constantly. At Brighton and all round the south coast, at Oxford and Cambridge, as well as at other large towns, it is not likely the price will decrease, as a more general use would, I am persuaded, lead to an unlimited consumption. The advantages of increasing the food supplies of a people so numerous as ourselves must be apparent; if it would be considered a boon that where one blade of grass grew anyone should produce two, how much more so at the present time, when meats of all kinds are found to be deficient in quantity, to enable every one to have a mouthful, that some one should step forward, and by the simple introduction of a cheap process which is hourly in operation in France, should induce the great landed aristocracy and gentlemen of England and Ireland, as well as the large farmers, to determine that on their own estates a better system of breeding and fattening poultry should commence now. I have recently paid a visit to South Wales, and I find that in some parts the cottagers and small farmers are increasingly producing poultry, and this ought to be extended through the length and breadth of Ireland. I have suggested to Messrs. Broome that I should go to the different markets of England and Ireland, and call together the farmers' wives and cottagers, and market people, on market days, and tell them exactly what they might do, and show them how to do it.

The Chairman: Do you happen to know the French mode of feeding? I think that is very important.

Mr. Brooke: Yes; I have written that down, in order to make it thoroughly known. By the plan I propose I think we could introduce a new mode of breeding and feeding poultry. Thus, chickens two or three months old will fatten in seven, fourteen, or twenty-one days, at a cost of 4d. or 6d. per week. I do not think there is a possibility of raising any kind of vegetable so quickly as that, so as to produce a fat article out of a lean one in about seven or fourteen days. The French seem to me to have acted very wisely in one respect—they never as a rule, send a very small, young, or lean article to market. Now, in our markets we have large quantities of lean goods, not only poultry, but meat, which I consider to be criminal to the community at large. The French actually fat the old hens as well as old Turkeys; they are sold in France for the purpose of being made into soup, *bouilli*, and other kinds of food, which, according to the French system of cooking, are very nice. Generally farmers, directly they have done with an old hen, sell her for a trifle. The Essex people are wiser; they have managed in the same way as the French; they get the eggs out of the fowls and then they fatten them, and sell them for 2s. 6d. or 3s. each. They shut them up and feed them twelve or fourteen days. The way in which the people round Heathfield, Cockfield, Uckfield, and other parts of Sussex have improved within the last ten years, is marvellous; and they now make from 3s. 6d. to 5s. 6d. for chickens not more than three months old. The chief point is the labour; the only expense there can be is rearing until they get about two months old, which should be by the side of a hedge, or where there is grass, which cannot cost more than 1s. to 1s. 6d.; strong, healthy, well-fed chickens are very soon fattened. I think that is a power of manufacture which is worthy the consideration of the country, as the profit must be at least from 50 to 75 per cent. The means of feeding are simply these:—Barley or oatmeal ground fine, grease, fat, or suet mixed with it; new milk, or, if not procurable, meat broth, mixed with it to the consistency of thick soup, and administered twice or thrice daily for seven, fourteen, or twenty-one days. Fowls from four to six and nine months old should be fed on this food with the funnel, and kept in the dark on clean straw. All kinds of animals kept in the dark, and quiet, always fatten more quickly than when they

have too much room or light; that is a very important part of the French system, to keep them in the dark. But what I would wish to point out is this—the French fowls which are fed with a funnel are a particular breed—the Crève-Cœur, La Flèche, Le Mans, and Houdan: a small chicken would not bear the funnel to go down its throat. This class of fowl is now selling wholesale, in Paris, at from 6s. 6d. to 15s. each.

The Chairman: I have been much struck with seeing the plan of cramming Geese at Strasbourg; the Geese seem to like the first few mouthfuls very much, but they afterwards get much disgusted. It was a most extraordinary sight.

Mr. Brooke: The French fowls seem to get quite fond of it, and are quiet; they struggle very much at first, but they soon get used to it. I think it would be rather difficult to introduce this system of feeding by funnel at first amongst the farmers, as it is a process which requires some dexterity and patience; but it is very simple. To make a coop for twenty-four fowls, with a small trough, to be kept clean, to feed the chickens (as they do in Sussex) for seven or fourteen days, is what any one could undertake. The chickens most only have food enough to feed themselves full, then they must be kept in the dark and quiet. The food must be made into a consistency similar to soup; boiled eggs are sometimes given to them during the last two or three days; and as fowls well fattened fetch such a price, it is worth while to bring them to the highest perfection. I have never seen such fowls in England as I saw in the Paris market and the Palais Royal, each weighing 10 lbs. or 14 lbs., which fowls were eight and ten months old. They must be large to be fed with the funnel; while chickens from ten weeks to four months old must have this special food in coops (holding twelve or twenty-four each), provided with troughs, which must be daily cleared. There is a difference, of course, between a chicken fattened in this way and fowls fattened for an especial purpose, as is done with a funnel. Fowls require to be very healthy before you can fatten them at all, and for that reason I think none of these poultry companies will ever be successful, because the fowls do not do well huddled together. Our own supply of poultry can be only increased by giving plots of land to farm labourers, stimulating the cottagers and small farmers to breed and fatten poultry, for, wherever it is mixed and crowded together, disease is sure to follow, and it is impossible to produce them to advantage. We did think at one time it would be well to have a depot at Holyhead or Milford Haven, where the poultry might be brought over from Ireland and fattened; but even with that short passage of ten or twelve hours there is a danger of the poultry getting into a kind of fever, which would prevent them fattening properly. We therefore consider it is much better to import the poultry dead than alive. If we could only get the gentry in Ireland to adopt the simple plan of getting a stock of the very best poultry, and giving away a clutch or two of eggs to the small cottagers around them, and taking care to remove all inferior breeds (and this could be done at a very small expense), in twelve months the whole country might be covered with a fine breed of poultry, to the advantage of all concerned.

The Chairman: Can you suggest any mode by which these country gentlemen can be stimulated to assist the farmers and cottagers in this way, and to insure to the producers a good market for the poultry when they are reared? I understand that in Wales poultry do not fetch more than 3s. a couple, whilst here I give about 7s. and 8s. a piece for fine fowls.

Mr. Jenkins: The price has been very much raised of late in South Wales.

Mr. Brooke: I may say that I have just returned from South Wales, where I have established this system. We have one man there who is carrying it out to some extent, and his poultry costs 2s. and 2s. 6d. each. Then at Llandilo there is a man to whom I have introduced this system, and he is carrying it out to a certain extent; but the people are so stubborn you cannot get them to have faith in trying a new system. I have no hesitation in saying that it is quite possible for me to go down to any part of England, and show the system myself, as I did in Wales, and make such an impression as will induce people to try it; but, if you introduce it to one or two, they always want to keep it to themselves. We rather believe, however, that we should be invited down; if we are willing to do people a service, the less thing they can do is to pay travelling expenses, and if that were done I should be very glad to spread this knowledge as widely as possible.

The Chairman: Can you suggest nothing to the Royal Agricultural Society, in order to spread this knowledge which you have acquired?

Mr. Brooke: The only way in which it could be done would be by giving me an opportunity of speaking, or giving a kind of lecture, and then let them put questions, and then let it be printed and made public by the press throughout the country. I should have very great pleasure in doing it, because then it would be published in an authorised manner. For instance, I think of going down to Boston, in Lincolnshire, but unless something of this sort is done, one has to introduce oneself, which is not the most pleasant thing in the world. If something were done beforehand it would attract public attention, and show them exactly what to do.

The Chairman: I understand, from what you say, that notwithstanding the climate and soil of England, you are of the opinion that the production of poultry might be very much increased under better management.

Mr. Brooke: Certainly; I am quite certain that the supply of

poultry might be increased at least ten, and eggs fifty fold, and when you seriously consider the matter you will see how important this is. I do not know how many cattle there are in this country; but when you come to fowls, you can count them by millions, and then if you increase the weight of each fowl which is eaten by only half-a-pound, you will see what an important effect you produce. But that is putting it at the very lowest point; by properly breeding and feeding fowls, the weight may be increased, not half-a-pound, but from 1 lb. to 2 lbs., according to the breed and the system adopted.

The Chairman: Do you see any objection to poultry being sold by weight?

Mr. Brooke: None at all, especially Geese and Turkeys. About four years ago there was a great glut of poultry at Christmas time, in consequence of large quantities being sent to London. All the dealers were supplied, but on about the 26th or 27th of December, I think it was, not only our shops, but the cellars and warehouses were crammed full, most of which was sold by weight and by auction.

The Chairman: Where do we get Geese from?

Mr. Brooke: In winter time we have live Geese coming in thousands to this country from Ireland, Holland, and Germany. They go down to Norwich and other places in the neighbourhood, where they are fattened. Mr. Bagshaw, at Norwich, fattened 12,000 or 15,000, and after they are fat they come back to London again. We formerly got them from Norfolk, Suffolk, Cambridgeshire, Lincolnshire, Yorkshire, and Essex.

The Chairman: A gentleman who spent the winter at Pan, informed me he had seen there very large Geese indeed; but that they boiled them down for their fat, and did not eat them.

Mr. Brooke: Formerly we never got Geese from Normandy, now we have them by thousands. They come in boxes regularly. Messrs. Foucard, Mabire, and others supply these Geese. We cannot expect an increased quantity of Geese in this country, for where a Goose goes it is impossible to get animals to feed; but with respect to poultry there is neither nuisance nor injury. With respect to poultry, therefore, I earnestly contend it is the duty of the people of this country, who have at heart the true interests of the industrial and working classes, not only to give them a good cottage to live in, and a small piece of ground to cultivate, but also to give them a brood or two of good fowls, which would answer the purpose of a bank. This would be a bank of the best kind, because the children can so much improve it. It is watchful labour which is particularly required to produce poultry, and we should then find, as is found on the continent, that where people have this opportunity of employing their time, and their children, it makes them careful and saving. But it is of the utmost importance to have a good breed.

PETERBOROUGH POULTRY SHOW.

The general arrangements of this year's Show were a great improvement upon those of former annual meetings, a very excellent tent being provided for the reception of the poultry. The pens used being those of Messrs. Turner, of Sheffield, the specimens competing were exhibited to the greatest possible advantage. There are, however, two regulations of the Peterborough Society which admit of improvement. The prize for the exhibition of eggs is now given for the heaviest, and therefore weight alone can determine the award. This oversight admits double-yoked eggs, and, again, does not prohibit eggs from competition that are alike too stale for either incubation or the use of the table. The prize should be for the best eggs. Again, the present rules admit the penning of birds at any time if in the yard at 10 A.M., and from this cause several pens were not filled until after midday. We therefore suggest the regulations should enforce the absolute penning of the birds in their proper places by the time specified, as several agriculturists left their poultry entirely to chance until they had seen to the proper disposal of cattle or horses, though the Committee of Management for poultry was anxiously waiting.

The show of *Dorkings* was remarkably good throughout. Mr. Longland exhibited several pens of chickens, of great growth and of excellent feather. In *Game* the competition was very severe, Messrs. Deacon, Biney, and Lotan showing excellent specimens. The *Cochins* were very good, Mr. Longland taking precedence with a pair of excellent colour and quality, but somewhat too small to suit the requirements of the present day. This gentleman, however, exhibited another pen, not for competition, as the rules enforced three months' previous proprietorship. These birds were of immense size, and will no doubt another season prove an invaluable cross to his yard of *Cochins*. A very good pen of Black *Cochins* was second. The *Hamburgs* were, many of them, seen to a disadvantage, as the moulting season had commenced. The "Variety" class was a remarkably good one. *Bantams* were well shown; and the class for *Turkeys* was the best ever seen at Peterborough.

There was one feature in the Show which required amendment, and it is at present a somewhat general error. Exhibitors do not take sufficient care, in the selection of their birds, to have those in one pen all of the same colour. The same remark as regards matching applies with equal force to every description of exhibition stock. At Peterborough it was not by any means uncommon to find a Don and a Black Carrier Pigeon mated as a pair, a grey Goose and white gander shown together, or a red Shortfaced Tumbler exhibited with a per-

fectly black one; and a somewhat remarkable coincidence was, that, individually they were generally the best birds in the class, but thus shown they could not hold position in any prize list.

DORKINGS.—First, G. S. Hall. Second, N. Biney. Highly Commended, J. Longland. Commended, R. Wood. *Hens*.—First, J. Longland. Second, K. Wood. Highly Commended, J. Elgar. *Cocks*.—First, J. Longland. Second, R. Wood. Highly Commended, J. Longland. *Chickens*.—First and Second, J. Longland. Commended, R. Wood.

GAME (Any colour).—First, N. Biney. Second, S. Deacon. *Hens*.—First, S. Deacon. Second, H. Lotan. Highly Commended, W. Carter, jun. *Cocks*.—First, H. Lotan. Second, S. Deacon. Highly Commended, J. Laming.

COCHIN-CHINA (Any colour).—First, J. Longland. Second, H. J. Godfrey. Commended, J. Elgar (Buff); C. Wright.

HAMBURGS (Any colour).—First and Second, J. Laming (Golden and Silver-spangled). Highly Commended, J. F. Loversidge (Golden-spangled). Commended, A. Storrar (Silver-spangled); J. Loud (Golden-spangled); S. Ratland (Golden-pencilled).

ANY OTHER DISTINCT VARIETY NOT BEFORE MENTIONED.—First, Second, and Highly Commended, T. Hardy (Crève Coeur, Dark and Light Brahma). Commended, N. Biney (Brahma); W. F. Marshall (Houdao); Lady G. Gordon (Black Spanish).

BANTAMS (Any variety).—First, N. Biney (Black Red Game). Second, A. Storrar (Black). Highly Commended, W. H. Tomlinson (Black) *Cocks*.—First and Second, S. Deacon.

MIXED BREED.—First and Second, J. Longland (Dorking and Cochinchina).

TURKEYS.—First, J. W. Underwood. Second, Mrs. Berridge. **GESE (Any colour)**.—First, T. Hardy (Toulouse). Second, J. Goodliff. Highly Commended, J. Goodliff (Toulouse). Commended, J. Turner; T. Hardy (Toulouse).

Ducks (Aylesbury).—First, S. Deacon. Second and Commended, J. Goodliff.

Ducks (Rouen).—First and Second, R. Wood.

Ducks (Any other variety).—First, J. Goodliff (White Call). Second, Mrs. Ferridge (Black East Indian).

PIGEONS (Not less than three varieties).—First, — Storrar (Carriers, Barbs, Mottled Tumblers). Second and Third, R. Payling (Black Carriers, White Pouters, Almond Tumblers, White Fantails, Yellow Turbits). Highly Commended, R. Ashton (Blue Pouters, Turbits, Trumpeters).

RABBIT.—First, W. Collingwood (Himalaya). Second, J. E. Palmer.

JUDGE.—E. Hewitt, Esq., Sparkbrook, near Birmingham.

STOWMARKET POULTRY SHOW.

The following is a list of the awards made at this Show, held on the 3rd inst:—

SPANISH.—Cup, J. R. Rodbard, Aldwick Court, Wroughton. Second, Horace Lingwood, Woodbridge. Highly Commended, P. H. Jones, Fulham.

DORKINGS (Coloured or White).—Cup, J. Elgar, Osmsthorpe, Newark. Second, Henry Lingwood, Needham Market. Highly Commended, C. Trauer, Great Baddow, Chelmsford; F. W. Rust, Hastings; Dr. Crippell, Brentwood; H. Payne, Stowmarket; J. Frost; Henry Lingwood; T. Roper, Barham. *Chickens*.—First, J. Frost, Parham, Wickham Market. Second, Rev. E. S. Tiddeman, Childerditch Vicarage, Brentwood. Highly Commended, J. K. Fowler, Aylesbury.

COCHIN-CHINA (Cinnamon or Buff).—Cup and Second, Henry Lingwood. Highly Commended, J. H. Dawes, Maseley Hall, Birmingham; H. Maplebeck, Birmingham.

COCHIN-CHINA (Any variety).—First, Horace Lingwood (Partridge). Second, F. Waller, Ipswich (Partridge). Extra, K. Wright, Holloway Road, London.

BRAHMAS (Light).—First, H. Dowsett, Pleshey, Chelmsford. Second and Highly Commended, J. Pares, Postford, Guildford.

BRAHMAS (Dark).—First, Horace Lingwood. Second, H. P. Leech, Woolpit. Highly Commended, H. F. Leech; J. K. Fowler.

GAME (Black-breasted and other Reds).—Cup and Second, S. Matthew, Stowmarket. Highly Commended, S. Matthew. Commended, W. B. Jeffries, Ipswich.

GAME (Duckwings and other colours).—First, Second, and Highly Commended, S. Matthew.

HAMBURGS (Golden-pencilled).—First, W. K. Tickner, Ipswich. Second, F. Pittis, jun., Newport, Isle of Wight.

HAMBURGS (Silver-pencilled).—Second, C. Havers, Ingatestone.

HAMBURGS (Golden-spangled).—First, J. Elgar. Second, J. F. Lover-ide, Newark-on-Trent.

HAMBURGS (Silver-spangled).—First, Rev. F. Tearle, Gazeley Vicarage, Newark. Second, H. Loe, Appuldurcombe, Isle of Wight.

HGAME BANTAMS (Any colour).—Cup, W. B. Jeffries. Second, N. Biney. Highly Commended, J. Easlea, Great Finborough; F. Pittis, jun., Walsall;

Adkns; T. C. Harrison, Hull.

BANTAMS (Any variety except Game).—Prize, T. C. Harrison.

ANY VARIETY NOT BEFORE MENTIONED.—First, P. H. Jones. Second, J. K. Fowler.

Ducks (Aylesbury).—First and Second, J. K. Fowler.

Ducks (Rouen).—First, J. K. Fowler. Second, H. Dowsett.

Ducks (Any other variety).—First, T. C. Harrison. Second, C. N. Baker, Chelsea (Pintail). Highly Commended, F. Pittis, jun (Black East Indians).

GESE.—Second, J. K. Fowler.

TURKEYS.—Second, J. K. Fowler.

SELLING CLASS.—First, J. Frost. Second, Rev. S. S. Tiddeman.

PHEASANTS (Any variety).—First, T. H. Roper. Second, E. Warner.

PIGEONS.

CARRIERS (Any colour).—First, R. Fulton, Deptford. Second, D. H. Feltham, Mildmay Park, London. Highly Commended, H. A. Oakes, Stowmarket; R. Fulton, Deptford; D. H. Feltham.

POUTERS (Any colour).—First and Highly Commended, R. Fulton. Second, P. H. Jones.

ANY VARIETY NOT BEFORE MENTIONED.—First, P. H. Jones. Second,

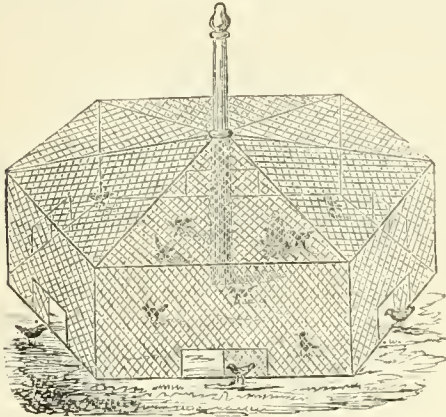
R. Fulton. Highly Commended, D. Greengrass, Harleston, Stowmarket; H. Yardley, Birmingham; D. H. Feltham.

CAGE BIRDS.—Canary (Any colour).—First, Second, and Highly Commended, T. Fenn, Ipswich. *Goldfinch or Any Variety*.—First and Second, T. Fenn. Highly Commended, J. Clover, St. Helen's, Ipswich.
RABBITS.—First, G. Jones, Birmingham.

The Judges were the Rev. T. L. Fellowes, Honnington, Norwich, and Mr. Harry Adams, of Beverley.

CROOK'S IMPROVED PORTABLE HEXAGONAL CHICKEN-FEEDING FOLD.

THIS takes to pieces for packing away. The object is to enable young chickens to feed without being disturbed by the older birds. The doors at the sides are made to slide, in order to accommodate chickens of various sizes. It is also useful as a lattice coop to place a hen and chickens under. The same principle is carried out for clasp the lower portion of trees in orchards, shrubberies, &c. Total size, 6 feet in diameter.



We found the necessity for such an article in our yards, for where there are quantities of stock of all ages and sizes feeding, it is, of course, necessary to feed the young stock upon food, such as groats, &c., which is somewhat expensive, and quite unnecessary for adult poultry. By using these folds the most expensive kind of food can be placed within the fold without fear of the old birds disturbing or trampling upon the young, or eating the dainty morsels intended for the latter.—E. & F. CROOK.

HOUDANS.

IN your impression of July 2nd, under this heading, you give a translation from "Le Poulailier," of M. Jacques, in which the extreme delicacy and sudden failing of constitution in Houdan cocks is mentioned. This is in direct opposition to my experience of four years concerning imported and English-bred birds kept in confinement, and even in a cold, damp situation. I can safely class them with the Cochin and the Brahma in hardness of constitution, and freedom from disease, even in a yard where roup broke out fatally amongst Game Bantams.

In the Journal of the 2nd of October of last year, you say, that "fowls without five claws are not Houdans." My experience is, that five-clawed and heavily-bearded birds will throw occasionally four-toed and beardless birds, although I have never had any without the topknot. The same thing as regards the toes is found in the Dorking.

In crossing Dorking and Brahma hens with Houdan cocks, I have produced precocious and heavy birds of dark plumage, with almost invariably strong short black legs.

I shall be glad of the experiences of other breeders, as I look to the Dorking-like features and hardihood of constitution in these birds, either by themselves or by judicious crossing, to supply the place of the Dorking on damp, cold soils, and to add materially to our food birds.—GEORGE MANNING.

ANTWERPS—DRAGONS.

My signature has quite misled "WILTSHIRE RECTOR." With the exception of the example I mentioned of the Antwerp

raising in Belgium, I wrote entirely as a "thorough English fancier," and I have already a supporter in "J. I. B." I do not know much of German ideas respecting Pigeons; but in passing through Germany eight years ago I observed that, with the exception of the Antwerps and some of their "new varieties," they possess nothing we can envy them for, though in a future communication I shall prove that we can well envy other nations their "pets of beauty," the most remarkable of which I believe I introduced to English fanciers. So I quite agree with "WILTSHIRE RECTOR" in this. But what about the points of the two breeds in question?

I have stated distinctly the points of the "show Antwerp," compared it with the Dragon, and proved that it is far superior in colour and points, and I am ready to substantiate this by comparison of birds. We have Antwerps blue as the best Blue Dragon, with intelligent broad heads, in shape as a well-enlarged Bullfinch, and in carriage as graceful as any Dragon. So, as long as we have all this, besides three additional excellent colours, and the improvement from the idiotic head to the intelligent form of the "show Antwerp," adding the great property of flying and the most valuable of feeding, what else do we desire? Can "WILTSHIRE RECTOR" corroborate his statements by comparison that they are birds of "no colour or points"?

I believe I am quite correct in saying that two-thirds of the fanciers in England possess Antwerps, and necessarily all who keep Toys for feeding purposes. Is it just, then, to exclude them all from exhibiting what in their estimation is worthy of attention because the author of "Pigeons" and "WILTSHIRE RECTOR" dislikes them? I beg to refer him to a book called "Le Pigeon Voysgeur Belge," by F. Chapuis, Doctor of Medicine and Natural Sciences. It treats on nothing but the Antwerp! But let us suppose that the Antwerp is not sufficiently interesting yet in appearance, let us exert ourselves to make it so. Has not encouragement made the Carrier what it is—a Pigeon not more like its Persian ancestors than the Antwerp is? and I can name a host of other breeds likewise.

I have visited the great Dragon and Antwerp fancier I alluded to, and asked him, "What would you take for the best pair of each breed?" "It is a puzzling question," he said; but if I am to answer it I should want more for the best pair of Antwerps." And I am quite certain that he possesses some of the finest Dragons ever bred.

Is "WILTSHIRE RECTOR" aware how many young Blue Carriers obtained lately at our shows prizes in the Dragon class, and when older move on to the class of their superiors? "WILTSHIRE RECTOR" must have forgotten that the only fancy Pigeons we can fairly call English breeds, though not of that origin, are the Carrier and Shortfaced Tumbler? The first of these does not "take" abroad. The second is greatly and justly admired wherever it is introduced, and I intend to introduce these birds into Africa. Further still, he must have forgotten, or he would have never written, "We love in poultry and Pigeons to breed pet birds with fine and remarkable points and properties, &c." Where should "we" have been but for the importation of all the "fine and remarkable pet birds," with the exception of the Shortfaced Tumbler? Or does "WILTSHIRE RECTOR" call the Carrier or Dragon pet birds? If so, we shall always differ, not because nations should do so, but because the majority of my fellow English fanciers, so far as I am informed, do.—A FOREIGNER.

GAS STOVE IN CANARY AVIARY.

My friend Mr. Blakston has done the state much service by his letters on Canary-breeding, but I am certain that he has made a mistake in his idea about a gas stove in the breeding-room, and I hope he may not find it out to his cost.

Gas in rooms where Canaries are kept is the very worst thing you can have. I appeal to other breeders. Messrs. Hawkins, Doel, Tully, Walter, *cum multis aliis*, will bear me out.

Gas makes birds soft-feathered, injures their lungs, and sends them into moult, to say nothing of the mischief it causes when it goes out in the night. A man in Manchester, high up in the mystery of Canary-breeding and showing, had a magnificent stud of Belgians, and in his breeding-room he had a gas stove. One morning he found all his stock, nurses and all, dead; there they lay (£50 worth), aristocratic Belgians with heads like peas and necks like giraffes, plebeian nurses with their charges, all stiff and cold. The gas had gone out, returned, and smothered

them all. An open fireplace is the best, if a fire must be had in the room.—HOWARTH ASHTON, *Polefield Hall, Prestwich.*

LIGURIAN BEES.

Last year I had to send you a rather doleful account of the casting of my Ligurians in spite of all inducements to get them to store honey instead. Now I have pleasure in sending you a very different account. I have had eight strong stocks flying all this season, and at the present time there are four artificial swarms in addition, but I have not had a single swarm in the usual way. The bees have been so much under control that I seem to have been able to make them show symptoms of swarming or otherwise at pleasure. Without troubling you with particulars, I may state generally that my success is due to giving more facilities to the bees in passing from the stock hive to the super.

I am working almost entirely with the Woodbury hives and double-glassed supers, and cannot speak of them more highly than I think. The insect is under entire command for all purposes. On the 9th ult. my best hive consisted of the stock and three supers, the total height of which was 27 inches. I was able to remove the middle super, which contains 32½ lbs. nett of the purest honey, and the comb is all sealed. I am sanguine about obtaining another 35 lbs. from the remaining supers. The queen is not yet thirteen months old, as she came off with a second cast on the 19th of June, 1867.

In this portion of Cumberland we have had four weeks of good weather for bees. My first fruits from three hives in one day were more than 70 lbs. We are now suffering much from drought, and it is telling upon the white clover, on which we mainly depend for honey.—E. B., *Broughton Parsonage.*

THE BARON VON BERLEPSCH ON FOUL BROOD.

Foul brood is either the dying, putrefying, and ultimately drying-up in the cells of the unsealed larvæ, or, more generally, of the larvæ which are already sealed. This disease varies considerably in its character, assuming either a contagious or a non-contagious form.

NON-CONTAGIOUS FOUL BROOD.

This may proceed from various causes. Thus some of the brood perishes when, from driving out a swarm, or by the transposition of its hive, a colony has been so weakened that all the brood can be no longer properly nourished or warmed. It may also occur in the spring if, after eggs laid by the queen in the lower parts of the combs have been hatched, a sudden change of weather constrains the bees to withdraw, and the larvæ there becomes chilled. Destruction of brood from this cause was observed as early as the days of Colmella.

The food on which the larvæ are fed may also sometimes be of a deleterious quality, and cause death. Thus Spitzner relates—"In the spring of 1781 I had placed thirty colonies in a forest, where whortleberry bushes were in profuse bloom. When these colonies were brought home I observed that about 6 inches of the lower portions of the combs were perfectly black, and all the larvæ in the cells dead. The bees, however, speedily removed the defunct larvæ, and eight days afterwards I found the black cells replenished with brood, which matured in due course."

Hoffman-Brand says, "In the year 1851 the Fir trees here were greatly devastated by vast numbers of a species of caterpillar. After these had died, Wunsche, the forester at Tisfenfurth, observed that those Fir trees were frequented by bees, and soon after foul brood made its appearance in his hives. The cells of one comb containing foul brood were altogether black. Similar facts were communicated to me by Mr. Sommer, of Neuhammer," but in neither case had any further evils ensued.

Sometimes the bees will remove the defunct brood from the cells before it becomes putrid, whilst at other times they permit it to remain until it is completely dried up.

This non-contagious foul brood is generally of no importance, being confined to the brood originally affected by it. Whether under peculiar circumstances it may not sometimes assume the contagious character, or whether contagious foul brood may

not occasionally be developed from it, will be considered in another section.—A. VON BERLEPSCH.

(To be continued.)

SILKWORM-REARING IN ENGLAND.—No. 13.

The Mount and the Crop, continued.—When the worms are mounted all dirt should be drawn out, rolled up with the papers, and carried from the room. When the insects are tolerably well enveloped in silk, air may be more liberally admitted if the temperature is not below 65°. A close heat of 80° or 90° would force the worms to violent quick work, injurious to the compact disposition of the silk of the cocoon. The sun should not be allowed to shine on the working worms or the silk, as it would discolour the latter. Air is of more consequence in proportion as the little workers become covered with silk, and to withhold it would in all probability cause the black negro disease, what I term the "cholera," because worms dying of it become black and putrid.

The cocoons are completed in four or five days, the change to the chrysalis state takes place, and about the eighth day the crop may be gathered; but before doing so cut a cocoon open to ascertain if the transformation is complete, for it is not desirable to collect the cocoons unless the worms are dormant.

The cocoons complete and containing the chrysalis, the crop has to be collected by taking down the spinning materials, beginning at the lower stages and being careful not to throw the cocoons carelessly down, otherwise the silk may be stained by the worms which have died from disease. The cocoons should be laid carefully on tables, the stages, or even the floor. The good hard ones should be placed in baskets by themselves, and the weak, imperfect ones by themselves. Any that are too soft to be reeled, or which are stained, should be put aside, and will serve for inferior spun silk.

Having collected and thus sorted them, the cocoons are to be freed of the floss or superfluous silk around them. This operation is performed up to the present time by hand; holding the floss by the finger and thumb and turning the cocoons round they immediately become clean and fit for the reel or sale. If for sale it is advantageous not to keep them at home a day, for they will lose in weight by keeping; if to be reeled at home, which in England for the present is likely to be the case, the work must be executed immediately before the chrysalises change to the moth state, or they must be destroyed if required for keeping to reel at a future time.

I shall speak more fully of the methods adopted in destroying the chrysalis and reeling the silk from the cocoons so as to be marketable silk, or such as is required by the manufacturer.

Producing Silkworms' Eggs, and their Preservation.—The best cocoons should be selected for egg-production, and such generally are those which are the first spun. They should not be over-large, but evidently hard, especially at their ends, with an indented circle round the middle. An excellent plan is to mount the most forward worms on a stage by themselves, and to keep them specially for producing eggs. I need hardly mention that when white silk is desired, a selection of white cocoons must be made, yellow, when yellow silk is wanted, and so on, the quantity being regulated by the number of eggs required. Generally speaking, a pound weight of cocoons will produce about 1 oz. of eggs.

It is necessary to provide as nearly as possible the same number of male as of female moths. The signs to distinguish them in the cocoon I have found uncertain, but more often than not the small cocoons contain males, and the medium-sized and large ones females, especially such as are most rounded at the ends and at their centres. The sex, however, will be known when the moths appear, for the females are larger, heavier, and less active than the males.

The cocoons should be cleared of their waste silk and laid on a stage or table, separating the sexes by guess.

The moths of the Japanese breeds come forth in eight or ten days after the completion of the cocoons, while the larger varieties are five or ten days more, according to the temperature. It is a custom among the Italian peasantry to string the cocoons by means of a needle and doubled thread. The needle must only just pierce the silk sufficiently to hold the cocoon, otherwise the life of the insect might be in danger from a puncture. The thread should be passed in at the middle of

the cocoons, so that when strung they may lie horizontally, for the moths come out at the ends. The cocoons can be hung perpendicularly by the thread to nails in a dry wall. There are simple contrivances made harp-fashion, with string or ribbons, by which the cocoons may be held somewhat firmly in position. I have tried the plan of glueing them to boards by merely touching them with glue, and laying them thereon until dry, when the boards can be set up against a wall, and this method answers admirably, for they are as firmly fixed as though in the place where spun, and the moths certainly make their way out much more easily than when the cones are left lying about, as is done by some persons.

As to the proper degree of temperature in which the cocoons should be kept, I have no reason to vary from that which I have recommended for rearing the worms; but when the temperature is naturally more than 70°, I should certainly admit more external air to the room, and apply artificial heat if colder, admitting less air, but I would on no account shut it out entirely, for the respiration of the insect is still going on within its silken habitation.

Silkworms' moths generally push through the cocoons after sunrise, about seven or eight o'clock, and it is then necessary to watch them, in order to keep the sexes separate, for although the cocoons may have been sorted, yet there are often mixtures. The best way is to take all the females gently by their wings, and place them on an inclined cloth or piece of calico until they have discharged a reddish fluid, which will have been done by the majority of them by half-past eight or nine o'clock, when the males are introduced to them. Any that have previously coupled must be left alone. Only just sufficient light should be admitted to the room to allow one easily to execute the work. The male moths are best kept in total darkness when practicable until wanted, for when exposed to the light they beat about. To couple the moths it is merely necessary to place them one by one near each other.

After the separation the males are put away, the females being left a few minutes to again discharge some fluid, after which they are to be removed on clean linen, suspended on the kind of stand I have before described, where they will quietly deposit their eggs. Many persons suspend from the wall of the room the linen, securing it by tacks, and pinning-up the bottom corners, thus forming a channel or receptacle into which any eggs, which sometimes fall, are caught and prevented from being lost on the floor. The only objection I have to this method is the perpendicular position which the linen occupies, and which is certainly not so convenient for the heavy insects as a sloping surface. An arm's length of linen will easily contain 2 or 3 ounces of eggs.

Should it happen that more females than males are produced, then the most vigorous males may be used again if kept till the next day.

Having produced the eggs, their preservation in a suitable manner is the next consideration. After a few days, when they have all changed colour, from the yellow which they exhibited when laid, to a dark ashy or violet hue, the linen is taken from the stand, folded up, put into an earthen pot, tied down with perforated paper and twine, and hung up in a cool, airy, but dry place, such as a cellar.

About October, when the weather is cooler, the jar may be removed to a cool, dry room—one up-stairs I consider best—where no fire is kept, and the temperature during winter does not fall below freezing point, or if there be danger of its doing so in December or January, a somewhat warmer position may be temporarily provided. If mild weather occur early in spring the pot and eggs should be again transferred to the cellar, unless there is danger from damp, in which case some other cool place must be selected. My object in being thus particular is to impress upon the reader that unless care be exercised in keeping the eggs as cool as possible without freezing from laying until hatching time, they would, especially in forward springs, be liable to hatch sooner than wanted, before there were leaves to feed the worms, and before the weather had become sufficiently settled. A good plan to protect them is to suspend the jar by means of a wire or cord from the ceiling, or the wall if dry.

It is customary to detach the eggs from the linen, and I think this operation is best performed about October, because the eggs are then more at rest than in the spring, at which season they should not be disturbed more than is absolutely necessary. The best method to detach the eggs is to put the linen and eggs to soak for twenty or thirty minutes in soft water which is cool, but above the freezing point. This softens

the gum and facilitates the operation of scraping off the eggs with a wooden or bone knife, or a large spoon. When they are off they should be washed with fresh water in a basin, gently turning them about with the hands for a few minutes. All the good or heavy eggs will sink, and the light ones floating on the surface may be poured off. The good eggs are then to be spread on a napkin in a cool room to dry, turning them over now and then with a spoon, and keeping them separate by gentle friction, otherwise they would stick together as they dried. When the napkin has absorbed the greatest portion of the moisture, the eggs can be transferred to another dry napkin. They will probably be sufficiently dry next day to be put again into the earthen jar, which should be tied down as before.

I do not think it would be advisable to place more eggs in a jar than would cover the bottom to the depth of half an inch, for great quantities together would be liable to heat.

Many persons assert that the eggs keep better through the winter on the linen, but I like the contact with the earthen vessel, which, being cool, tends to preserve them, and no more need be placed in the same utensil than is proper.

Silkworms' moths generally lay two sets of eggs, the first being the most perfect. If the moths are placed on fresh linen the second day they produce inferior ones. This is or was the secret of producing the famous breeds of Bergamo and Brescia in Italy. It is not probable that all the moths will come forth on the same day, although the worms mounted together. During coupling they should be often looked at, and any that separate should be put on one side a short time to be used again. Some of the moths lay as many as five hundred eggs, but the average, I think, is about three hundred. The eggs, as already stated, are yellowish when fresh laid, but if good grow darker, and lastly assume a violet tint, which they retain until near hatching.—LEONARD HARMAN, JUN.

OUR LETTER BOX.

BOOK (*A Surrey Bee-keeper*)—You can have "Bee-keeping," free by post from our office, if you enclose five postage stamps with your address. It contains what you require. A new edition is in the press.

CHICKENS DROOPING SUDDENLY (*A Young Farmer*).—If your chickens were not peeped in the yard and rick-yard, we should say the complaint originated from bad flooring, but the earth is the best of floorings. The swollen legs and other symptoms arise, no doubt, from cramp, but where does the cramp come from? Your description does not tell us, nor can we help ourselves. Poisons would have the same effect. We are not friendly to the rubbish that is given to poultry under the name of small wheat, chickens' meat, &c. That which we have seen is made up chiefly of dirt. House scraps are good if any nourishing particles are allowed to remain in them, and we are thus particular because the bill of fare is not a tempting one. It does not speak of good food, and not only chickens cannot thrive without it, but the lack of it induces them to search for and eat all sorts of substitutes; many of these are, no doubt, instrumental in causing the prevalence of such complaints as you name. Having to guess at that which causes the evil, we have to suggest something that will remove it. When chickens have a rick-yard to live in they have many helps to health, but few to food. We advise you, then, to feed them more liberally than you have done. Let them have ourd, some chopped egg, and bread and milk frequently, till they are three weeks old. If they have no access to green food, let them have heavy sods of growing grass. Discard the small wheat, except to throw a handful down to amuse them now and then. Feed twice a day with good barley or oatmeal, slacked with milk, if possible. In the middle of the day give some whole corn; but chickens must not be left to themselves at the early ages you mention. This, we believe, will prevent all maladies.

FOREIGN FOWLS (*Ryhope*).—The Guildres and Bredas are very useful fowls in their way, but are not destined to a great popularity in this country. As soon as we have time we will give the principal points of all the French breeds. Those called Bredas now were well known in England, and imported from Holland thirty years ago as "crow fowls." The Guildres is only the same fowl of a different colour.

CIDER (*An Old Subscriber*)—No sugar is added to the expressed juice of the Apples by the cider manufacturers in Devon or Somerset, yet their cider keeps well.

POULTRY MARKET.—JULY 15.

WHEN melting heat and scorching sun come on dead poultry, only that which is killed carefully, with strict knowledge and observance of all that is necessary for its arrival in a proper state, will enable one to realize the prices that are made by fresh parcels. It is when the careless sender finds his goods condemned by the clerk of the market, that the careful sender finds he reaps the reward of his painstaking and of his knowledge.

	s	d.	s	d.		s.	d.	s.	d.
Large Fowls.....	3	6	4	0	Pheasants	0	0	0	0
Smaller do.	2	6	3	0	Partridges	0	0	0	0
Chickens	2	0	2	3	Guinea Fowls	0	0	0	0
Goalsa.....	5	0	6	0	Hares.....	0	0	0	0
Ducklings.....	2	0	2	6	Rabbits.....	1	5	1	6
Pigeons	0	9	0	10	Wild do.....	0	8	0	9

WEEKLY CALENDAR.

Day of Month	Day of Week.	JULY 23—29, 1868.			Average Temperature near London.			Rain in last 41 years.		Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year	
		Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	h.							
23	Th	Fontefract Flower Show. Exhibition of (Staffordshire Horticultural Society.			74.0	51.6	62.8	20	12	af	4	59	af	7	49	af	8	0	af	10	6	12	206
24	F				71.1	51.9	62.5	14	13	4	57	7	7	10	27	10	5	6	13	6	13	206	
25	S	Royal Horticultural Society, Promenade.			73.8	49.1	62.5	12	15	4	56	7	22	11	51	10	6	6	14	6	14	207	
26	SUN	7 SUNDAY AFTER TRINITY.			73.9	50.2	62.1	2)	16	4	54	7	after.	21	11	)	6	14	6	14	208	
27	M				71.8	5.9	62.4	18	18	4	53	7	45	11	53	11	8	6	18	6	18	209	
28	Tu	Buckingham Horticultural Show.			76.3	51.0	63.7	20	19	4	51	7	52	2	morning.	9	6	12	6	12	210		
29	W	Loughborough Horticultural Show.			76.0	50.4	63.2	18	21	4	50	7	55	3	22	0	10	6	11	6	11	211	

From observations taken near London during the last forty-one years, the average day temperature of the week is 74.2°; and its night temperature 50.7°. The greatest heat was 92°, on the 25th, 1841; and the lowest cold 32°, on the 23rd, 1863. The greatest fall of rain was 1.89 inch.

THE VERBENA, SPECIES VERSUS VARIETIES.



ELDOM is it that the points aimed at by the florist and flower gardener are alike, more often they run in direct opposition. The florist tries all he can to obtain a flower so constructed as to comply as nearly as possible with an ideal standard which he has set up, regardless of the number of flowers or the habit of the plant. On the other hand, the flower gardener wants a plant of good habit that will supply him with the greatest number

of flowers in close succession for the longest possible time. Sometimes an attempt is made to unite these two qualities in one, but it is not often successful; either the one or other feature is regarded as the more important, and it rarely happens that a plant producing flowers of the most approved colour or shape furnishes these flowers in such numbers as other plants of a kindred kind less improved by hybridisation, or any other mode adopted for the purpose; and much as such improvements have done for us in the way of furnishing additional colours in plants that in a natural state presented only one hue, there are, nevertheless, instances in which the tints of the original cannot be surpassed for brilliancy.

I may ask if the best scarlet Verbena known is any advance on the original imported one *V. melindres*? Certainly in point of habit and constitution many are in the rear of it; and as these notes are mostly directed to the culture of this plant, its rise and uses in the flower garden, and, shall we say, its decline? perhaps it may give offence to some of its best friends to say this, but it certainly held a higher position in the flower garden ten or fifteen years ago than it does now. If this is not a decline of popularity it is a proof that other plants have eclipsed it, which is about the same thing: and as there is a feeling setting in to disregard what florists call "quality" in many of the occupants of the flower garden, we may yet hope to see the hitherto disregarded qualification of constitution more attended to than form in the Verbena, and in so doing we may obtain plants capable of withstanding the attacks of mildew and other enemies which mar the appearance of many of the best beds of Verbenas. In quest of this we must go back to some of the original species of this genus, and perhaps we may find some of them even in their normal state far from despicable objects; in fact, it is a matter of doubt if some of them do not excel their progeny in many of the points which are now of importance.

Of the earlier species or varieties of Verbena my recollection of *Verbena venosa* is the oldest. This was followed by *V. pulchella*, and subsequently by *V. melindres*; the last-named, I think, in 1829, although it might be known elsewhere before that time. About half a dozen years afterwards a pink one presented itself under the name of *V. incisa*, which was speedily followed by a white one of strong vigorous habit, called *teucroides*, contemporary with which was a sort of annual one called *V. Aubletia*, also of a loose oarsh habit. Verbenas began to multiply about 1838 or

1839, a deep rose-coloured kind called *Tweediana* being amongst the first that I can call to mind, and some little surprise was felt in the floral world by a yellow one being announced; unfortunately, however, it proved to be only a dirty white. This was a time when the Verbena as a flower-garden plant was in about its greatest popularity, which might be said to be from 1840 to 1855. After the latter date the varied forms of the *Pelargonium* began successfully to compete with the plant, until in most places they have exceeded it. This, however, would not have been the case had the class of Verbenas of the present day been as vigorous in constitution as those in use twenty years ago, or the seasons less favourable to their growth now than they were then. One or other of these causes has lessened the services of the Verbena as an ornament in the parterre, and it is not likely to regain its place unless a class of plants adapted to the requirements of the times be forthcoming, and to accomplish this the standard of the florist will, I think, have to be disregarded, and quantity not quality of the flowers be the order of the day, coupled with the improved constitution of the plant.

There are a few varieties which, I believe, have not gone out of fashion yet—viz, Emma, St. Margaret, *Atror-sanguinea*, and Robinson's Defiance, with some others, and, with the exception of Purple King, I am not aware of any in general use at the present day that have continued so long in public estimation; but I expect that even where they are retained (if they really are so), they no longer exhibit the long-continued floral beauty they did at or before the time of the building of the first Crystal Palace. I am not sure that the same remark holds good with respect to all Verbenas, and it is with a view to call attention to those which really still continue to do well with us that I now write. As it is manifest that the better varieties, as they may be called, are more prone to succumb to the evils by which they are surrounded—insects, mildew, lack of vigour, and the like, a return to kinds that have done duty something like half a century with a character less sullied by these faults, must have an important claim on our attention, and even if these varieties, or rather species, possess not the required form of the florists' standard, they may approach much nearer to it than the small and insignificant bloom of *Tagetes pumila* does to that of the best variety of French Marigold, and in point of colour they may rival the best results of the cross-breeder's skill.

In urging the claims of distinct species on the gardening public, it will be seen that much variety cannot well be attained; but possibly something may be done by going back to them as direct parents for breeding from. The two species I here urge more especially on the flower-gardening world are *Verbena venosa* and *V. pulchella*, the two very distinct, and both deserving more attention than they receive. The claim of the first-named was many years ago urged strongly by the late Mr. Beaton for the formation of shot-silk beds, and I believe Mr. Thomson, of Archerfield, uses it extensively in other ways. Its hardihood and other qualities entitle it to a more conspicuous place than it often occupies. *Pulchella*, although less grown, perhaps,

is still better adapted for many of the requirements of the present day, as nothing makes a more compact carpet than this, and its colour is distinct from that of anything else, although I do not assert it to be a good blue. For many years we have grown this *Verbena* here more extensively than any other, and I see no reason to discontinue its use; on the contrary, its utility is as apparent this dry summer as before in wet ones, and I expect when the failures of what are called the better sorts shall be fully known, this old, much-despised species will again rise into favour.

In urging the claims of these two *Verbenas* on the attention of the great bedding-out world, I by no means assert that they are fitted for all requirements, as they do not so conveniently adapt themselves to a narrow thin line as a *Pelargonium*, *Calceolaria*, or the *Perilla*; but when a great breadth is wanted nothing can be more suitable. *V. pulchella* I very often work into a band of 2 feet wide or more, and it seems to answer admirably. *Pulchella* almost deserves still more space, or to make a bed of itself or a mixed bed; in the latter case, if it should be deemed advisable to plant it along with a *Pelargonium*, choose the most robust-growing one, and let the *Pelargonium* plant be good, so as to have a start of the *Verbena*, otherwise it is liable to outgrow the *Pelargonium*, as it is a fast and strong grower, especially if the plants be obtained by the means I usually adopt—that is, from seed; those propagated by cuttings are less robust.

Although hardy, or nearly so, *Verbena venosa* is liable to be lost when left in cold, wet, clayey soils; so that it is better to raise a few plants every year, and for that purpose sowing seed is the most easy way, and when it is sown early in spring, say in the beginning or middle of February, the plants have time to become large enough to plant-out by the usual bedding-out time. Some I raised in this way in the present season were not more than two or three days at most in following the old plants that had stood two or three years in the same situation. Seedling plants are also more vigorous than those from cuttings, and I think flower quite as well. *Verbena pulchella* must be propagated from cuttings, which it furnishes most abundantly, and each cutting becomes a plant with very little trouble; besides which the plant often stands the winter, and supplies cuttings in any quantity in spring, but it is seldom that a whole bed escapes the severity of the season: therefore it is generally better to plant over again than trust to plants that have stood the winter, for I have seen them go off in April, after having supplied abundance of cuttings a month or two before.

Like all the family, the species *Verbena pulchella* has sported a little from seed, and soon after its introduction improved varieties of it were offered, but the distinction between them and the parent did not seem sufficient to entitle them to be regarded as improvements, and owing to the partial decline of the kind in favour, in consequence of its not easily bending to the form prescribed by the florist, but little has been done with it. A striped variety, however, is deservedly esteemed, and a white one was at one time in vogue, but it was only a poor white, and quickly fell into disrepute. The so-called yellow *Verbena* was also of this section, but not being what it was called, it was discarded quickly. Improvements, no doubt, may be made, and possibly hybrids may be obtained; but Mr. Wills, who furnished hybrids between *V. venosa* and the other varieties in general use in the flower garden, was not so successful as in some other things which he accomplished. His Velvet Cushion breed seemed not to prosper well in many situations, and in some presented a very sorry appearance, so that I believe the class is almost discarded. Perhaps, however, a better constitution might be thrown into such a cross, and a useful class of bedding plants secured.

Since the advent of *V. melindrea* the plant has undergone many changes, and the modes of preparing it for the flower garden have altered considerably; at one time autumn-struck cuttings were those only thought worth planting-out, afterwards they were considered not so good as spring cuttings. The preservation of the plant in winter has also undergone considerable change. I once knew a gentleman so enamoured with some beds of *Verbenas* on his lawn that he had glass frames made in the autumn to fit them, in order to protect the plants during the winter, but it is rare that a bed that has done duty well one season does the same again; either the plants exhaust the soil, and they cease blooming, or, what amounts to the same thing, mildew sets in. A dusting of soot and sulphur, and a liberal application of liquid manure, may partially arrest this plague, but the fresh vigour of a plant

approaching maturity cannot easily be given to one past that point.

On this subject, however, enough has been written by others, and as I am advocating the claims of independent species of *Verbena* rather than writing on the culture of varieties, I need only conclude with again urging on those who have not grown the two species named to give these a fair trial, and I have no doubt but they will do so again. Since the ideal forms which the florist insists on so often result in a partial, if not total, failure in obtaining blooms as well, a more certain way seems desirable. The botanist sees as much beauty in the normal condition of a flower as when it has undergone transformation at the hands of the cultivator, and his views deserve attention as well as those of the critic of mere colour and form, more especially as the former generally issues a healthier subject and a more prolonged period of flowering. In the hope of these results being realized, I trust another season will witness my two favourite *Verbenas*, *pulchella* and *venosa*, more extensively cultivated than they have hitherto been, and if other species occur presenting us with the same hardy constitution as the above, in addition to a different colour, I, for one, would regard such an introduction as a great boon. A *Verbena pulchella* with a scarlet flower would be perfection itself.—J. Rowson.

M. SOUCHET'S GLADIOLUSES.

SINCE I last wrote on this flower, I have had the opportunity of seeing the famous collection of M. Souchet, at Fontainebleau, though, of course, not in bloom. I shall have something to say of them by-and-by, but wish to take the earliest opportunity of making known his request, that any real lover of the flower who may happen to be in Paris from the 10th of August to the end of the month, would favour him with a visit. This is no commercial matter with him, as he does not sell any of his bulbs, except to four Parisian Houses, and they take all he has to dispose of, so that he would be none the better if all the *Gladiolus*-growers in the kingdom visited him. The invitation is given from the love he bears to the flower, and from the thorough amiability of his kindly nature. He wished me to give this invitation as freely as possible, and I can assure any one who may accept it, that they will receive from both Monsieur and Madame Souchet the most open-handed hospitality. One only regrets that owing to bodily infirmity, it lies not within our power to return it, as he is unable and unwilling to leave his home even for one day.—D., Deal.

NOTES ON STRAWBERRIES.

ANOTHER Strawberry season is over with us, and I may also say a peculiar one. Owing to the long-continued dry scorching weather a just estimate could not be arrived at of new or unproved varieties. Where copious waterings have not been resorted to, the fruit has been very small and the flavour indifferant; but where the plants were well supplied with water, and the beds mulched with short frame dung or litter immediately afterwards, the fruit swelled to a very large size, even where the crop was abundant and no thinning of the fruit was resorted to; and what is noteworthy in exceptionally dry seasons like the present, all the varieties ripen nearly at the same time.

In August last year I planted out young runners of the following varieties in order more fully to prove them, and also to note the date of ripening—viz., Sir J. Paxton, President, Eclipse, Premier, Sir Harry, Sir C. Napier, Duc de Malakoff, British Queen, La Constante, and Dr. Hogg. Out of that lot President, Sir J. Paxton, and Eclipse were the first to change colour; Sir J. Paxton and La Constante continued longest in bearing. I selected these ten varieties from my own observations made under various circumstances last year. I have grown Eclipse two seasons, and Duc de Malakoff four, but I will omit both next season. Eclipse is an abundant cropper, but is wanting in flavour and appearance. Duc de Malakoff has a fruit of the largest size, but it is soft and seems to spoil as soon as it is ripe.

To the eight varieties which I have retained I will add for next season Lucas, Mr. Radclyffe, Admiral Dundas, and Frogmore Late Pine. The last named seems to be a very fine Strawberry; it is of the largest size, and a most excellent dish of it was exhibited at the Royal Botanic Society's July Show. At that date (July 1st), all the best Strawberries were picked here. I picked the best dish of Dr. Hogg on the 17th of June, and

the best dish of President and Sir J. Paxton at the same time. The plants were grown under exactly the same circumstances.

As I detailed fully my method of culture in the Number for July 18th, 1867, I will only add, that I have found Black Prince to be the best for early forcing up to the 1st of February, at which date I introduce Sir J. Paxton, followed by any of the other varieties which I have named, and this season I had not a single "blind" plant. I commence to pick from the orchard house and ground vineries three weeks before any berries are gathered out of doors.

The following varieties are well adapted for orchard-house cultivation, and ripened their fruit in the order in which they are named—viz., First, Sir J. Paxton, President, one of the best for pot culture in the orchard house; Premier, Sir Harry, British Queen, La Constante, and Dr. Hogg. The last named was the last to ripen, but La Constante continued longest. I gathered a dish of that variety after all the others were done. I would again recommend ground vineries for obtaining a few dishes of early fruit. They are of the simplest construction and any carpenter could make them from a pattern, or from information which has already appeared in your columns.—J. DOUGLAS.

APRICOTS.

July 16th.—For the last fortnight we have been quite satiated with Apricots, the crop being so abundant, and the hot weather ripening them so rapidly, for even the Peach Apricot is now ripe. Besides my old trees, which have been crowded with fruit, I have had some twenty or thirty seedling trees five or six years old full of fruit. As many of these are from early kinds much interest was felt in them; but although no two are alike, and all have given rich and juicy fruit, no very early sort, except, perhaps, one, has proved superior to such sorts as the Early Moorpark and the Oullins Early Peach. It seems, indeed, as if the very early Apricots produce from seed sorts of a contrary nature, for the Sardinian, the earliest of all, the Musch Musch, nearly as early and of the same race, having nearly white flesh, and the St. Ambroise, have all produced seedlings giving fruit inclined to ripen later than any other kinds. In particular, a seedling from the Sardinian has fruit four times the size of those given by the parent tree, of the same cream colour with white flesh, and, stranger than all, ripening from four to five weeks later than its parent.

Another variation from the usual routine of nice juicy Apricots, which all the seedlings seem to give, is one about the size of a medium-sized Orleans Plum—a lump of sugar and delicious mouthful, with a slight pine-apple flavour. It will, I think, require long perseverance to raise valuable kinds of Apricots from seed and a sort of breeding in continuation, by which I mean taking a variety and sowing the stones from generation to generation till some kind distinct in its character is produced; which I may exemplify by stating that I shall continue the race of my late seedling Sardinian Apricot, and when the trees raised from it produce fruit I will sow their stones, and so on from each generation. This I am inclined to call breeding in continuation (perhaps a better term may be found); and from an inclination I have seen in varieties of fruit raised from seed to revert partially to the characters of the first parent, I have some hope of raising a very distinct kind of Apricot with large fruit ripening very early in the season, and in other instances producing a very late variety. There is no hope of raising better midseason varieties than the Peach and Moorpark, because they are perfect.

I may, perhaps, be excused for stating how to eat these sorts in perfection. When gathered from trees under glass they should be suffered to hang on the tree till the skin is slightly pucker and the fruit drooping from the stalk—if then gathered, and, to quote old Izaak Walton, "handled gently as if you loved" it, a Peach Apricot is the most perfect of all fruits, so rich, so melting, and so juicy.

In addition to the large crop of Apricots from trees in pots, I have had such an abundant one from two trees planted out in the hard unstarved border of one of my orchard houses, that it has led me into a little speculation of what can be done in Apricot culture. One of these trees is the Royal Apricot, a half-standard, the other the Peach Apricot, with a stem a little under 6 feet in height. The former ripened its fruit about the 10th inst., the latter is just now ripening its crop of fine fruit. The first produced a peck, the latter will give a peck and a quarter or thereabouts. A house of the size in which these trees are growing, 160 feet by 24, will hold three rows of trees—one row of standards in the centre, and two rows of half-

standards in the side borders at 5 feet apart—a total of sixty trees. The heads of such trees will require careful summer-pinning, or their branches will become naked at foot and apt to be broken down with the weight of fruit. The trees thus managed will have sufficient room at 5 feet apart for eight or ten years, till they are capable of bearing from three to five pecks each. Every alternate tree may then be removed, and the others still under summer-pinning will bear from one to two bushels per tree. I should add that till the standard trees come into full bearing large quantities of fruit may be grown on trees in pots placed among the standards.

A house for Apricot culture on standards and half-standards planted in the borders should be 6 feet high at the sides and 15 feet high in the centre. If any of your readers would like to see the commencement of a method of Apricot culture likely to be very profitable they are most welcome.—T. RIVERS.

THE ROYAL HORTICULTURAL SOCIETY'S LEICESTER SHOW.—JULY 16TH TO 22ND.

THE great provincial Show of this Society, held in conjunction with that of the Royal Agricultural Society of England, had this year for its scene the ancient and busy town of Leicester. On the south side of the town a space of five acres adjoining the Agricultural showyard was set apart for the Horticultural Show, and on it five immense tents served to contain one of the most extensive displays of flowers and fruit ever witnessed in this country; for although some of the subjects of exhibition were not so fine as we have seen them before, it must be remembered that the extreme heat of the season has necessarily shortened the duration, and detracted much from the freshness of floral beauty. To compensate for this drawback, however, there were magnificent fine-foliaged plants in abundance, and multitudes of graceful Ferns, most refreshing to the eye, wearied by the constant glare of a burning sun. Leaving, however, the details of exhibition to the subjoined full reports, and in the absence of precise information as to the number of visitors which thronged the Show in the latter days, we can only state our belief that the great Show which has just closed will prove one of the greatest successes financially, as it was horticulturally, that the Society has yet obtained, and that it will demonstrate that the holding of provincial exhibitions from year to year is one of the best modes of increasing the love of horticulture, and extending the Society's influence and benefits.

STOVE, GREENHOUSE, AND FINE-FOLIAGED PLANTS.—Many of the fine-flowering specimens usually exhibited earlier in the summer are now out of bloom, and those not so could not, after such a long continuance of hot dry weather, be expected to possess that freshness which under other circumstances they would have done; still these, with some reinforcements from later-flowering plants, made an excellent display, which was all the more effective from their being for the most part grouped with fine-foliaged plants.

The two collections which competed for the principal prize in this division—namely, the Royal Horticultural Society's special prize of £25 for the best and most effective group of ten fine-foliaged and ten flowering plants, were arranged in the centre of the large round tent. They came from Mr. Baines, gardener to H. Micholls, Esq., Bowdon, Cheshire, and Mr. Williams, of Holloway, the former being the prize-taker. Of flowering plants Mr. Baines had very good examples of *Genetyllis tulipifera*, *Ixora coccinea*, *Phenacoma prolifera* Barnesii, *Apheloxa*, a *Dipladenia* and *Allamanda*, and *Erica tricolor* Hofordii, *Candolleana*, and *Fairriana*, all three in very good bloom, but exhibiting much tying. His fine-foliaged plants consisted of handsome specimens of *Gleichenia flabellata*, *Rhopala corcoradense*, and *Croton angustifolium*, a tablot of *Sarracenia purpurea*, probably unequalled in this country, and certainly such as only Mr. Baines has exhibited, *Sarracenia flava*, *Verschaffeltia splendens*, one of the noblest of all the Palms, *Dicksonia antarctica*, with a thick trunk and pendulous head, *Cordyline indivisa*, *Dasylium acrotrichum*, and *Theophrasta imperialis*. The collection of Mr. Williams, which was awarded a second prize, contained many remarkably fine specimens, and ran that of Mr. Baines closely. In it were *Allamanda Anblotia* with large flowers of a more intense yellow than those of either *A. Schottii* or *grandiflora*, the large-flowered *Allamanda Hendersoni*, *Dipladenia crassinoda*, *Kallosanthes Phoenix*, a showy mass of rosy scarlet bloom; a finely bloomed plant of the white-flowered *Erica ciliata*, *Phenacoma prolifera*, *Statice imbricata*, *Erica Cavendishii*, *Dracophyllum gracile*, dingy, like all the other specimens of the same plant which were exhibited. The fine-foliaged plants in this collection consisted of noble specimens of *Dracena indivisa*, *Caladium Lewii* with its metallic-looking leaves beautifully veined with white, the variegated New Zealand Flax, *Dasylium plumosum*, the leaves of which are shred at their extremities into a sort of small plume; *Croton angustifolium* and variegatum, *Dion edule*, *Pandanus utilis*, and the variegated *Aloc-*

leaved *Yucca*, the remaining plant to complete the ten being *Lantana borbonica*.

A prize of £10 was also offered by the Duke of Rutland for the best twenty stove and greenhouse plants grouped for effect, and to this a second prize of £5 was taken by H. C. Bingham, Esq., of Wartonby Hall. The former was taken by Mr. Williams, who had a remarkably fine *Cyathus princeps*, *Thrinax elegans*, *Allamanda Schottii*, and *Hendersoni*, which are very much alike, the large showy-flowered *Plomera elegans*, *Dipladenia amabilis* and *Houtteana* in fine bloom, *Hoya bella*, several finely-bloomed Heaths, especially *Erica Parmentieri rosea*, *Jacksoni*, and *Bandoni*, *Phenacoma prolifera*, *Aphelaxes*, *Ixora*, *Kalosanthes coccinea superba*, and *Imantophyllum minimum*. T. Charlesworth, Esq., of West Lodge, Leicester, who received a third prize, had *Alocasia metallica* in beautiful condition, several fine *Caladiums*, a fine *Cissus discolor*, *Anthurium magnificum*, *Gymnostachyum Verschaffeltii*, *Calonyction sanguineum*, *Plumbago capensis*, and *Clerodendron fallax*.

The next class for stove and greenhouse plants was one in which three prizes were offered by W. Perry Herrick, Esq., of Beaumont, Leicester, for the best six, not less than three to be in bloom. Mr. J. Bolton, gardener to W. W. Worswick, Esq., Birstall Hall, Leicester, was first with *Clerodendron fallax*, of compact growth and in splendid bloom, an excellent *Allamanda Schottii*, *Rhynchospermum jasmimoides*, fine specimens of *Caladium Bellmeyei* and *Cissus discolor*, and *Selaginella coesia arborea* standing 3½ feet high. T. Charlesworth, Esq., who was second, had *Clerodendron Thomsonae Balfourii*, which though not large was in good bloom, very good examples of *Plumbago capensis*, *Knarharis amazonica*, and *Caladiums*, of which *C. argyrites* was remarkably fine. Mr. Peachey, gardener to R. Hole, Esq., Quorndon Lodge, Loughborough, was third with good specimens of *Cissus discolor* and *Phlebodium aureum*.

The prize offered by J. Dove Harris, Esq., M.P., for the best collection of variegated and fine-foliaged plants was taken by Mr. J. Bolton, with well-grown plants of *Maranta roseo-picta* and *zebrina*, *Blechnum corcovadense*, *Adiantum tenerum*, *Alocasia metallica*, and others.

First and second prizes were likewise offered by A. Turner, Esq., of Bow Bridge, Leicester, for the best twelve stove and greenhouse plants, the competition to be confined to the county of Leicester. The first prize went to Mr. Peachey, gardener to R. Hole, Esq., for a collection in which there were fine specimens of *Croton pictum*, *Pandanus elegantissimus*, *Gymnogramma chrysophylla*, between 3½ and 4 feet in diameter: *Cycas revoluta*, *Croton angustifolium*, not large but in fine condition; a charming plant of *Hibiscus Cooperi* with a few flowers, *Dipladenia amabilis*, *Pittouia argyrea*, and *Cyanophyllum magnificum* with leaves some 16 inches broad and 2 feet in length and in beautiful condition, though the plant itself was not remarkable for size. The second prize went to Mr. Burnett, Hinchley, for plants which though not large were very well grown. Among them were *Statice profusa* and *Vincas* in excellent bloom, *Alocasias*, *Marantas*, *Caladium Wightii*, and *Dieffenbachia maculata*. Prizes were also offered by T. Goadby, Esq., Bosworth House, Hinchley, for the best collection from the county of Leicester, and the first prize was taken by T. Charlesworth, Esq., with a collection consisting of *Ferns*, *Marantas*, *Sansevieria javanica*, *Aspidistra lorida variegata*, and other fine-foliaged plants, together with *Lilium lancifolium* and *Gloxinias*. No second prize was awarded.

The prize for the best specimen greenhouse plant, offered by G. H. Ellis, Esq., was awarded to Mr. Moore, gardener to E. Corah, Esq., of Leicester, for a plant of *Lilium lancifolium roseum*, which, though well grown and furnished with numerous buds, had only five expanded blooms.

We now come to the general prize list, and in the class for the best nine stove and greenhouse plants Mr. Williams took the first place with fine plants of *Allamanda Schottii* and *grandiflora*, *Kalosanthes Phoenix*, *Aphelaxis macrantha purpurea*, and *Phenacoma prolifera*, *Erica amala*, *Erica cormithoides coronata*, a showy continuous-flowering kind, and other plants. The second-prize lot contained a fine specimen *Lantana*, *Pentas carnea*, and a small plant of *Clerodendron fallax*, with three splendid spikes of bloom.

For the best six the first prize was awarded to Mr. J. Bolton, gardener to W. Worswick, Esq., who had a well-bloomed *Allamanda nerifolia*, *Plumbago capensis*, *Clerodendron fallax* with six splendid spikes, *Vinca oculata* in fine bloom, and *Vinca rosea*. Mr. T. Lambert, Bramstow House, Leicester, was second with, among others, a fine plant of *Swainsonia Osborni*, studded with its pretty rosy purple flowers, *Plumbago capensis* very good, and *Lilium auratum* with a dozen fine flowers. Mr. Burnett was third.

In the amateurs' class for the best nine fine-foliaged plants, Mr. Cruickshank, gardener to Lord Belper, carried off the first prize with a fine collection, in which the most noticeable plants were *Cycas revoluta* with a thick trunk, *Pandanus elegantissimus*, *Dracena ferrea variegata*, and *Alsophila excelsa*. The second-prize collection came from Mr. Bolton, and contained a *Cyanophyllum magnificum* with very fine leaves, *Maranta zebrina*, a handsome specimen of *Seuferthia elegans*, a fruiting plant of the variegated Pine Apple, *Colens Verschaffeltii*, and *Pandanus*. Mr. Baines, gardener to H. Micholls, Esq., was third with a collection in which the most conspicuous plants were *Alocasia metallica* and *macrorhiza variegata*, *Croton variegatum* and *pictum*, and *Sarracenia flava*. E. J. Lowe, Esq., of Highfield

House, Nottingham, exhibited in the same class a fine plant of *Livistonia Jenkinsoni*, *Sansevieria javanica*, *Anthurium magnificum*, and *Cyperus alternifolius variegatus*. Mr. Bevan, gardener to E. F. Dawson, Esq., had likewise several good specimens.

In the corresponding class for nurserymen, Mr. Williams was first with a fine *Cycas revoluta*, a splendid specimen of *Lantana borbonica*, a magnificent *Croton variegatum*, *Dracena umbraclifera*, *Dicksonia antarctica*, *Variegated Aloe-leaved Yucca*, and *Croton pictum*.

In the amateurs' class for six fine-foliaged plants, Mr. McLean, Donnington Park, Derby, sent fine specimens of *Cordylus indivisa*, *Pandanus elegantissimus*, and *Theophrasta imperialis*. Mr. Bevan, gardener to E. F. Dawson, Esq., had a collection in which there was a fine specimen of the beautifully variegated *Sanchezia nobilis*, and good healthy plants of *Lantana borbonica*, *Cycas revoluta*, *Lomaria gibba*, *Dicksonia antarctica* and *Blechnum corcovadense*. From Mr. Bolton, who was third, came a large and excellent specimen of *Colens Verschaffeltii* and *Pothos argyrea*. F. J. Lowe, Esq., was fourth, with a collection in which the most conspicuous plants were *Pittouia argyrea* and *Aspidistra lurida variegata*. Mr. Baines had a variegated *Yucca* and an *Ananassa*; his other subjects, quite different from the ordinary run of those shown as fine-foliaged plants, being *Dioscorea muscipula*, *Sarracenia flava* and *variolaris*, and a fine potful of *Anacochilus intermedia*.

CALADIUMS.—For the best twelve of these, including *Alocasia* and *Colocasia*, Mr. Cruickshank, gardener to Lord Belper, Kingston Hall, took the special prize offered by the county of Nottingham. His collection contained a large *Alocasia zebrina*, a splendid plant of *Alocasia macrorhiza*, also one of its variegated form in beautiful condition, a fine *Caladium esculentum*, a large plant of *C. bicolor splendens*, *C. Belleymei*, and *C. Chantini*. Mr. Lowe had a collection, in which the most noteworthy were *Caladium Chantini*, *pictum*, *Belleymei*, *bicolor*, and *Alocasia zebrina*.

DRACENAS.—Of these Mr. Williams exhibited *D. atrovaginata*, *D. Cooperi*, a stately plant of *D. indivisa*, *D. lineata* also very fine, *D. Ehrenbergii*, and *Cordylus indivisa*. For these a first prize was awarded.

PALMS.—These were not numerously shown, but included some fine specimens. Mr. J. McLean, Donnington Park, Derby, was first with a fine *Lantana borbonica*, *Stevensonia grandiflora*, *Seuferthia elegans*, and *Chamaerops humilis*. Mr. Williams was second with *Chamaerops Fortunei*, a very fine *Livistonia Jenkinsoni*, and good specimens of *Corypha australis* and *Thrinax elegans*. Mr. Peachey was third.

ORCHIDS.—For these there were two special prizes offered by H. L. Powys Keck, Esq., of Stroughton Grange, for the best collections of twelve. The first was awarded to Mr. Archer for a collection consisting of a large specimen of *Vanda teres*, a fine *Cattleya Leopoldi*, a large *Aërides odoratum* with ten fine racemes, *Aërides affine* with nine branching racemes at least 20 inches long, giving the plant some resemblance to a rosy cascade, *Aërides affine rubrum*, *Aërides Lurypentæ*, a magnificent *Saccolabium guttatum* with ten spikes, a mass of *Cypripedium barbatum* with nearly fifty flowers, the beautiful *Odontoglossum Pescatorei*, *Cattleya superba*, and *Dendrobium chrysanthum*. The second prize went to Mr. Williams, who had *Anguloa Ruckeri* with six blooms, *Dendrobium filiforme* with numerous pretty pale yellow graceful pendulous racemes, the new yellow and lemon-colored *Dendrobium Bensonianæ*, *Miltouia spectabilis* with about thirty blooms, and a very fine *Cypripedium superbiens*. Among the other plants in this collection were *Aërides quinquenervium*, *Cattleya lubiata pallida*, a very fine variety, *Cypripedium barbatum superbum* with twenty-nine blooms, *Vanda anavis*, and the pretty small-flowered *Phalaenopsis rosea*.

In the amateurs' general class for six Orchids Mr. Baines was first with among others *Cypripedium Hookeri* and *Oncidium flexuosum* with several small spikes, which, however, were collectively effective. In the corresponding class for nurserymen Mr. Williams had a similar award for a collection consisting of *Vandas*, *Anguloa Ruckeri*, *Odontoglossum cordatum* with three fine spikes, *O. Schlieperianum* with three spikes of pale yellow flowers, and *Cypripedium superbiens* with a dozen blooms.

FERNS.—The exhibitions of these were very numerous, as well as the forms shown, and many of the plants were remarkably fine. The special prize given by L. Turner, Esq., for the best six greenhouse Ferns was taken by E. J. Lowe, Esq., of Highfield House, Notts, with fine examples of *Lomaria gibba*, *Neottopteris australis*, *Pteris Kingiana*, and *Asplenium axillare*, *Fabianum*, and *lucidum*, the last large and very beautiful. A second prize, offered by J. Baines, Esq., went to Mr. Burnett, who had, among others, a fine plant of *Pteris scaberula*.

In the nurserymen's class for the best nine, the first prize was awarded to Mr. Williams, for fine plants of *Cyathus dealbata*, *Gleichenia dichotoma*, *Platyterium grande*, *Cibotium regale*, *Dicksonia squarrosa*, *Lomaria gibba*, *Marattia elegans*, and *Gymnogramma chrysophylla*. In the amateurs' class for the same number, Mr. Bolton, gardener to W. Worswick, Esq., Birstall Hall, had a similar prize for a very excellent collection, conspicuous in which was *Adiantum cuneatum*, 3½ feet in diameter. *Blechnum corcovadense* was also very large, having in fact a trunk. Fine plants of *Phlebodium aureum*, *Stenochloa scandens*, and *Adiantum trapeziforme* were also shown in this collection. Mr. Baines, who was second, had also some fine plants, especially *Davallia bullata*, and *Asplenium farniculacum*. Mr. Lowe was third, and Mr. Charlesworth fourth.

The best pair of Tree Ferns were *Dicksonia antarctica*, with thick black trunks about 8 feet high. Mr. J. McLennan was second with a pair of the same Fern, standing between 6 and 7 feet high up to the branching of the head.

The cup offered by the Mayor and town of Nottingham for the best thirty-six most distinct varieties of British Ferns was taken by E. J. Lowe, Esq., with a collection in which the following were conspicuous—viz., *Athyrium Filix-femina longirigida*, *sagittatum*, *plumosum*, *Monkmani* most beautiful, being so graceful [and soft-looking, polymorphous; *Osmunda regalis cristata*; *Lastrea pseudo-mas cristata*, *cristata angustata*, and *nitida*; *Adiantum capillus-Veneris* Kalon, *Polystichum angulare Wakeleyanum*, *Scolopendrium vulgare*, *digitatum* Lowei, *S. vulgare deprane viviparum*, and *Asplenium adiantum nigrum grandiceps*. Mr. Mapplebeck, of Woodfield, Moseley, Birmingham, also sent a fine collection, in which *Lastrea Filix-mas cristata angustata* and *floccosa*, and *Scolopendrium vulgare crispum* were very beautiful. He had also fine examples of *Athyrium Filix-femina coronatum* and *Fieldian*, as well as several others.

A prize, offered by E. J. Lowe, Esq., for the twelve most distinct abnormal *Scolopendriums*, was taken by himself with an interesting collection; and the same gentleman also exhibited a numerous collection of new forms, to many of which certificates were awarded. Mr. Lowe was also first in the class for the best twelve British Ferns, with *Lastrea semula*, *L. Filix-mas Jervisii*, *L. remota*, *L. rigida*, *L. thelypteris depauperata*, a fine specimen of *L. pseudo-mas cristata*, *L. dilatata cristata*, a fine pair of *Polypodium phegopteris*, *Osmunda regalis cristata minor*, *Athyrium Filix-femina imbricata* Lowei, and *Scolopendrium vulgare flabellatum*. Mr. Mapplebeck was second with a fine collection; Mr. Staples, gardener to F. Harris, Esq., Leicester, and Mr. Earley, Digswell, being respectively third and fourth.

The special prize for the best twelve British Ferns, the exhibitor to be a resident in the county of Leicester, offered by J. Harris, Esq., was taken by Mr. Staples with neat well-grown plants.

LYCOPONS.—Of these charming examples were contributed by Mr. Bolton, gardener to W. Worawick, Esq., the kinds being *Selaginella denticulata*, *Wildenowii*, *stolonifera*, *erecta*, *erecta compacta*, and *cæsia*. Four of these had rounded heads, beautifully clothing the pans to the ground, the others being erect and placed at the back. The whole of them were very beautiful. Mr. Charlesworth, who was second, had also fine cones, 2½ feet high, of *S. denticulata*, *cæsia*, *denticulata arborea* and *formosa*, the others being caulescens and *cæsia* arborea.

HARDY ORNAMENTAL TREES AND SHRUBS.—The special prizes subscribed for these were taken by Messrs. Barron & Sons, of the Elvaston Nurseries, Borrowash; and Messrs. Harrison, of Leicester. Messrs. Barron's collection was most excellent and very interesting from its containing fine specimens of the newest Conifers, besides some of the best of the old ones, as well as new shrubs. In it were included *Eleagnus japonica striata*, the leaves centred with white and margined with green; *Coprasus Lawsoniana stricta* forming a long tapering cone; a fine variety of Golden Holly; pigmy Pines; *Retinospora pisifera* aerea, a fine golden-leaved variety; *Abies Douglasii brevifolia*, very compact; *Pinus flexilis*, grotesque in appearance; *Retinospora obtusa aurea*, prettily tipped with a golden colour, very fine; *Arthrotaxus selaginoides*, the beautiful *Retinospora selaginoides*, *Picea Nordmanniana aurea* with well-marked golden variegation; *Abies Tsugana*, a little gem; *Retinospora pisifera albo-variegata*, looking as if spashed with white, *Thujaopsis dolabrata*, and several other handsome Conifers. Mr. Barron sent in addition a very extensive collection forming a long avenue from near the entrance up to the tents. This contained many fine specimens of Conifers and other trees and shrubs, and many pretty varieties and recent introductions. A plant of *Abies excelsa* *Cambrasiliana*, a singular dwarf variety of one of the tallest of Pines, formed a fine dense mass upwards of a yard across, and such a plant could be introduced with excellent effect in a great many different situations. *Aucubas*, *Euonymuses*, *Berberises*, *Hollies*, both variegated and plain-leaved, *Barron's Golden Yew*, *Junipers*, *Retinosporas*, *Arbor-Vitæ*, *Raphiolepis ovata* and *Lignastrum coriaceum*, both remarkable for the great thickness of their leaves, were also included in this collection, as well as fine examples of *Coprasus nutkaensis*, *Picea Nordmanniana argentea*, with the foliage exhibiting a beautiful silvery tinge, and very effective; *Arthrotaxus laxifolia* and *coprasoides*, very fine; of *Araneaia imbricata*, a large and remarkably fine specimen; and *Thuja antarctica*, forming a fine close pyramid. Messrs. Harrison's collection was also good though not so numerous as the above.

MISCELLANEOUS AND NEW PLANTS.—Of new plants Messrs. Veitch, of Chelsea, exhibited a large and very fine collection, for which they took the first prize in the miscellaneous class. It included *Crotonea interruptum*, *irregularis*, *tricolor*, *maximum*, *Hillii*, and *Veitchii*; *Colens Scottii*, *Rackeri*, *Batemanni*, *Bansei*, and *Sandersii*; *Odontoglossum Kramerii*, *Thunia Bensonii*; several lovely Ferns, as *Davallia parvula*, *Leptopteris superba*, *Gymnogramma Pearcei*, and *Adiantum farleyense*; *Anthurium Scherzerianum*, the fine new *Caladium Chelsoni*, *Dracena Chelsoni*, *Ampelopsis Veitchii*, which at Chelsea proves to be a valuable hardy climber, *Alocasia Chelsoni* and *Jenningsii*, *Retinospora plumosa*, a most beautiful plant, the white-flowered *Loagelia*, *Pitcher* plants, a handsome *Acalypha tricolor*, *Dalechampia Rapaiziana rosea*, and several other plants of recent introduction. Mr. Archer, gardener to A. Turner, Esq., Leicester, had the second prize for a

remarkably fine collection, conspicuous in which were the Bird's-nest Fern, *Adiantum trapeziforme* and *formosum*, *Alocasia metallica*, *Gymnostachyum Verschaffeltii*, *Thrinax elegans* a splendid pot of *Lilium aratum* with fifteen large flowers, *Pothos argyrea*, forming an elegant cross-handled basket 3 feet in diameter in the longest direction, fine *Saccolabiums*, and *Acrides*. Mr. Williams was third with a mixed collection, and among new plants exhibited new *Coleuses*, *Taxus fastigiata variegata*, which, however, did not show much variegation, *Dalechampia Roezliana rosea*, *Croton irregularis*, *Arachnanthe moschifera*, *Trichomanes reiforme* and other new Ferns, *Coccoloba Weddelliana*, *Zamia Ghellichii*, *Anthurium Scherzerianum*, *Ananas Porteus*, *Chamaedorea Ernesti-Augusta*, which is a handsome Palm, and other plants, either rare or of recent introduction. A prize was also awarded in this class to Mr. Peachey for *Ouvirandra fenestrata*, growing in a tub, and in a class for twenty succulents Mr. Geary took a first prize for a neatly-arranged collection.

FLORISTS' FLOWERS.

In these classes devoted to florists' flowers, it must be admitted that there was a falling-off in point of quality as compared with the show at Bury in 1867; in a few, however, the contents contrasted favourably with Bury.

FUCHSIAS were much inferior to those shown by Messrs. D. T. Fish and others in 1867. Mr. J. Staples in the amateurs' classes, and Mr. J. Smith in those for nurserymen, showed creditable specimens, but decidedly inferior to those generally seen at large provincial shows. A special open prize for six Fuchsias was taken by Mr. W. Staples, gardener to F. Harris, Esq., Leicester, who had well-bloomed plants of *Souvenir de Chiswick* and *Prince of Orange*, dark kinds; *Blue Bonnet*, double dark; *Marchioness of Bath*, white corolla; and *Fair Oriana* and *Marginata*, light varieties. Mr. J. Smith, Loughborough, was second with *Reine Blanche*, *Annie*, *Rose of Castille*, and *Venus de Medici*, all light kinds; and *Grand Admiral* and *Gipsy Queen*, dark; the last a double variety. Mr. J. Burtou was third. In Class 63 for six kinds, and Class 64 for the same number shown by amateurs and nurserymen respectively, Mr. J. Staples and Mr. J. Smith were first in each instance; the former having *Roderick Dhu*, *Agamemnon*, *Souvenir de Chiswick*, and *Lady Heytesbury*, dark kinds; *Rose of Castille* and *Madame Cornet*, light varieties. The other plants in this class were somewhat poor. Mr. Smith had *Gipsy Queen*, double dark; *Catherine Hayes*, single dark; *Conspicuum*, white-corollaed; and *Rose of Castille*, *Annie*, and *Marginata*, single light varieties. In this class also the remaining plants were of hot moderate quality. With three standard Fuchsias Mr. W. Staples was also first, having plants about 8 feet in height with good symmetrical heads well furnished with bloom; the sorts, *Souvenir de Chiswick* and *Gipsy Queen* (double), both dark kinds; and *Mrs. Marshall*, light. Mr. J. Bolton was second with much inferior plants that were unnamed.

The display of large-flowering and fancy **PELARGONIUMS** was very poor, the unfavourable weather, no doubt, operating much to their disadvantage; at the same time it would be legitimate to infer from the nature of the varieties staged that the science of *Pelargonium*-growing is in its infancy in the neighbourhood of Leicester, the pots unduly large, so that flower is sacrificed to growth of foliage, and large-flowering sorts miserably poor, with two or three exceptions. Mr. J. Bolton was first with both show and fancy kinds, having better varieties of the latter—viz., *Emperor*, *Lady Craven*, *Fairy*, *Queen of the Valley*, *Roi des Fantaisies*, and *Madame Sainon Dotby*. Second, Mr. T. Lambert, with *Emperor*, *Bridesmaid*, *Arabella Goddard*, *Evening Star*, and two others unnamed.

On the other hand, the method of showing the *Zonal Pelargoniums* would compare favourably with the great London shows.

In the amateurs' classes for twelve kinds Mr. J. Lambert had excellently grown and flowered plants, rather too flat in shape, and somewhat too formally tied out. The sorts were *Provezet*, *St. Fiacre*, *Clipper*, *Excellent*, *Rose Rendatler*, *Mrs. Wm. Paul*, *Adonis*, *Virgo Marie*, *Mons. G. Nchet*, *Bel Demouio*, and *Higogate Rival*. Second, Mr. J. Bolton with capital plants of *Mrs. W. Paul*, *President Johnson*, *Helen Lindsay*, fine; *Clipper*, fine; *Adonis*, *Carise Unique*, *Tintoret*, *Madame Vaucher*, *St. Fiacre*, *Engène Mezard*, *Excellent*, and *Lady Rokeye*. Third, Mr. C. Moore. In the nurserymen's class Mr. J. Thorpe, of Littlethorpe, was first with excellent plants of *Jean Valjean*, very fine; *Tintoret* and *Excellent*, both with good heads of bloom; *Fairy Princess*, *Beauté de Suresnes*, *Mrs. W. Paul*, *Clipper*, *Gloire de Nancy* (double), excellently well done; *Adonis*, very fine; *Oriana*, and *King of Zonals*. There was no other competitor. Mr. J. Bolton was first with twelve *Nosegay* or *Hybrid Nosegay* varieties, having excellent plants of *Duchess of Sutherland*, *Lady Constance Grosvenor*, *Lord Palmerston*; *Miss Parfitt*, a very fine variety that deserves to be better known; *Merrimac*, *Prince Czartorski*, *Le Grand*, *Magenta*, *Stella*, *Waltham Seedling*, *Beaton's Indian Yellow*, and *Cybiaster*. Second, Mr. J. Thorpe with a very good lot, having the following kinds distinct from the foregoing—*Violet Hill Nosegay*, a capital exhibition variety; *Rebecca*, *Stardler*, *Fairy Princess*, *Lady Cullin*, *Sparkler*, and *Amy Hogg*, very fine. With six *Zonal* kinds, inclusive of *Nosegays*, Mr. J. Burton was first with *Excellent*, *Stanton Pareil*, a showy bright orange scarlet; *St. Fiacre*, *Madame Vaucher*, *Engène Mezard*, and one unnamed. Second, Mr. W. Boulter, with *Amy Hogg*, *Benné de Suresnes*, *Dr. Lindley*, *Rebecca*, *Gloire de Nancy*, and *Engène Mezard*.

In Class 72 for six *Variiegated Pelargoniums*, Messrs. F. & A. Smith, Dulwich, were first with capitally grown and well-coloured plants of

Sunray, Retaliator, and Coronet, golden-edged Variegated Zonals; Exquisite, a very fine new kind, Banshee, and Miss B. Oonts being very bright and effective. Second, Mr. J. Thorpe with Sunset, Mrs. Pollock, Mrs. Kingsbury, a very effective silver-edged variety, Agnes, Flower of Spring, and Golden Chain. Mr. J. Tomkins was third, and Messrs. Carter & Co. fourth. With six new variegated kinds sent out in 1867 Messrs. F. & A. Smith were again first with Lonisa Smith, L'Empereur, and Defiance, golden-edged Variegated Zonals, and Impératrice Eugénie, Queen of Fairies, and Queen Victoria, silver-edged Variegated Zonals. These were nice well-grown plants, compact in appearance, distinct, and effective. Second, Messrs. Carter & Co. with Sir R. Napier, a fine and distinct kind, somewhat out of condition; Sophia Cusack, Princess of Wales, Aurora, and Prince of Wales, all golden-edged Variegated Zonals; and Princess Beatrice, silver-edged Variegated Zonal.

LILIUMS in pots were very well grown, though taller in growth than generally seen in such places as the neighbourhood of Leeds, &c., where they are especially well grown. They, however, formed a fine feature of the Show. In the amateurs' class for four plants the competition was good; W. Brookes, Esq., being first, Mr. J. Staples, second, Mr. T. Charlesworth third, and Mr. J. Bolton fourth. The sorts were the varieties of *L. lancifolium*. With six pots in not fewer than four kinds, Mr. J. Staples was the only competitor, having three varieties of *Lilium lancifolium*, and *L. auratum*. Strange to say, the open class for three *Lilium auratum* did not fill, but Messrs. Carter and Co. staged a grand lot, that exhaled a delicious fragrance through the crowded and heated tent.

CLIMATIS.—An interesting feature in the schedule was the class for the best three Climatises in bloom, grown in pots, but in this case there was no competition, though C. Jackmanni and others of the new kinds make admirable specimens for exhibition when grown in pots.

BEDDING PLANTS.—The special prizes offered by some Leicestershire gentlemen for the best display of ornamental-foliaged bedding plants, brought together some interesting collections, though it was to be regretted that the phraseology defining the class was qualified by the term display. Mr. W. Cunningham, Burton-on-Trent, was first with a large and varied group, grown in pots, consisting of some two hundred or more plants, in something like eighty species or varieties, nicely arranged, the dark-foliaged plants being placed among those of a whiter character to give relief, without being reduced to mere formality by an adherence to any particular plan. Some of the most striking were—*Polemoniumeruleum variegatum*, Sedums of kinds, *Veronica*s, several pretty variegated forms of the *Eunymus*s, some *Alternanthera*s, variegated *Pelargonium*s, *Colensea*s of kinds, Grasses, the Variegated Japanese Honeysuckle, *Chrysanthemum Sensation*, *Centaurea*s, *Ixia*s, &c. Mr. J. Thorpe was second, and Mr. T. Charlesworth third, neither of the collections containing such a large and interesting variety as the first-named. A capital group came from Mr. W. Ingram, The Gardens, Belvoir Castle, comprising some sixty different kinds, including Sedums, *Echeveria*s, *Colensea*s of sorts, &c., that was quite worthy of the second prize, and would have received it had not the term display governed the decision of the Judges.

ACHIMENES AND GLOXINIAS.—The way in which the Achimenes were grown deserves the highest praise; to both the open and amateur classes the same remark applies. Messrs. J. Staples and W. Brookes were respectively first and second in each class. The sorts were—*Ambrose Verschaffelt*, Carl Wolfarth, *Dentiana*s, *Longiflora Major*, *Grandiflora*, *Estella*, *Candata*, and *Purpurea elegans*. Mr. Staples was also first with six and three *Gloxinias*; Mr. Moore being second in the former, and Mr. Charlesworth in the latter class. These also were extremely well grown, the heads of bloom being large and numerous. Of erect-flowering kinds the most striking were *Elegans*, *Vivid*, *Marion*, *Helena*, *Donna Colonna*, and *Ophelia*; of the drooping kinds, *Diadem*, *Mathilde Landevoisin*, *Madame de Smet*, *Beresford*, *Madame Celeste Winans*, *Sir Hugo*, and *Fair Beauty*.

PEUNIAS in pots were another special feature of the Show, being admirably grown and bloomed, much in advance of what is generally seen at horticultural exhibitions. Especially was this true of the plants staged by Mr. J. Thorpe, who was first in both classes for single and double kinds. The six varieties of the former consisted of *Clara Thorpe*, deep bright rose with white throat; *The Flirt*, a variety well named, as it has a singular changeability of character, the prevailing one being that of a white flower with a purple centre and eye-bars of the same, some of the blossoms being also irregularly blotched with bright rose; *Spitfire*, crimson, dashed with purple; *Triumphans*, crimson; *Beauty*, a mottled flower of a lilac pink and dark hue; and *Miss Earl*, like *Clara Thorpe*, but paler and having more white also. Of double kinds, Mr. Thorpe had *Marquise de St. Innocent*, violet rose blotched with white; *Christiana*, mottled rose; *Inimitabilis flore-pleno*; *Antigone*, white; *Inimitabilis Rex*, violet rose edged with white; and *Ben Nevis*, violet with white bars.

CUT FLOWERS.—The show of these was much more numerous than could have been expected, the weather being so very unfavourable to them. There was a falling-off in the Roses notwithstanding a good many collections were staged, and the flowers forming these were by no means of indifferent quality generally.

CARNATIONS AND PICOTEEES were plentiful, and though somewhat thin, many of the flowers were of good quality, and the number of stands competing in the several classes, added to their average

quality, kept the Judges a long time in making their awards. Lady Berners gave special prizes for the best twelve Carnations and twelve Picotees, shown as a twenty-four stand; and the leading award went to Mr. J. D. Hextall, of Ashby-de-la-Zouch, a well-known member of that distinguished confederation of florists residing in the midland district. Second, Mr. G. Edward, York; third, Mr. B. Simmonite, Sheffield; fourth, Messrs. J. Gibbons & Son, Biamcote. The Hinchley Horticultural Society also gave a series of special prizes for Carnations and Picotees—viz., for the best twelve Carnations, first, Mr. J. Taylor, Susinton; second, Mr. G. Edward. For the best twelve Picotees, first, Mr. G. Edward; second, Mr. E. F. Kingston, Bath. For the best six Carnations, first, Mr. H. Steward, York; second, Mr. G. Edward. For the best six Picotees, first, Mr. H. Steward; second, name of exhibitor unknown. Two first prizes were awarded to Mr. G. Edward for the two best single blooms of Carnations; and the first prize to Mr. W. Mitchell for the two best single blooms of Picotees. In the open class for twelve Carnations, Mr. G. Edward was first, and Mr. J. Taylor second. In the amateurs' class for the same number, Mr. J. D. Hextall was first, and Mr. H. Steward second. In the open class for twelve Picotees, Mr. B. Simmonite was first, and Mr. G. Edward second; and in the amateurs' class for the same number, Mr. J. D. Hextall was again first, and Mr. E. Wood second. There were two classes respectively of six Carnations and Picotees for amateurs, in the first instance Mr. Steward was first, and Mr. J. Taylor second. In the Picotee class, Mr. J. D. Hextall was first, and Mr. J. Taylor second. A great many of the flowers staged were unnamed; of those that were, some of the best can be found in the following list:—Scarlet Bizarres: *Admiral Curzon*, *Captain Thompson*, *James Gardener*, *Lord Derby*, *Lord Ranelagh*, *Oliver Goldsmith*, *Prince Albert*, *Sir J. Paxton*, and *Splendid*. *Crimson Bizarres*: *Black Diamond*, *Gladstone*, *Indispensable*, *Queen Victoria*, *Prince of Denmark*, and *Warrior*. *Pink and Purple Bizarres*: *Captivation*, *Fanny*, *Sarah Payne*, and *Shakespeare*. *Purple Flakes*: *Beauty of Woodhouse*, *Earl of Wilton*, *Earl Stamford*, *Pluto*, *Premier*, *Squire Meynell*, and *Triumphant*. *Scarlet Flakes*: *Christopher Sly*, *Cradly Pet*, *Defiance*, *John Bayley*, *Splendour*, and *Valentine*. *Rose Flakes*: *Alonzo*, *Delicata*, *Flora's Garland*, *King John*.

ROSES.—The special prize offered by the Mayor of Leicester for ninety-six varieties, three trusses of each, was awarded to Messrs. Paul & Son, who had many fine trusses notwithstanding the great heat of the season. The added second prize of five guineas was not taken. Lady Crewe's special prize for a miscellaneous collection of cut Roses grown in the counties of Leicester, Derby, and Stafford by gentlemen's gardeners and amateurs, was won by the Rev. E. N. Pochin with a very good box of flowers unnamed.

Sir George and Lady Beaumont's special prize for the twelve best Noisette and Tea Roses, was also won by Messrs. Paul & Son, having good examples of the following:—*Louise de Savoie*, *Gloire de Dijon*, *Madame Halphen*, *Maréchal Niel*, *Souvenir d'un Ami*, *Triomphe de Rennes*, *Rubens*, *Solfaterre*, *President*, *Madame Margottin*, *Alha rosea*, *Céline Forestier*. Second Mr. J. Parker, Rugby, with good flowers of *Devoniensis*, *Néroise*, *Comte de Paris*, *Madame Bravy*, *Triomphe de Luxembourg*, *Niphotos*, *Madame Willermoz*, and *Homer*. The Ashby-de-la-Zouch special prize for the best twelve distinct Roses did not bring any competition. The special prize offered by Mr. Thomas Warner, of Leicester, for the best collection of new Roses of 1865-66-67 was taken by Messrs. T. Perkins & Son, Coventry, with good flowers of *Camille Bernardin*, *Prince de Portia*, *Triomphe de Ronen*, *Madame Fillion*, *Antoine Ducher*, *Mlle. M. Dombraïn*, *Alfred Colomb*, *Madame Charles Baitet*, *Coquette de Alphas*, a pretty white Rose, said to be new of 1868; *Joséphine Beanharnais*, *John Griet*, *President Mas*, *Jean Lambert*, *Madame Palliatt*, *La France*, a pale rosy pink variety, new of 1868; *Mlle. Marie Rady*, *Charles Verdier*, *Gloiosa*, *Madame Eugène Appert*, *Mrs. J. Berners*, *Ville de Lyon*, *Madame George Paul*, *Jean Chérpin*, and *Comtesse de Jaucourt*. Second, Mr. W. Draycott. The Rev. E. N. Pochin also won the special prize for the best twelve Roses grown by amateurs in the county of Leicester, as well as that for six cut Roses, the exhibitors also confined to the county of Leicester, the varieties being *Madame Boutin*, *Baron Gonells*, *Souvenir de Malmaison*, *Charles Lefebvre*, *Gloire de Dijon*, and *Madame Caillat*. Second, Mr. J. Burton, who had *Alfred Colomb*, *Duchess of Norfolk*, *Madame Willermoz*, *Dr. Andry*, and *Charles Lefebvre*.

In Class 96, for forty-eight varieties, Messrs. Paul & Son were first, having the following in good condition:—*Charles Lefebvre*, *Luzia*, *Solfaterre*, *Xavier Obbo*, *Marguerite de St. Amand*, *Mlle. Annie Wood*, *Alfred Colomb*, *Charles Rouillard*, *Senateur Vaisse*, *Sophie Coquerel*, *Duc de Rohan*, *Madame Victor Verdier*, *La Phocène*, *Mlle. Marie Rady*, *Claude Million*, *Mons. Noman*, *Madame Furtado*, *Maréchal Vaillant*, *Gloire de Santenay*, *Maréchal Niel*, *Joséphine Beanharnais*, *Rushton Radclyffe*, *Madame Moreau*, *Madame Rivers*, *Marie Bamann*, *Antoine Ducher*, *John Hopper*, *Madame Margottin*, *Madame Bonnaire*, and *Duc de Rohan*. Second, Messrs. Perkins & Son; third, Mr. W. Draycott. In the amateurs' class for the same number Mr. T. Draycott was first, the most noticeable flowers being *Dr. Andry*, *Marguerite de St. Amand*, *La France*, *Maréchal Niel*, *Madame Victor Verdier*, *Madame Caillat*, *Souvenir de Malmaison*, *Fisher Holmes*, *Mlle. Marie Rady*, *Gloire de Santenay*, *Duchesse de Caylus*, *Madame Margottin*, *Charles Verdier*, *Charles Lefebvre*, *Maurice Bernardin*, *Pierre Notting*, *Devoniensis*, *Madame Falcot*, and *Madame Boutin*.

With twenty-four Roses the Rev. S. R. Hole, Causton Manor, was first with good examples of Mille. A. Wood, Abel Grand, Maréchal Vaillant, Duchesse d'Orléans, Duc de Cazes, Louis Peyronny, Olivier Delhomme, John Hopper, Prince Henri de Pays Bas, Comte de Nanteuil, Madame Charles Wood, Marguerite de St. Amand, Madame Fremant, Gloire de Dijon, Gloire de Sautenay, Charles Verdier, Pierre Notting, Charles Rouillard, Triomphe de Rennes, Duc de Rohan, Maréchal Niel, Madame Boutin, Narcisse, and Charles Lefebvre. Second, Mr. J. Moore. With twelve kinds the Rev. S. R. Hole was again first, having Gloire de Sautenay, Madame Rivis, Prince Henri de Pays Bas, Madame Funtado, Gloire de Dijon, Madame Victor Verdier, Souvenir de Comte Cavour, Charles Verdier, and Mille. A. Wood. The Rev. E. N. Pochin was first with the following six kinds—Gloire de Vitry, Duchesse de Caylus, Baron Gonella, Maréchal Niel, Madame Boutin, and Charles Lefebvre. In a further class for new kinds Messrs. Perkins & Son were again first with Jean Lambert, Madame Eugène Appert, Camille Bernardin, Triomphe de Rouen, Mille. Marie Rady, Chevalier Nigra, Gloire de Ducher, Madame Fillion, Jehu Grier, Mille. M. Dombain, Prince de Portia, and Comtesse de Jancourt. Second, Mr. W. Draycott, who had among others Mons. Chaux d'Est Ange, Black Prince, Mons. Noman, Alfred Colomb, Souvenir de Madame Boll, Mille. A. Wood, Charles Verdier, and Comtesse de Jancourt.

Mr. T. Warner, of the Abbey Nurseries, contributed a large collection of cut Roses, containing some remarkably good flowers, a box of fine blooms of Maréchal Niel being much admired.

ZONAL PELARGONIUMS.—Cut flowers were most admirably shown, especially a stand of twelve varieties, contributed by Mr. J. Thorpe. Instead of the five trusses of each variety being bunched together, as is generally the case, each was arranged separately, so that each lot of trusses of any one variety formed a pretty and effective group in itself. The varieties were Le Grand, Dr. Hogg, Capt. L'Hermite, a very bright double variety; Ne Plus Ultra, very bright crimson; Jules César, The Chipper, Hector, Beauté de Suresnes, Queen of Beauties, a pretty salmon-coloured variety; Fairy Princess, Salmon King, and Snowball. Mr. C. J. Perry was second with fine trusses of Vivid, Roi d'Italie, Glorious, Spitfire, Shirley Hibberd, Beauty, Clipper, Andromeda, Amelia Grisau, Beauté de Suresnes, and a very promising salmon-scarlet seedling, something in the way of Andromeda.

VERBENAS.—With cut Verbenas, Mr. C. J. Perry was first, having fine trusses of Foxhunter, Annie, Géant des Batailles, J. C. Ward, Startler, James Birbeck, Cleopatra, Shirley Hibberd, Harry Laws, Madam H. Stenger, Firefly, and Mrs. Mole. Second, Mr. W. Draycott. Mr. Perry also contributed a miscellaneous lot of fine kinds, including Wonderful, Rose Imperial, Modesty, Hercules, Magnifica, Samuel Moreton, Champion, Mazeppa, Charles Perry, and Géant des Batailles.

PHLOXES.—Mr. J. Draycott was first with cut blooms of Phloxes, which consisted of Beautiful, Professor Koch, Arthur Fontaine, Mons. Delamare, Le Lion, and a very beautiful large white variety unnamed; the flowers white, with a rosy purple ring round the eye, magnificent. The other competing flowers were of little value. Messrs. Downie, Laird, & Laing contributed some fine kinds, such as Norma, Eclair, Souvenir des Fernes, Edith, Madame Bonneau, Pius IX., Souvenir de Trianon, and Princess of Wales. The above formed a good and varied selection.

The cut **PENTSTEMONS** shown for competition were very poor, but Messrs. Downie, Laird, & Laing staged a grand lot, not for competition. The following were very fine:—John Bester, John Pow, Arthur Stern, Mrs. Sterry, Maria Hill, Delicata, and Clio. **PANSIES** were so miserably shown, that it seemed to be a waste of money to give a prize to the value of £2 to twelve wretched flowers of the commonest character. Messrs. Downie, Laird, & Laing contributed a grand lot of English and Fancy kinds, and a stand of their new blue bedder, Imperial Blue, all not for competition.

The collections of cut greenhouse and hardy flowers were not of a character to call for special remark, being inferior to those generally seen at large provincial shows. Table decorations were sparsely contributed, and those of only ordinary forms. Bouquets were plentiful enough, and but of average merit; the best contained some rare flowers, but looked somewhat rough and loose. Wild flowers appeared in numbers, as collections, botanically arranged in the form of baskets, of which there were a great number, and also in the form of bouquets. Of the two collections botanically arranged, in one instance the natural, in the other the Linnean system, had been followed. But very few of the baskets were tastefully arranged; generally they looked something like packages of game for transmission to a distance.

The new florists' flowers, &c., that came under the notice of the Floral Committee are treated of in another column.

In the Miscellaneous class Mr. W. Chater, Saffron Walden, furnished a fine lot of Hollyhocks in cut spikes and single blooms that made a grand display at one end of the fruit tent; and Messrs. T. Draycott and Downie, Laird, & Laing also contributed cut blooms of Hollyhocks. Messrs. F. & A. Smith, of Dulwich, sent a fine lot of new Variegated Pelargoniums, and Mr. Tireback, of Luton, a large group of bedding Pelargoniums. Some wax flowers and skeleton leaves were shown by residents of Leicester. Some of the last-named, shown by Miss M. P. Swain, were extraordinary specimens, of fine manipulation. Some samples of British wines were also contributed by Mr. Robert Fenn, The Rectory, Woodstock, Oxon, and were tasted

by a Jury, who commended two of them. The Jury were of opinion that Mr. Fenn has made the most satisfactory progress during the past few years in the way of perfecting these British wines.

FRUIT AND VEGETABLES.

The Fruit and Vegetables alone filled nearly the whole of a tent of great length, though, except in the case of vegetables, the exhibitions in each class were generally not numerous, nor was the fruit as a whole remarkable for quality. The two first prizes of the value of ten guineas each, offered by the Proprietors of THE JOURNAL OF HORTICULTURE, for the best two desserts, consisting of not less than seven kinds of fruits of 1868, arranged as for the table, combining quality of fruit with taste of arrangement, were taken without competition by Mr. Carmichael, gardener to His Royal Highness the Prince of Wales, at Sandringham; and by Mr. William Ingram, gardener to the Duke of Rutland, at Belvoir Castle. At Bury St. Edmunds last year similar prizes were offered, and these were carried off by Mr. Blair, gardener to Sir G. N. Broke Middleton, Bart., and Mr. Carmichael; this, therefore, was the second occasion in which Mr. Carmichael has been successful in winning one of the "Journal" prizes. His exhibition was neatly arranged, with a dish of Black Hamburgh Grapes in the centre, flanked by two fine Queen Pines. In front of these were Foster's White Seedling Grapes at one side, and Black Hamburgs at the other, and between them a dish of Moorpark Apricots; at the back there was a Melon at each end, and the remaining dishes, arranged at intervals between the outsides and centre, consisted of Kentish and May Duke Cherries, Violette Hâtive Nectarines, and Peaches. Mr. Ingram had handsome silver stands, the central one bearing glass dishes on the upper sides of its branches, and hanging baskets on the lower sides. They were filled with Cherries, Gooseberries, Black and White Currants, and Raspberries, interspersed with Japanese Honeysuckle and Fern fronds, with a Vine leaf peeping up here and there. In the top dish lay a Melon, clusters of Grapes, and Apricots, with a few Ferns and Lilies. The two side stands contained Apples, Pears, Cherries, Apricots, and Plums, interspersed with Ferns, Japanese Honeysuckle, and one or two Grasses. There were in addition two bouquets, one on each side, of Orchids, Ferns, and Roses.

Of collections of Fruit, the best came from Mr. Miller, gardener to Earl Craven, Combe Abbey, and consisted of a very good Queen Pine, three splendid bunches of Black Prince Grape, weighing 13½ lbs., and the largest of the three measuring about 16 inches in length, and fully half as much across the shoulders; Foster's White Seedling finely ripened, a Hybrid Cashmere Melon, fine Royal George Peaches, large highly-coloured Violette Hâtive Nectarines, Brown Turkey Figs, and Bigarreau Napokou Cherries. Mr. Carmichael was second, Mr. Moor third, and Mr. Holder, Presthary, near Cheltenham, fourth. In these collections good Queen Pines, Black Hamburg Grapes, Cherries, Melons, and Apricots were exhibited.

PINE APPLES.—But few were shown. The first prize was awarded to Mr. Rawbone, gardener to C. M. Campbell, Esq., Woodseat, Ashbourne, for a fine Queen, weighing 5 lbs.; the second went to Mr. A. Henderson, gardener to Earl Manvers, Thoresby Park, for a fruit of Thoresby Seedling, weighing 6 lbs. 6 ozs.; and Mr. G. Ward, gardener to T. N. Miller, Esq., Bishop Stortford, was third, with a fine Envillo of 9 lbs.; he also sent a Smooth-leaved Cayenne of 8½ lbs., but overripe at the base, as was also a large Antigua Queen from Mr. Barnes, gardener to Lady Rolle, at Bicton.

GRAPES.—For a single dish of Black Grapes the first prize was taken by Mr. T. Rawbone, gardener to C. M. Campbell, Esq., with large beautifully-coloured bunches of Black Hamburgh, a little loose, however, and weighing 7 lbs. Mr. J. McLean, Beaumont House, Loughborough, was second with the same kind, and Mr. Stanhard, gardener to H. R. Homfray, Esq., Newmarket, third, the latter having compact well-coloured bunches. Mr. Cox, gardener to Earl Beauchamp, Madresfield Court, sent, but not for competition, excellent bunches of Madresfield Court Muscat, a new kind, with a delicious Muscat flavour; the berries were finely coloured, and covered with a fine bloom. Of White Grapes but few were shown; the best were large bunches of Golden Hamburgh from Mr. Bolton; Beckland Sweetwater, from Mr. Peasey, was second; and Trebbiano, from Mr. Handley, gardener to Sir R. Knightley, Bart., Fawsley Park, third. Fine bunches of Golden Champion with enormous berries, were shown, not for competition, by Mr. Thomson, of Dalkith. To the high merit of this splendid Grape we have already several times referred, and more particularly in the report of the last meeting of the Fruit Committee (see page 22).

Special prizes were offered by Earl Howe for the best three dishes of Grapes. Mr. Rawbone was first with three splendid bunches of Black Hamburgh, weighing 7½ lbs., nice bunches of Black Prince, and fine Muscats, but not perfectly ripe. The second went to Mr. Bolton for good Golden Hamburgh, Black Prince, and Black Hamburgh, the last rather loose. Mr. Wallis, gardener to J. Dixon, Esq., Astle Park, Cheshire, was third. Prizes were likewise given by Viscount Curzon, "a Country Gentleman," and the Local Fund, for the best three bunches of Black Hamburgh, and the first place was taken by Mr. Rawbone with three splendid compact bunches, with the berries equal-sized, and beautifully coloured. The weight of the three bunches was 8½ lbs. Mr. Silcock was second with excellent finely-coloured bunches; Mr. Sage, gardener to Earl Brownlow, Ashridge, and Mr. Bolton, being respectively third and fourth.

Special prizes were given by the town of Ashby de-la-Zouch, for

Muscad Grapes. The first of these was taken by Mr. W. Colegrave, Swerford Park, Emsstone, with splendid bunches of Muscad Hamburgh, the largest measuring 14 inches in length and 10 inches across the shoulders. Mr. J. McLean, gardener to W. P. Herrick, Esq., was second with Muscad of Alexandria; Mr. W. Williams, Woodcote Lodge, Leamington, third, with Muscad Hamburgh; and Mr. J. Walker, Leicester, fourth, with Muscad of Alexandria.

PEACHES AND NECTARINES.—Of the former, the best in the general class was Barrington, very large and finely ripened, exhibited by Mr. Wallis, Astle Park. Mr. Draycott, gardener to T. T. Paget, Esq., M.P., Humberstone Hall, was second with fine fruit of Royal George; and the same kind from Mr. Tillery, Welbeck, took the third prize. For Nectarines, Mr. Smith, gardener to H. H. Hungerford, Esq., Market Harborough, was awarded the first prize for Stanwick; Mr. Miller, Combe Abhey, and Mr. Cox, gardener to Earl Beauchamp, being respectively second and third, with Violette Hâtive and Fitzmason Orange. From Mr. D. Fish, Hardwicke, came fruit of River's New White.

The Countess of Howe's prizes for the best dishes of Peaches and Nectarines, were taken by Messrs. Draycott, Sage, Gold, and Peachey; the first named had fine Royal George Peaches and good Violette Hâtive Nectarines.

STRAWBERRIES.—The competition with these was very limited. The first and second prizes for single dishes were taken with British Queen by Mr. Bolton, and Mr. Temple, Balbirnie, N.B.; the third by Mr. Lambert with Myatt's Eleanor. The first of the two prizes offered by Charles Lambert, Esq., for the best collection was awarded to Mr. Matheson, Tulliallan Castle, Kincardine-on-Forth, for twelve varieties, among which were good fruit (for the season), of Sir Harry, Sir J. Paxton, Elton, Trollope's Victoria, Wonderful, and Cockscomb. There was no other exhibitor.

MELONS.—About thirty in all were shown in the two classes; the best green-fleshed was Trencham Green-fleshed from Mr. Rawbone; Bromham Hall from Mr. Frisby, Blankney, was second; Golden Gem from Mr. Cox third. Scarlet Gem from Mr. Earley, Mr. Stannard, and Mr. D. Fish took all three prizes in the Scarlet-fleshed class.

MISCELLANEOUS.—Under this head it will be most convenient to include all the remaining fruits, for most of which, however, classes were provided, referring to the prize list in another column for the names of the successful exhibitors. Some large Moorpark Apricots were shown by Mr. Earley, good Brown Turkey Figs by Mr. Sage, Bigarrean Cherries by Mr. Elliott, and a good dish of the same kind by Mr. Tegg, Clumber. Jefferson and Kirke's were the only Plums shown, the former from Mr. Williams, of Woodcote Lodge, receiving a second prize. The best basket of fruit came from Mr. Earley, and consisted of May Duke Cherries, Oscar, Pastoff Raspberry, and fine White Dutch Currants. Mr. Henderson, of Thoresby, had a first prize in the miscellaneous class for eight Thoresby Seedling Pines, fine large fruit, weighing from 5 lbs. 10 ozs. to 6 lbs. 10 ozs. each. Mr. Babb was second with four dishes of Apples, and Mr. Tegg, third, with Psidium Cattleyanom. Mr. Laxton, of Stamford, sent French Crab Apple in excellent preservation. The special prizes for orchard-house trees were taken by Mr. Brooks, Hinckley, and Mr. Barton, gardener to J. Stone, Esq., Leicester. The former had Grosse Mignonne, Early York, Walburton Admirable, Royal George, and two or three other Peaches; River's Orange, Hunt's Tawny, and Elruge Nectarines, and Plums. These trees were exceedingly well grown, and for the most part in abundant bearing. Mr. Barton had also some very good Peaches and Nectarines, and took a first prize for the best pot Vine, a neat compact one trained to form a flattish top, and which had a dozen good bunches.

The *Gardeners' Chronicle* cup of the value of twenty guineas, for the best collection of fruit and vegetables, brought several good exhibitions, and was awarded to Mr. McLean, gardener to W. P. Herrick, Esq., of Beaumanor House, Loughborough. His collection consisted of large and very fine Black Hamburgh Grapes, two Melons, Cherries, French Crab Apples, Gooseberries; and of Vegetables, Mona's Pride and Radford Kidney Potatoes, two kinds of Onions, a fine brace of Cucumbers, Broad and Kidney Beans, Carrots, and Broccoli. Mr. Holder, Prestbury, near Cheltenham, had a large basket containing almost every salad plant in use, Globe Artichoke, large Tripoli Onions, a handsome brace of Cucumbers, Peas, Beans, Carrots, &c., but though his vegetables were excellent, his fruit was not equal to that in the prize collection. Mr. W. Ingram, Mr. Sage, gardener to Earl Howe; and Mr. Bailey, Shardeloes, also sent very good collections.

Mr. Moore, Blenheim, took the first prize offered by the gardeners of Leicestershire, for the best six dishes of fruit and six kinds of vegetables, showing fine Black and Red Currants, Strawberries, Gooseberries, Cherries, Apricots, and good Tomatoes, Onions, Peas, &c. Mr. Sage, gardener to Earl Howe, Gopsall, was second with Peas, Strawberries, Breda Apricots, Raspberries, Gooseberries, and Red Currants, and good Peas, Onions, Carrots, and Turnips. The third and fourth prizes were taken by Mr. Rogers, gardener to the Countess of Lanesborough, and Mr. J. McLean, of Dennington Park.

Messrs. Harrison & Son, of the Midland Seed Warehouse, Leicester, offered first and second prizes for the best collections of vegetables. The first was awarded to Mr. J. Holder for large red Tomatoes, Capisiums, Italian Tripoli Onions, Cucumber, Vegetable Marrow, red and white Celery, Carrots, Potatoes, Cauliflowers, Peas, and Broad Beans, the whole of which were very good. Mr. Rogers was second with a

good collection. Prizes were also offered by the same firm for the best and second best collections of first and second early Potatoes, and they were awarded to Mr. Dunkley, of Kingsthorpe, Northampton, for good clean tubers of eighteen kinds, not one of which had a name attached; and to Mr. Earley, who had fine tubers of Milky White, Hard Cash, Giant, Dalmahoy, Soden's Early Oxford, River's Royal Ashleaf, and others. Messrs. Harrison's prizes for the best brace of Harrison's Favourite White-spined Cucumber went to Mr. Draycott, Humberstone Hall, and Mr. Holder. The Queenborough Horticultural Society's first and second prizes for collections of vegetables, were awarded to Mr. Addy, Rearsby, Leicester, and Mr. Mitchell, Leicester.

In the Cottagers' department of the Show there were some excellent collections of vegetables which many gentlemen's gardeners might well envy. Autumn-sown Onions were especially good. Peas, notwithstanding the dry weather, were well filled; Potatoes, though not large, very sound and clean; Carrots very good; Scarlet Runners and Broad Beans equally so.

FLORAL COMMITTEE.

The chief novelties brought before the Committee at this grand Meeting were Ferns, some very magnificent Verbenas from Mr. Perry, and a most superb double-flowering Zonal Pelargonium from Mr. Tomkins.

Mr. Thomas Lambert, Bramstone House, Leicester, exhibited among twelve specimen Petunias a dark-veined seedling, the name of which we have forgotten. It was much admired, and was awarded a first-class certificate. Messrs. Downie, Laird, & Laing received first-class certificates for two Zonal Pelargoniums of the Golden and Bronze section, Crown Prince and Harrison Weir, both of which were marked with a deep zone. Mr. W. Cunningham, Burton-on-Trent, sent a seedling Fuchsia Rarity, dark dull red, a rather coarse flower, useful perhaps for market purposes; and he received a first-class certificate for Zonal Pelargonium Delicatum, a pale salmon rose, not new in colour, but the petals of very good substance. Mr. Tomkins, Sparkhill, Birmingham, exhibited a seedling double Zonal Pelargonium, Sparkhill Beauty. From the truss of flowers on the plant we may safely infer that this is one of the best ever yet seen; the colour deep rose, the flowers large, and the petals smoothly arranged. A first-class certificate was awarded.

Messrs. Ewing & Child sent a seedling Lobelia speciosa, The Fairy, of free habit and growth, pale whitish pink flowers. It received a second-class certificate. Mr. Perry, Castle Bromwich, Birmingham, sent some very fine seedling Verbenas:—Mrs. Reynolds Hole, of the most beautiful clear white, with a dark conspicuous centre; Mrs. Perry, dark purple, with a large white centre; and Spot, pale rose, with a broad dark centre. These were flowers of great merit, and were each awarded a first-class certificate. Mr. G. Smith, Hornsey Road, sent three seedling Zonal Pelargoniums; one, a fine double scarlet, received a first-class certificate at the last meeting at South Kensington; Alarm, a fine hybrid Neseagy, bright scarlet and rose flowers, very promising; and Masterpiece, a great improvement upon Le Grand, flowers nearly of the same shade of colour. Only one plant was exhibited with one noble truss of flowers; when two or three plants are exhibited its great merit will be acknowledged. Messrs. Smith, Dulwich, sent six Variegated Zonal Pelargoniums, but not in condition, the colours of the foliage not being well defined.

J. E. Mapplebeck, Esq., Woodfield, Moseley, Birmingham, was awarded a second-class certificate for *Cystopteris fragilis gracilis*, and a first-class for each of the six following:—*Athyrium Filix-femina torto-cristatum*, *Athyrium Filix-femina Howardia*, *Scolopendrium vulgare Clifui*, *Scolopendrium spirale*, *Scolopendrium marginatum tenne*, *Athyrium Filix-femina Elworthii*.

E. J. Lowe, Esq., Highfield House, Nottingham, received first-class certificates for each of the following Ferns:—*Polystichum angulare caudatum*, *Athyrium Filix-femina abasiphylum*, *Athyrium longiridgense*, *Athyrium regale*, *Lastrea Filix-mas Mapplebeckii*, *Athyrium kladodesteron*, *Asplenium adiantum nigrum grandiceps*, *Asplenium marinum imbricatum*, *Lastrea pseudo-mas nitida*, *Polystichum aculeatum Rileyae*, *Polystichum aculeatum nidum*, *Adiantum capillus-Veneris Kalon*, *Scolopendrium vulgare supralineatum Lowe*, *S. sculptarato-latum*, *S. Keratoides*, *S. significans*, *S. formosum*, *S. capitellum*, *S. amonum*, *S. illastre*, *S. Moorei*, *S. stenomenon*. A second-class was awarded *Scolopendrium divergens*. Mr. Lowe's general collection was most deservedly much admired; the abnormal forms most curious and interesting. There were many dozen mere varieties shown as new forms, but those selected were considered most distinct and beautiful. The *Adiantum capillus-Veneris Kalon* is strikingly beautiful, the pinnales larger than those of *capillus-Veneris*.

The latest accounts received to the time of going to press give the number of visitors up to Tuesday evening as about eighteen thousand, and the amount received as £1252.

LILIUM AURATUM ROBEUM VITTATUM.—I see that Mr. Owen desires to know if any of the readers of this Journal have bloomed the Liliun named above. With me one of these Liliuns has thirty-two blooms upon it at the present time.

It is 8 feet high, and is in an 11-inch pot.—RICHARD SIMPSON, at C. W. Neumann's, Esq., Wyncote Allerton, Liverpool.

VIOLA CORNUTA

I AM sorry to hear such complaints respecting this beautiful flower. Some cultivators say it likes a wet season, others that it will not do in a dry one. A third set assert that it likes an open position, and others that it does best in the shade. I am fully aware that there is in the soils and climate of each county a great difference that the *Viola cornuta* has to contend against, having had it under my charge in a mid-land county, in the south, and now in the north. During these three seasons I have never heard any complaints of it, but, on the contrary, have heard the ladies praise it very much. It has bloomed very well the whole time I have known it, and nothing could give greater satisfaction.

I would advise Mr. Bryan and all others to try it once more before they utterly condemn it. As an edging, I think it surpasses any *Lobelia*. We have for some purposes intermixed it with *Lobelia speciosa*, and it is quite lovely either so associated or in a bed by itself.

I always dig manure into my beds in the spring, then in April I divide the *Viola* into very small pieces, and plant them where I wish them to remain for an edging, giving water at the same time. It then takes its chance.

It has looked beautiful since May, and still continues to be one of the gems of our flower garden, notwithstanding the very hot, dry summer we have had.—J. L., Gardener at Ecclethill Hall, Leeds.

MR. J. BAYAN, of Audley End Gardens, suggests that some of your correspondents should give the results of their cultivation of this flower. Mine are as follow:—A packet of the seed of Mauve Queen was had in the autumn of 1866, and produced an abundance of plants. These were planted out under a north wall in rather a poor soil, and the result was a perfect failure. At the suggestion of a writer in your Journal I made in the autumn of last year a good bed, exposed to the sun; placing the plants in at a good distance from each other. In the spring of this year they soon filled the bed, and from the early part of April to nearly the end of June it was one of the most lovely-looking beds I have ever seen. All who saw it were full of its praise. The extraordinary dry and hot weather we then (end of June), had, destroyed all its beauty. It is possible if I had well watered the bed the plants might have continued in flower; but I rather think that this plant should not be depended upon for a continuance of flowering all the season, but that it is invaluable for two or three months.—AN AMATEUR, South Wales.

THE HABIT OF GROWTH IN MELON PLANTS.

THE one great defect which is inherited in common by almost all the choicest varieties of Melons, is the possession of too rampant a habit of growth, requiring a certain expenditure of vigour, even when planted in the poorest soil, before they will exhibit the least tendency to carry fruit in a sufficient quantity to be termed a crop. That but too little attention has been given to this point is quite evident; in fact, I am inclined to think but little notice, if any, is taken of it, for in the descriptive catalogues of both old and new kinds, which are issued to the public in such numbers, the only qualities considered to be worthy of commendation, are freeness of cropping, with size and flavour of fruit, and, therefore, I infer that no great demand has ever been made for varieties possessing (in addition to the above fine qualities) a close and compact habit of growth.

A Scarlet-fleshed variety called "Pine Apple," which I have now grown for four seasons, and which I believe was sent out about five or six years ago, is the closest approach to perfection in this respect that I have met with. In its habit of growth it is very compact, having handsome foliage of a deep green, which is supported by short stout leafstalks; it is a most prolific cropper, producing and setting its fruit with the greatest freedom on its first laterals, and as the fruit commences swelling it exhibits but little tendency to make any further growth, and this character it maintains on the trellis as well as when growing on the soil. I may add, I have never noticed the slightest symptoms of causer in this most excellent variety; the fruit, also, is of fine flavour, ranging in weight from 2 lbs.

to 4 lbs., and I am inclined to think it is a poplar kind with market gardeners, as I lately observed several fruits of it at Covent Garden Market, and in many fruiterers' shops in different parts of London.—EDWARD LÜCKHURST, *Kington House Gardens, Kent.*

NEW BOOK.

PAXTON'S BOTANICAL DICTIONARY, comprising the Names, History, and Culture of all Plants known in Britain, &c. Revised and Corrected by SAMUEL HEREMAN, Secretary for nearly Forty Years to the late Sir Joseph Paxton. London: Bradbury, Evans, & Co.

THE first edition of this volume was published in 1810, and having for its parents such men as Paxton, Lindley, and its present editor, the contents are most trustworthy. What the volume does contain is unexceptionable. But although editors may be deeply skilled, they are not, therefore, necessarily good judges of what constitutes a useful book. That now before us proves this, and the fact that twenty-eight years have elapsed without a really new edition shows that the public coincide with us in opinion.

A Botanical Dictionary to be useful should enable one to identify a plant, and a Gardening Dictionary should direct him how to cultivate it. Now, that before us does neither. If you know a plant it tells you the colour of the flower, the month of its blooming, height, native place, and date of introduction; but there are no details of culture, and if you do not know the name of the plant there is not the slightest help to your ascertaining it. It is really a catalogue of plants, as Don's, Sweet's, and Loudon's were.

An example will enable our readers to judge for themselves, and it shall be the genus named in honour of Paxton.

PANTONIA, *Lindley*. In compliment to the late Sir Joseph Paxton, F.L.S., H.S., who was for many years director of the gardens of His Grace the Duke of Devonshire, at Chatsworth, and conductor of the "Magazine of Botany," and other works on botany and gardening, *Linna*. 20, Or. 1, Nat. Or. *Orchidicæ*. This pretty species may be successfully grown in a mixture of very turfy loam, leaf mould, and sand, with the treatment given to *Blitia*.

rosea Pink 7, S. Ter. $\frac{1}{2}$ Philippines 1837.

INTENSE HEAT.—At one o'clock on Tuesday, July 21st, in the sun the temperature was 130°, in shade 97°. The *Bougainvillea spectabilis* has been very beautiful here this season, with from four to five hundred blooms upon it.—WILLIAM MAYO, Gardener to Mrs. Fitzgerald, *Shalstone House, Buckingham.*

WORK FOR THE WEEK.

KITCHEN GARDEN.

ABOUT the end of July and beginning of August most of the sweet and pot Herbs are fit to gather for drying. *Artichokes*, the young plants put out in the spring ought now to be coming into use to succeed the main bed. As soon, therefore, as you have gathered all that are wanted for Artichoke bottoms, cut down the old plants altogether, and if the suckers are too thick you had better cut some of them down altogether or pull them away. *Broccoli*, after the genial showers we have had now is a favourable time for planting. As soon as the surface is dried and it well between the rows, otherwise it will cake together so hard that the plants cannot grow well. *Carrots*, to have a supply of young Carrots from Christmas till the forced ones come in, it is necessary about this time to sow a bed of Early Horn on a south border, or some other warm place. This bed should be formed of very light soil and be raised a little above the general surface, and as soon as the seedlings are up let them be assisted as much as possible by stirring the soil, watering if necessary, weeding, &c. *Cabbages*, the quarters where early spring Cabbages were grown should now be cleared and dunged, to be sown with Winter Spinach by-and-by. The early Strawberries being over, the old beds are trenched to be ready for the first planting-out of the early Cabbages, and as the Peas, Beans, and other crops are cleared off, the sooner the ground is dug or trenched over the better. *Black Spanish Radishes*, a bed of these should be sown alongside the Carrot beds. The soil and treatment need not differ much. They are useful late in the autumn when the other kinds are not to be had.

FRUIT GARDEN.

See that the Cherries, Currants, and Gooseberries that you

wish to prolong are covered up. See, also, to the young Strawberry plants layered in pots for forcing, and as soon as they are well rooted have them up, put them in larger pots, and plunge the small pots again for another lot of plants if you want them. When the Apricots begin to change colour, keep a sharp look-out for snails and woodlice. To keep the first in check, where they are numerous, syringe repeatedly with clear lime water, not doing it too late, as otherwise a thin film of chalk would be formed and spoil the look of the fruit. Lettuce leaves, &c., may be strewed near the wall after being greased on one side, and should be examined every morning. The syringe will also drive away the woodlice, as they do not like water, and cut stalks of Beans may be inserted among the branches of the trees as traps, but the great remedy is to keep the wall in good order so as to give them no place for concealment. These very hot days are just the delight of the red spider, and if it once establish colonies on the under sides of the leaves of Peach trees it will be secure for a time, defying all the battering from your garden engine. It is recommended to daub the open spaces of your wall with a paste composed of sulphur and water, and then the more intense the heat the stronger the fumes of the sulphur will be. Look over Vines on walls to stop laterals; thin-out weak shoots, and keep the rest neatly tied-in. The fruit will now be advancing, and the bunches should be thinned-out with a pair of scissors, which is an operation that is very essential to their perfection both in size and flavour.

FLOWER GARDEN.

Put in cuttings of different Scarlet Pelargoniums now, and they will be fit to remain some weeks in the open air to harden off before the winter sets in. Auriculas and Polyanthus must at this season be kept from excessive rain, and, above all things, avoid a continuous drip. Nothing ruins an Auricula so soon as wet lodging in the crown or heart. The apbis must be sedulously watched for and never allowed to get ahead. Tulip seed continues to ripen; secure the heads as soon as the seed has opened, or the stalk becomes dead, put them in paper bags, and hang them up in a dry place. Continue to layer Carnations. A great deal of the success of wintering Carnations depends on having strong and early-rooted layers, that they may be well-established in their pots before winter.

GREENHOUSE AND CONSERVATORY.

As the varieties of *Thunbergia alata* are among the best plants for the conservatory at this time, and are coming more into fashion every season, a few suggestions for their management may be acceptable, as some find them difficult to manage. A key to the natural or true management of these plants is given by Mr. Backhouse in his narrative of a visit to the Mauritius and South Africa. He says "They grow in shady places, much in the same way that Ground Ivy grows in England." From this we may infer that the back border, or under the large specimens planted out in the conservatory, is the proper situation for these plants; then they might scramble among Ferns, roots, moss, stones, &c., after the manner of Ground Ivy. To prepare them for this purpose they ought to be planted out in pits early in May, using very rich rough compost, and fresh moss placed all over the bed, keeping the moss damp, shading the plants in the middle of the day, and allowing them to run all over the moss. As we draw towards the autumn this house will become of more general interest. In the height of summer, especially if like our present one, plants do not keep long in flower in the conservatory, and there is so much to be seen out of doors that people do not spend much time among house plants, but we shall soon have cold mornings and evenings when a houseful of fine-flowering plants with a mild temperature becomes a matter of great luxury, especially if the conservatory is attached to the living-rooms. Ipomæas and Passion-Flowers are the chief autumn climbers for this house, and the fragrant *Mandevilla suaveolens* is now clustered from end to end with large bunches of its delicious fragrant blooms. *Plumbago capensis*, cut down last May when coming into bloom, is now blooming the second time, and will be in flower till October. *Stephanotis floribunda* is the most accommodating plant we have, and ought to be in every collection, and in numbers too. It will flower freely in the conservatory when first brought forward in a vinery or stove, and it flowers in every intermediate degree up to the roasting or broiling heat of the Orchid house. This is a critical time with greenhouse plants out of doors. The fervid heat is now so great as to produce the tropical winter of vegetation, when the parching heat of the sun acts upon and produces in some degree a dormancy in the system of plants. When occasional

showers fall and we see the surface of the soil in the pots moist, we are satisfied until the drooping or withering foliage upbraid us for our neglect, and, perhaps, particularly with Heaths, New Holland, and similar plants it is noticed when too late to save. These ill effects may be avoided by plunging the pots in coal ashes, and by syringing the plants overhead in the evening, examining them when doubtful on the subject by gently turning one or two out of their pots to see the state of the ball, as it requires some experience to distinguish whether a plant wants water or not from the ring produced by rapping your knuckles against the side of the pot. The Camellias out of doors should be surfaced with fresh soil if they require it. Cinerarias, whether seedlings or suckers, should have regular attention, and those intended for autumn work ought to be potted forward without delay.

STOVE.

About the beginning of August some of the best gardeners treat their established stove plants somewhat like those of the greenhouse for five or six weeks. They either remove the plants to more open houses, or throw their stoves open on purpose, removing dwarf, tender, and young delicate plants into close frames. Whatever conveniences of this nature may be at hand should be made the most of at this time. Nothing can be more injurious to stove plants than keeping them growing late in the season, and thus preventing the ripening of their wood, which renders them more liable to injury in the winter and prevents them flowering freely next season.

PITS AND FRAMES.

The lights should now be drawn off at night where the plants are of the hardier kinds. Stout cuttings of *Plumbago capensis* struck now will force next spring for the conservatory, and may afterwards be planted out in beds in the flower garden, for which they are admirably suited.—W. KEANE.

DOINGS OF THE LAST WEEK.

It is somewhat tantalising to hear and read of the nice rains round London and elsewhere a week ago, whilst in this district up to this the 18th there has been none whatever, and as yet no appearance of its coming. It is distressing to see the large ponds, on which many farmers depend for common purposes, quite dried up, and the water-cart constantly in use to bring water for the supply of the cattle. Were it not that for a number of miles round the pastures are bare, many would do what was done four years ago—take pastures for the cattle for a time where there was a water supply, as that was found to be more economical than driving water for four or six miles.

If the Turnip seed fails from having just germinated and then dried up, it furnishes a good example of how in gardening seeds men are often blamed for sending out old worthless seed, when it has been young, and fresh, and good all the time. Whether choice seeds are sown most carefully in the open air or in a pot, with glass and other squares of glass over them, the most critical time for them is just when the seeds have chipped, when vegetation has commenced. If they have enough of moisture and air to bring them to that point, and then should be subjected to enough of dryness to shrivel-up the young cotyledons and radicles before the former give any signs of their presence aboveground, then no after-treatment will ever cause these seeds to shoot a second time. An excess of dryness is, therefore, to be avoided with all seeds after they begin to swell, and an excess of moisture is also to be avoided, as that would have a tendency to rot them, owing to the want of enough of air. Old seeds should be kept somewhat dry rather than wet until they have swelled freely. All small seeds will be treated most safely when managed as directed last week for Calceolarias.

Planting Early.—The comparative goodness of the Wheat in this parching season, furnishes us with a lesson as to the importance of getting plants established in the open ground early in the season. The roots can then cater for themselves as respects moisture from great depths. We have several times traced the fibres of the Wheat plant in stiff subsoil to the depth of more than a yard, and that would be nothing to the depth from which moisture in the shape even of vapour would rise to meet the evaporation from the foliage. Plants from seed sown late in spring have not a similar chance, as in such a season as this they would have a contest for existence almost from the first, and no reserve of supply stored up in the roots to meet the emergency.

Planting Trees Early.—The same facts, with an extended observation of the results of spring planting on a large scale, and especially in districts such as this, where we have had nothing worthy of the name of rain for close on three months, will demonstrate the importance of autumn over spring planting. Could we have our own way, we would have all shrub and forest-tree planting done in the month of November. Then, in general, the earth retains something of its summer warmth, which encourages root action at once, however feeble, and the rains of winter give enough of moisture to encourage that action, and by the time the heats of summer come there is something to meet the expanding of the buds, and if there is not much growth the first season, the plants hold their own, and are ready to grow freely the second season.

Then, again, this will be all the more successfully done if the plants are on the place, if they have had even one or two seasons' growth after purchasing before being transplanted for good. We have several times insisted on this, and at least a score of gentlemen have told us they have acted on the suggestion, getting young trees home from the nursery early in the autumn (generally by the end of October), placing them out in nursery lines, and then in a year or two taking them up as wanted, and not more than is wanted at a time. This answers the nurseryman quite as well, nay better, for planters become discouraged when they plant unsuccessfully, and in such a summer as this, spring planting on a large scale, where no help can be given, except what nature supplies, will ever be so far unsuccessful. On the other hand, though advocating this reserve nursery at home, unless in the largest establishments, where a regular tree-raiser with suitable assistance is kept, it will always be the most economical for a gentleman to purchase from the raisers in the first place, even if he keeps the plants a year or two before finally transplanting. If the planting is to be done at once, it is very important it should be done early, from the end of October to the beginning of December, and the sooner in November the better. When the plants are procured late, there are many casualties to be encountered. For instance, once we had many thousands of plants sent in, taken up all right, but in the several-days journey they encountered a severe unexpected frost, and we judged that the roots were greatly injured. What would such plants be after being well frosted, and finally turned out in March, with such a season before them as this has been? We have such a case within no great distance of us, and we would rather not see the results. We know what the consequences are too well. Such plants taken up in the end of October, would have had scarcely a small per-centage of failures, and now we should not like to guarantee an estimate of them. The warm dry weather soon brought out the buds, but the roots could do nothing towards supplying the exhaustive evaporation, and death was the consequence. There was no moisture from above to encourage rooting, the roots inserted had not come into fresh operation, so as to draw up for themselves moisture from beneath.

If one fact more would be of use it would be this—never have established trees presented a more gorgeous foliage than this season. Now, after three months of dry weather, we perceive that Ash, and even Elm, are showing signs of a little distress, which, most likely, will result in an earlier ripening of their foliage; but these trees are comparatively surface-rooters, hence they do not so well avail themselves of the moisture deeper in the earth. We have, however, never seen Oaks with more healthy vigorous foliage, but then the Oak roots penetrate the soil deeply, and the tree is, therefore, when established, pretty well independent for one season of a surface-moisture supply. The sooner after the middle of October that we plant trees, forest or otherwise, the sooner do we enable the roots to avail themselves of the moisture beneath, when in such a season as this there is no moisture available from above.

Deep Stirring of the Soil for vegetables and flowers that have to be planted out. This comes in our way from the same line of thought and observation. With little water at our command, we believe that many of our crops look better than when water was given freely almost every day. We would rather put a bandage over our eyes than look at our lawn; but, from what we are told, others are a great deal worse. With little water, as above stated, the flowers in the flower beds are rather nice, and some rows of Pelargonium Brilliant, and even yellow Calceolarias, are fine. The first has had little water, the Calceolaria a little more—that is, a little at the roots of sewage in eight or ten days, and though we should have liked to have refreshed them and good beds and rows of Verbenas with clean water from a syringe or engine over the foliage, we have been

unable to do so, and the only refreshing they had was the slight shower a fortnight ago on Sunday morning. That has been the only damping of the foliage for a month, for, unfortunately, we have had scarcely a perceptible deposition of dew for a long time. Now, we understand, that these plants are as fine as others where water has frequently been given, and that judiciously, and we are sure they are much better than some which were watered every day. The standing so well of these plants and braving the fierce sun we attribute partly to surface-stirring, and thus breaking the lines of the radiation of heat and the evaporation of moisture, but chiefly to the deep stirring of the soil, which enables the roots to descend freely in search of that which to them is an essential of growth and existence. But for the following fact we could not have believed that the surface soil was so very dry. In our ribbon border one, if not two rabbits had endeavoured to make breeding nests for themselves. Most of our readers know that until the young rabbits get their eyesight they are kept shut up from the light, and with a very small portion of air, as the old one covers up the hole securely. We tried to follow one of these holes to its termination, but it went so far that we gave it up, fearing that our spade would do more harm to the plants than even the rabbits would before they were caught. What surprised us, however, was the almost impossibility of getting the soil to lie on the spade, owing to the extreme dryness, to the depth of a spade. It rolled off like so much kiln-dried sand, and yet, with all this dryness the plants were growing as above, not luxuriantly, as in a moist season, but still holding their own and blooming freely. Of course, with a little water at the bottom in ten days the soil immediately below the plants would not be so dry as that in the spaces between them; but moisture, like heat, is so diffusive, that after making this allowance we must conclude that they chiefly supplied their wants from the moisture far down below, and that the deep stirring of the soil enabled the roots and the moisture to come all the easier into connection with each other.

What we mean by deep stirring is stirring to the depth of from 18 to 30 inches, instead of a mere spade in depth. In flower beds and vegetable beds it would often be advisable not to turn up the lower spit, but leave it at the bottom until it was gradually ameliorated. In flower beds as a rule, we like the finest and richest soil to be at the surface, as in that case we are more anxious to have bloom than excess of luxuriant foliage. In all seasons the comparatively deep stirring answers. In very moist seasons the moisture has a free passage to descend, and in dry seasons, such as this, besides encouraging the roots to go down, the moisture ascends more easily to meet their wants.

In general the want of rain and the scarcity of water have rendered our work much like that of previous weeks.

KITCHEN GARDEN.

We had to water Cucumbers and Vegetable Marrows with what we could get. In one fine day the vigorous leaves of the latter would have been turned up into as many drinking cups, but a good soaking of sewage immediately brought them back right. This, however, we must also use sparingly. The Vegetable Marrow gave fine returns in June this season, treated on the old-fashioned ridge plan, with a little rough fermenting material beneath it. No doubt the early gatherings were owing to the hot season. After trying many kinds we have gone back to the old Vegetable Marrow, as still for all purposes being by far the best, richest when cooked, and easiest to cook. We think it best when boiled whole, when small, as carefully as a Beet, and as far as possible no water whatever admitted to the centre. Then cut the Vegetable Marrow open, remove the centre pulp, and dress according to taste.

FRUIT GARDEN.

We could only water what was under glass. Took off lots of small Strawberry runners, and pricked into beds, and watered and shaded to make roots, as our plants of Strawberries in the main beds are so dry. These runners when rooted we will raise with balls, and pot. Trees in pots in the orchard house we have mulched above the rim of the pot again, as the previous one had melted away, or had sailed off in the watering. Gathered the last fruit in the Peach house, and cleared it out, and gave a heavy syringing with weak soap water, and shut up early, so that the vapour would settle the few red spider that appeared. There are no free spaces in the wall, or the daubing them with sulphur, and such a syringing, and shutting up with a bright sun between two and three o'clock, would destroy nearly all insects. In the hottest days damped the shelves of even the

earliest vineries. Out of doors we fear good crops of Apples and Pears will be small, and many of the former are dropping from nice little trees. We could have kept them on only by a good watering at the roots, and that we could not afford. We could only lessen the evil by mulching.

ORNAMENTAL DEPARTMENT.

Dressed flower-beds, and twiggd up plants where not secure, as heavy rains and winds combined would do great injury to plants not secured in our windy place. The removing of all faded blooms and petals before rain is also important, as the faded flowers then would greatly disfigure those that were fresh. Some Scarlet Pelargoniums are very fine, the Viola corouta in one place is dead for want of moisture; but no Viola would stand such weather long without watering. Went on potting for autumn, and sowing biennials for next season, Stocks, &c., for spring, &c. In the houses the chief work was to keep cool by shading, and sprinkling paths and stages in preference to soaking the plants too much. Pelargoniums done blooming are left standing in a sunny place, and are principally watered by damping the ground below the pots.—R. F.

COVENT GARDEN MARKET.—JULY 22.

THERE have been heavy arrivals of foreign and home-grown produce, comprising Apples, Pears, Plums, Apricots, and Peaches and Nectarines from open walls. Forced produce is now realising very low prices, the supply being in excess of the demand. Potatoes are good, and in them there is a steady trade. Raspberries and Strawberries are nearly over for this season.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	1	6	0	0	Melons..... each	3	0	6	0
Apricots doz.	2	0	4	0	Nectarines..... doz.	4	0	8	0
Cherries..... lb.	0	3	1	0	Oranges..... 100	12	0	0	0
Chestnuts..... bush.	1	6	2	0	Peaches..... doz.	6	0	12	0
Currants..... ½ sieve	4	0	0	0	Pears (dessert) .. doz.	2	0	0	0
Black..... do.	4	0	5	0	Pine Apples..... lb.	3	0	6	0
Figs..... doz.	4	0	3	0	Plums..... ½ sieve	5	0	6	0
Filberts..... lb.	1	0	0	0	Quinces..... doz.	0	0	0	0
Cobs..... lb.	0	9	1	0	Raspberries..... lb.	0	4	0	8
Gooseberries .. quart	0	4	8	8	Strawberries.. per lb.	0	0	0	0
Grapes, Hothouse.. lb.	2	0	5	0	Walnuts..... bush.	10	0	15	0
Lemons..... 100	8	0	12	0	do. per 100	1	0	2	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes..... doz.	2	0	3	0	Leeks..... bunch	0	4	0	0
Asparagus..... 100	0	0	0	0	Lettuce..... per score	0	6	1	0
Beans, Kidney ½ sieve	4	0	0	0	Mushrooms..... pottle	3	0	2	0
Beet, Red..... doz.	2	0	3	0	Must. & Cress, pinnet	0	2	0	0
Broccoli..... bundle	0	0	0	0	Onions per doz. lbs.	6	0	0	0
Brus. Sprouts ½ sieve	0	0	0	0	Parsley..... per sieve	3	0	4	0
Cabbage..... doz.	1	4	1	6	Parsnips..... doz.	0	9	1	0
Capicums..... 100	0	0	0	0	Peas..... per quart	0	9	1	6
Carrots..... bunch	0	6	1	0	Potatoes..... bushel	4	6	6	0
Cauliflower..... doz.	8	0	6	0	Kidney..... do.	4	0	6	0
Celery..... bundle	1	6	2	0	Radishes doz. bunches	0	6	0	0
Cucumbers..... each	0	4	1	0	Rhubarb..... bundle	0	4	0	9
Endive..... doz.	2	0	0	0	Sea-kale..... basket	0	0	0	8
Fennel..... bunch	0	3	0	0	Shallots..... lb.	0	8	0	0
Garlic..... lb.	0	8	0	0	Spinach..... bushel	2	0	3	0
Herbs..... bunch	0	3	0	0	Tomatoes..... per doz.	3	6	4	8
Horseradish .. bundle	3	0	5	0	Turnips..... bunch	0	6	1	0

TO CORRESPONDENTS.

•• We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—We are obliged to postpone until next week many answers.

FRUIT (E. M.).—Write to Messrs. Webber & Co., Fruiterers, Central Avenue, Covent Garden.

RED SPIDER ON PEAR AND APPLE TREES (S. M.).—Give the trees a few good syringings with a solution of soft soap, 3 ozs. to the gallon of water. This and moister weather will free the trees of these pests. The white substance on your brick wall is a result of the dry season. It will shortly disappear, but the wall may be washed with lime water, thirty gallons of water being poured over 14 lbs. of fresh lime, stirring well up. Let it stand two days and nights, then wash the wall with the clear liquid, which will not discolour it or damage the trees. It may be applied with a syringe.

PEACH TREES AND VINE INFESTED WITH RED SPIDER (Inquirer).—The Peach-tree leaf enclosed is destroyed by red spider. There is no trace of the brown aphid. No amount of fumigation with tobacco will destroy red spider. Your remedy will be to give the trees a thorough syringing with a solution of soft soap, 3 ozs. to the gallon of water, and repeat it again within a week, keeping the trees well syringed every evening with water up to the time of the fruit beginning to ripen. If there is no fruit contends the syringing up to the middle of September, but we fear the leaves will all fall prematurely. The Vine leaves, we fear, are infested with the same pest. They should be well syringed until the Grapes change colour. The red spider seldom attacks Apricot trees, but it does occasionally when the season is unusually dry and hot, and the supply of water at the roots not so plentifully furnished as required.

ERINDS LYCHNIDEA CULTURE (J. S. E.).—It should have efficient drainage, the pot being one-third filled with crocks, and then a little moss, or a little of the rougher parts of the compost placed over the drainage. In potting use a compost of light, sandy, fibrous loam one-third, and sandy peat one-third; silver sand and pieces of sandstone from the size of a pea to that of a hazel nut, in equal quantities, forming the remaining third, the whole well-mixed. Make the compost pretty fine, and keep the plant rather high in the centre of the pot. It requires to be near the glass in a greenhouse in winter, and cold pit or frame in summer, being careful not to overwater in winter nor at any time, and yet if it ever suffer by the want of water it rarely recovers. After potting watering should be carefully done for a time until the roots are working freely in the fresh soil, and in potting do not disturb the roots more than can be avoided; indeed, the less the ball is disturbed the better.

STEPHANOTIS FLORIBUNDA IN WARM GREENHOUSE (Stephanotis).—The Stephanotis succeeds fairly in a warm greenhouse, providing it is in the warmest part and has a light situation. We have seen it very fine in a vinery, the temperature being at times as low as 40°. In summer the temperature required is higher than is usual in greenhouses, it being desirable to secure a good growth, and to have it well ripened. The plant should be kept dry in winter, which will enable it to withstand cold better than if the soil were kept moist, and it is better for the plant.

STRAWBERRIES AND CHERRIES FOR EXHIBITION (A Young Beginner).—The two best Strawberries for exhibition and dessert we think are Dr. Hogg and Lucas. Two Cherries for the beginning of July are Tartarian Black and May Duke, both large and good.

MELONS NOT SETTING (T. S. M.).—You should, when the Melons were setting, have kept the surface of the bed rather dry, giving a good watering so as to wet as little as possible the foliage or surface of the bed. We can only suppose there has not been sufficient moisture in the soil, and that the plants have been kept too close. Give more air, keep well supplied with water, and do not employ liquid manure again until the fruit is the size of a hen's egg. Thin out the shoots, keeping them from 9 inches to 1 foot apart—that is, the main branches, and stop the side shoots one joint above the fruit, impregnating the flowers.

TOMATOES IN GREENHOUSE (Idem).—Tomatoes can be fruited very well in 9-inch pots, but they require to have plenty of liquid manure, but not too strong. We prefer 11 or 13-inch pots, and we would give yours a shift now into larger pots without disturbing the ball. Keep the plants well stopped above every cluster of fruit, thinning the shoots when much crowded, and stopping all one joint above the fruit. Continue stopping all shoots one joint above the fruit.

SAVING CABBAGE SEED (—).—The head of the Cabbage should not be cut off but allowed to burst, the plants for seed being sown in May of the previous year to that of their seeding. Turnips in flower, if near, at the time of the Cabbage flowering will have a degenerating effect on the Cabbage seed. They should be grown in plots a considerable distance from each other. We think you are mistaken about August grafting. Refer us to the page.

APPLE TREES INFESTED WITH RED SPIDER (L. B.).—Give your trees a few thorough syringings with soft-soap in solution at the rate of 2 ozs. to the gallon of water, directing the force of the syringing against the under sides of the leaves, and give the trees a thorough watering with liquid manure, not too strong, and mulch for a yard distance all round the stems, using cow dung if convenient, or other rich compost. There is no preventive of red spider, except frequently washing the foliage through syringing, and supplying proper nourishment to the roots in the shape of top-dressings of rich compost, with liberal supplies of water and liquid manure in dry weather.

PALENESS OF ROSES—GOOD YELLOW (G. H. M.).—The paleness of the yellow Roses proceeds from the buds at the time of expansion being soaked with heavy dews, which are evaporated by the sun; hence the colours fade. Sometimes a Rose loses its colours from starvation; this, however, cannot be the case with your Roses, which appear to be well fed. The remedy is sheet-covering. To provide for the loss of dew water should be given freely, so as to reach all the points of two days. All Roses for exhibition should be covered previously for one or two days. As you seem fond of Tea Roses, I advise the purchase of Bontan d'Or, a perfect button-hole Rose and quite golden, also Madame Margottin, a beautiful Tea Rose—in my judgment the best that has come out since Souvenir d'Elise made her appearance. This last, I fancy, is the handiwork of the Tea Roses. The contest for primacy, however, rests between Devonensis and the two last-named. I have seen Fisher Holmes out since last week. It is handsome, but I fear it will not be full enough. I recommend in addition to those named in my last contribution, Exposition de Brie, and Charles Rouillard. I have also had two beautiful blooms of Miss M. Dombrain.—W. F. KADLYTZE.

SUBSCRIPTION CREATING (Flanagan).—No other notice is necessary than to write saying that you wish to cease from subscribing.

SEEDLING CARNATIONS (H. B.).—You put a letter into the "Sample Packet," and we had to pay 2s. for it.

HARDY HERBACEOUS PLANTS.—We never heard of such a plant as your No. 3. Nos. 1 and 2 are hardy bulbs. The others are all hardy herbaceous plants, at least some species of No. 8 are. To avoid controversy, why not ask the secretary which he considers admissible?

CATERPILLAR (A Subscriber).—The caterpillar found in the Aspen is that of the Goat Moth, *Cossus ligniperda*. It is very destructive to the wood of growing trees.

INSECTS (*S. Dibble*).—It is the humming-bird moth, *Macroglossa stellatarum*. We know of no cheap illustrated work on wild flowers.

NAME OF FRUIT (*Con'turion*).—Your Apple is the Red Astruchan.
NAME OF PLANTS (*A. S. A.*).—*Acanthus spinosus*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending July 21st.

DATE.	BAROMETRE.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed.. 15	29.904	29.859	89	57	68	64	N.W.	.14	Hazy, fine; very fine; thunder and rain; fine.
Thurs. 16	29.927	29.859	93	60	71	66	N.W.	.00	Very fine; exceedingly hot; cloudy; fine.
Fri. .. 17	29.941	29.920	85	58	72	63	N.W.	.00	Overcast, cloudy; very fine; cloudy at night.
Sat. .. 18	29.918	29.913	87	61	71	65	S.	.00	Very fine; overcast; very fine at night.
Sun. .. 19	29.953	29.942	83	47	71	63	N.E.	.00	Very fine; overcast, fine; cloudy.
Mon. .. 20	30.002	29.956	89	57	71	64	S.	.00	Exceedingly fine; clear and very fine; fine.
Tues. . 21	30.016	29.952	93	58	72	67	S.W.	.00	Very fine; excessively hot; very fine; hot air at night.
Mean	29.956	29.919	87.71	56.38	70.85	65.86	..	0.14	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

HOUDANS.

I HAVE to thank many kind poultry fanciers for their answers sent to me some time back. Each, as a matter of course, recommended me to try the child of his own fancy. Unfortunately I am not yet prepared for entering on their introduction into my grounds. Were it not for my love of a garden I should have no hesitation, but I want to keep them out of the way of the garden; and as some of those who were good enough to answer me are not very distant neighbours, I hope to get their advice as to how I am to manage. Taking all the various points into consideration I am inclined to take to the Houdans, and it is for this purpose I wish to say a few words in reference to Mr. Manning's communication this week. Surely he must have misread your remarks in the Journal of July 2nd, for the description there given of the Houdan cocks does not profess to be that of M. Jacque hat of the writer; the translations of "Le Poulailleur" commence at the paragraph "Proportions and General Characters." Certain it is I have "Le Poulailleur" before me, and not a word is said in it regarding their supposed tenderness or want of constitution; indeed, in addition to the remarks translated he adds these—"It is one of the most beautiful breeds of fowls, and nothing can be more rich than the appearance of a poultry yard composed of Houdans, but its qualities surpass very much its beauty." In his description of the Crève-Cœur he adds, "The varieties of Caimont, Houdan, De Gournay, and all the Norman fowls in general, are veritable ramifications of the Crève-Cœur;" and it is to this fowl he gives the palm when he says, "It is the foremost race in France for the delicacy of its flesh, the ease with which it is fattened, its precocity, and I think that it is also the first in the world in these points of view."

In my late visit to Paris I endeavoured in vain to see anything like a good stock of either. On the Quai des Mégisseries I saw a few in baskets, but on applying as to where I could see a good stock I could get no answer. At the end of "Le Poulailleur" a Mons. Gerard at Grenille is mentioned as the great breeder of native birds; but I could not discover in the Paris Directory any such name, and it was too hot to go out to Grenille on the chance of finding any one. Is there anywhere in the neighbourhood of London where I could see some good Houdans?—D., Deal.

STAVELEY (DERBY) POULTRY SHOW.

ALLOW me to make a few remarks with regard to the above Show, which was fixed for June 23rd and 24th, and which is postponed till September 30th. When our entries closed on June 13th we had ten entries, each succeeding post bringing more; so that on Wednesday, when our Committee met to decide whether we should hold the Show under the then existing circumstances, we had only sixty-nine entries, too small a number to hold a show with any amount of success, after offering so liberal a prize list. At this meeting our Committee postponed their decision until next day (Thursday), and then concluded to postpone the Show, and return each exhibitor (who had kindly entered) his fee, and we enclosed a note stating our reasons, which was accordingly done on the Friday and Saturday following, to be in time, as we hoped, to stay any fowls being sent.

It was our first attempt, and we hoped to merit more entries.

Had we known before we had made our arrangements of Spalding and Beverley Shows being held at the same time, we should most decidedly have altered our date. I am extremely sorry that it should have caused any inconvenience to any exhibitors, but hope at the same time when our entries close on September 9th next we shall find their names in our list, and merit that liberal support which we have tried to gain.—T. W. SPENCER, Hon. Sec., Staveley, Derbyshire.

PROGRESS OF GROWTH OF DORKING CHICKENS.

COCKEREL hatched March 2nd; July 11th weighed 7½ lbs. Pullets hatched same date, 6 lbs. each. In 1863 I exhibited a cockerel at the Darlington Show in December weighing 12½ lbs.—he was hatched on the 11th of March—and two pullets with him, hatched April 3rd, each weighing 8½ lbs.

This year I sold many Dorking cockerels for the table at six weeks old, some of which weighed as much as 2 lbs. 7 ozs. each. This was after they were killed by bleeding. The least of them weighed 2 lbs. 5 ozs.

This may appear incredible, but I add my name, and if requisite can refer you to the dealer who bought them and weighed them.—THOMAS E. KRILL, Wetherby.

JAPANESE BANTAMS.

IN your report of the Oundle Poultry Show you allude to an extraordinary pen of Japanese Bantams, and suppose them to be a cross between the Silkies and Frizzled Bantams. The birds in the pen alluded to were imported from Japan last year, and I believe them to be a pure breed. I do not think they are half the weight of either the Silkies or Frizzled Bantams. I have raised a fair number of chickens from this pair of Bantams in the present year, and they are all perfectly true in feather and size to their parents. I believe them to be the only specimens in England; at least I have heard of or seen none like them.

We have for some years been breeders of the Frizzled Bantams which we show in the same class, but I believe them to be a distinct breed from the fowls in question in every way, and the cross between them and Silkies produces a full and smooth-feathered Bantam with a top knot.—JOS. N. BRASLEY.

BUDE HAVEN POULTRY SHOW.

JULY 17TH.

DORKINGS (Coloured).—First and Second, Mrs. Thynne. Cocks.—First, J. Tarrott. Second, J. Bines. Chickens.—First, Mrs. Thynne. Second, Miss E. Galsworthy.

SPANISH.—First, R. Hoskin. Second, W. Leech.

MINORCAS.—First, J. Gloyne. Second, D. Ham.

GAME.—First, I. Rosekelly. Second, A. West. Third, J. Francis.

Chickens.—First, R. Bowhay. Second, A. West.

COCHIN-CHINA.—First and Second, W. L. Trewin.

BRAHMAS.—First, J. Tarrott. Second, Mrs. Thynne.

MALAYS.—First, H. Darch. Second, W. Allin.

CORNISH.—First, Mrs. Thynne. Second, D. Maynard.

HAMBURGHS (Golden-pencilled).—First and Second, J. F. Delmar.

HAMBURGHS (Golden-spangled).—First and Second, J. F. Delmar.

HAMBURGHS (Silver-pencilled).—First, J. Turner. Second, J. Cheese-worth.

HAMBURGHS (Silver-spangled).—First and Second, W. M. Lancaster.

Chickens.—(Golden-pencilled and Spangled).—First, J. F. Delmar. Second, J. Woodley.

POLAND (Golden-spangled).—First and Second, H. P. B. Sly.

POLAND (Black White Topknot).—First and Second, W. L. Trewin.
BARNDOR.—First and Fourth, H. Francis. Second, C. Rodd. Third, R. Francis. Fifth, T. Barrett.
EXTRA PRIZES.—First, W. Scown. Second, Mrs. Thynne.
ANY BREED—*Cock*.—First, W. L. Trewin. Second, Capt. Fresman.
BANTAMS (White).—Prize, J. Francis.
BANTAMS (Black).—Second, J. Heal.
GUINEA FOWLS.—First and Second, W. M. Lancaster.
DUCKS (Aylesbury).—First, W. Bines. Second, Rev. T. S. Carnsew.
Third, Miss Radcliffe. Ducklings.—Prize, Rev. T. S. Carnsew.
DUCKS (Common).—First, J. Heal. Second, T. Pickard. *Ducklings*.—
First, S. Brown. Second, T. Medland. Third, H. Francis.
DUCKS (Rouen).—First and Second, Rev. R. R. Wright.
GEESE.—First and Second, J. Heal. Third, H. Francis.
TURKEYS.—First and Second, J. Heal. Third, G. Risdon.
PIGEONS.—First, Miss Radcliffe. Second, W. Medland. Third, T. M. Medland. *Fantails, Jacobins, Trumpeters, Tumblers, Nuns*.—Prize, Rev. J. R. Whyte.
RABBITS (Lop-eared).—Prize, Master R. Trelven. *Common*.—First—
Master J. Edgecombe. Second, Master H. Saunders.
JUDGES.—Rev. G. F. Hodson, North Petheron, Bridgewater; Mr. H. Leeworthy, Barnstaple.

LONG SUTTON POULTRY SHOW.—We have received a prize schedule of this, and considering the serious drawback of last year's Show, as to receipts at the entrance gates, owing to its raining incessantly all the time the Exhibition was open to the public, the present prize list must be admitted to be a liberal one. The Show takes place on the 14th and 15th of October next. The prizes offered are £1 and 10s., in the general classes for poultry, with an addition of six silver cups of the value of five guineas each. The prizes for Pigeons are £1 and 10s. in each class, with two five-guinea cups in this portion of the Show. The local prizes offered are not less liberal, and the well-known name of Mr. George Clarke, the Hon. Secretary, is an undoubted guarantee that everything calculated to benefit the birds will receive the most direct personal attention. The names of the three Judges selected are given in full on the prize schedule.

PIGEON-FLYING MATCH.—One day last week twenty-four Pigeon fanciers of Southwark flew a match from Dover for a stake of one sovereign each. A bird of the Skinum tribe won, accomplishing the journey in seventy-eight minutes.

MY DOGS.

SOUTHEY somewhere states as his opinion "that a horse is never perfect unless it has in it a child rising two years and a kitten rising six months." I do not like to dispute so great an authority, but as to the child rising two years, I think the time might be extended to several years above the two; for instance, what makes a horse more perfect than having in it a daughter rising eighteen? As to the kitten, well, tastes differ. Southey's love of cats was remarkable in a man. But not to be too particular. Grant the child and grant the kitten: why did not Southey mention a dog? Surely as superior to a cat as a lion is to a tiger—though modern travellers will make out that a tiger thrashes a lion in combat, so sometimes a cat beats a dog. But rightly, so I deem it, does that Landseer of literature, who has done for dogs with his pen what Sir Edwin has done for them with his brush—rightly does Dr. John Brown say, "A dog in a house is a perpetual baby." And pardon the digression "gentle reader"—and why are readers in old books always called "gentle?" I am sure that any cat-loving reader, of this article, for instance, is just now by no means a gentle reader, but ready to scratch me for speaking slightly of her (a her, of course), beloved animals. But yet again to come back, gentle or ungente reader, if you have never read Dr. John Brown's "Rab and His Friends," the best bit of dog literature ever written, go out and get a copy; it will only cost you sixpence, and you will thank "WILTSHIRE RECTOR" with eyes running over with happy tears (especially if you know "bonnie Scotland" and "Edinbro' town"), for introducing you to that wonderful "bookie," and for giving you an hour's intense pleasure, to be renewed as often as you read it.

Well, Dr. John Brown, as I said before, tells us, "A dog in a house is a perpetual baby." Think of that, ye whose hearts are yearning to love something; think of that, ye now not young fathers and mothers, who remember the joy in the house that baby No. 1 gave you from the first hour of its baby life until baby No. 2 took its throne and reigned in its stead. But to have a perpetual baby—a toy—a plaything—a something knowing much, yet not judged accountable, and so a large

margin given to do as it likes, and all it does gives you pleasure! A perpetual baby—that is, a dear good dog, who looks at you with intense loving eyes, all affection in their clear hazel, brown, or black depths—a being who obeys you implicitly, waits for the hour at the door of this house at which you call—a being who loves you just the same whether you are rich one year and very poor the next; who into the bargain takes upon him to defend your house, your home, your castle; and if you have no home he does not leave you—no, he all the more defends you, yourself, as much as to say, "Cheer up, my poor unfortunate master. You have got no home for me to take care of; never mind, I will concentrate my attention, I will watch and take care of you." Yes, a good affectionate dog, to whom you are everything, who loves you with his great affectionate heart. Of such a one the old proverb ought to be strictly kept true, "Love me, love my dog."

Dog and man, how suited they are to each other! Notice a dog without a master, how very wretched he is. He looks a miserable onest. How he follows each likely-looking person in whose face he thinks he discovers the least trace of dog love. And how he tries to ingratiate himself with such a one! He wags his tail, and looks as much as to say, "Do let me be your dog, I will be such a good dog!" And then with a mere beguiling wag and look which says, "Now do, you dear good man, now do." Poor masterless dog! This has to go on many days, until to his joy he finds a master—a boy, perhaps, still a master. Then he has to curry favour no more; he has not to wander about tail between legs—for why? he has got a master.

Then how dog and man contribute to each other's happiness! as in a happy marriage, each party is made the happier. Man has not domesticated or reclaimed any animal so perfectly as he has the dog, for the dog does not even wish for liberty. His feelings are won over. He is no longer, as naturally, a gregarious animal. He passes by other dogs with a brief "How do you do?" but he knows better than to forsake man and herd with his species—unlike the horse, who kicks up his heels in the pasture and fain would not again be stabled. But the dog does not even wish to be free. Man has raised him in the scale of existence. He is more sensible, intelligent, and sagacious than his wild ancestors (half wolves, perhaps). His heart has been won, and his heart is better since it was won; so he no longer wishes—even wishes to be free.

Now as to my dogs. I have not had many, for I do not readily transfer affection from one dog to another. The first dog I loved was scarcely mine, for I was rather his property, for certainly I was much his inferior. My childhood's home was one which for many years never lacked an infant within its walls; and each little one was duly presented to old "Keeper," for that was his name, who sniffed, and sniffed, and licked the tiny thing's face, and looked as if he knew all about it; his old brown eyes saying, "Ah! I understand. That child belongs to the house, and I'll take care of it—all right." And he did. Down on the lawn the youngster was by-and-by put, and old Keeper romped with it, kept it happy and out of mischief, save mischief with him, such as putting its tiny hand into his mouth and poking straws up his nostrils, both deeds permitted with good-humoured patience.

But I have not yet given to you, gentle reader of our gentle Journal, a picture of old Keeper. He was a bull terrier, very-much bull, in colour white. He had been a noted fighting dog. He had fought many battles (those were bull-baiting, badger-drawing, cock-fighting, dog-fighting days—things have happily improved since). Old Keeper was humanely bought and made a gentleman's dog of, so that he might retire with dignity into private life. There was the old spirit in him; but "No, Keeper, no!" brought him to a peaceful disposition; but "At him, Keeper, at him!" would, I fear, have pleased him far better. His face was wonderfully scarred—marks won in fair fight. He looked made for combat, as I suppose Garibaldi looks, even when at Caprera. His dear old scarred face and stout limbs are perpetuated; for there is a portrait of him in the old house at home, done in oils by the clever scene-painter of a moving company of theatricals. There he is rigid as in life, the attitude obtained by putting a rabbit in a basket, which made the old fellow cock his ears and tail, and look animated as in his youthful days. Poor scene-painter! Born for better things, as that picture shows, you were a poor ne'er-do-well, who had not even a dog for a friend.

Many years, considering he was a dog, did Keeper live honoured. Very faithful was he, very true to his master. The horse, a great friend of his—they shared the stable together—

dared not venture to do wrong, for once he broke his bridle and prepared to gallop off, but Keeper seized him by the nose (rather too severe a punishment), and there held him till his master came up. Many a cat did he kill, and such-like vermin. At length he grew very lean, and mangy, and heavy-eyed, and ceased to enjoy life; then leaner, more mangy, and more heavy-eyed, until he died. And as he had lived honoured, so he died lamented. There was a formal burial, and then a tombstone was erected, but no more. We could never agree as to a fit epitaph, after the "Here lies Keeper." We could not find words, fit as we thought, to record his merits. So month after month passed, the stone remained blank, then year after year, and it is blank still, for I saw it a few weeks ago, and the stone looked blue and clean, and blank as ever, though more than thirty years have flown since old Keeper was laid beneath. The tomb looked as fresh as the old dog is in the memory of the two that are left, who knew him, his master and—WILTSHIRE RECTOR.

(To be continued.)

INVASION OF BEES.

I HAVE a hive of bees, from which, as I took a glass of honey from them rather late last season, I fed them well all the winter, and until the end of March. Early in May I found they worked very little, and seemed to be fighting, some dead bees being on the ground under the bee-stand. So they have gone on working little, and with more and more dead bees on the ground, till I think there must be very few left. Being but a tyro in bee-keeping, I should like to know the reason of this. I had given up my bee-keeping in despair (this being my only time), when this morning a great sound of bees was heard in the air; my man rattled some tins, and threw up earth at a swarm which appeared in the garden, apparently looking for somewhere to settle. He expected them to go to a pear tree near them; they began, however, to enter the hive until they all settled within it, and they have been working all day, and at present appear as much at home in it as if they had been there a year. Is not the above a somewhat unusual occurrence?—C. R.

[There is little doubt that the queen died during the winter and that the colony gradually dwindled away, until about May or June none were left. Those which afterwards appeared to inhabit the hive did not really belong to it, but were merely scouts from other stocks, and any fighting which took place was doubtless between these and the remnants of the aborigines, or between the invaders themselves if they came, as is most probable, from more than one hive. What followed is common enough, swarms being very prone to look out for and occupy hives which are ready furnished with combs.]

BEEES IN A SODA CASK.

ACCORDING to your request, I send you an account of the ultimate result of the swarm which was domiciled in a soda cask, as reported in your columns August 22nd, 1867.

The owner at first purposed placing them over the brimstone pit, as the easiest method of dealing with them, but I said I hoped he would not be guilty of such wholesale murder, and offered to go over and drive them for him if he would give me the bees. He seemed to think if I could drive them he could manage to do it himself; "Very well, do so, only remember you will have such a job as you never had before." It seemed he had some acquaintance with a person in the neighbourhood, said to be wise in bee lore, and this party promised his assistance; "he had driven dozens of hives, and could manage it in an hour," &c. I inquired how this "bee man" proposed to conduct the operation, and I was informed "a hole was to be dug in the ground to receive an empty cask, and that then the full one was to be placed upon the top, and the bees were to be driven down into the empty one." Of course I had a good laugh at them, and it was finally arranged that I should go over and drive them for him about the end of July. However, what with the advice and persuasions of one wiseacre and another, he allowed this adept to commence operations on the 25th June, in my absence, and the result was even worse than I should have anticipated. He tried, and tried again, and was at last obliged to beat an ignominious retreat, and leave his work unfinished, and the owner found he knew no more about driving bees than he did himself. So he was obliged to try, but could not succeed. Determined not to be beaten, he employed a lad a whole day to beat the sides of the cask incessantly, but with no other result than that the combs were loosened, and slid up and down when

the cask was moved, and then didn't the enraged inhabitants give chase and repay with compound interest the indignities they had been suffering for two or three days previously.

Then they sent to know if I would come immediately and help them. This I could not do, and as the bees would not take to the new cask they got them at last into a large straw hive, after having sacrificed thousands of bees and the whole of the eggs and larvæ in the brood combs, which must have amounted to 20,000 or 30,000, and they got, what think you, for their honey harvest?—about 8 or 9 lbs. of very indifferent honey. And I was afraid when I saw the swarm the other day they would not prosper, and had doubts from their movements the queen was not in the hive, as they had been in it five days and there was only a bit of comb about the size of a threepenny-piece; so to satisfy all parties, I got a sheet and dashed them all out, and searched them over until I found her majesty was safe; at the same time I told him if he did not commence feeding at once he would lose them altogether, for there seems to be a great scarcity of honey this season about this neighbourhood although some bee-keepers have done better than others.

I have had very bad success this season, having lost so many queens one way or other, thus keeping all my stocks weak in numbers, those with queens being so often called upon to contribute brood combs to save the others from becoming extinct.

I lost a fine Ligurian queen the first week in May, and always fancied a goodly company of bees accompanied her. And judge of my vexation at hearing only two days ago that a swarm of Ligurians had possession of a tree some two or two and a half miles away, and had been there for weeks to the knowledge of certain parties who had been trying to hive them, but could not get the queen. I sent a man to see whereabouts they were, and had the mortification to learn that they had been so harassed by men and boys (some of whom got pretty well stung over it), that they had decamped entirely, and gone no one seemed to know where.—J. R. J., Hull.

BEE GLASSES.

IT is with much pleasure I accede to your esteemed contributor, "B. & W.'s" request for further information as to the style of bee glass figured at page 415 of No. 375.

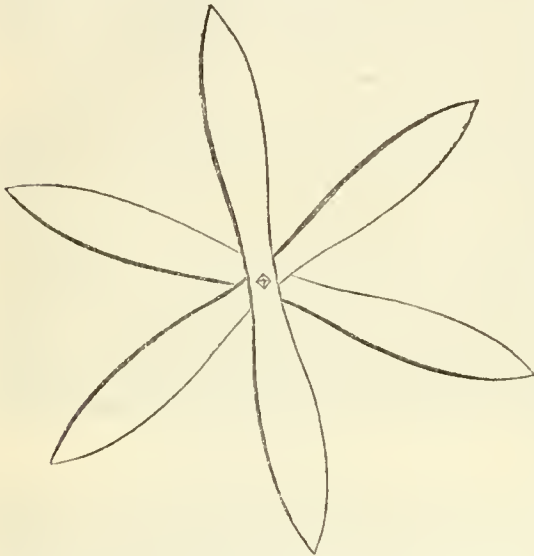
Like him I had almost discarded glasses from my apiary, finding, as a rule, bees would readily store 3 lbs. in wood against 1, after the utmost care, in the best description of glasses offered by Messrs. Neighbour & Sons; but those employed by Mr. Mitchell, of Abington, being the design of no mere theorist, but the ingenious result of very many years' practical experience and efforts to produce a glass "all but perfect," offer such facilities for the storing of honey in this material, as will induce me to give them a prominent place in my apiary for the time to come.

But, first of all, to take up the faults and suggestions, by way of improvement, of your correspondent, I may remark, the rim forms portion of the lid or top, and consequently already rests upon the body of the glass, and not within it, as he supposes. Then, again, the concave or saucer-like form of the upper portion of the stalk serves the purposes of bearing the glass and retaining any slight leakage. Of course, when set upon the table to be broken up, the lower circular aperture would require to be securely stopped, and by the above arrangement the stopper is kept out of view—indeed, when photographed there was a thick knitted wire rubber doubled up beneath the body of the glass, quite unseen in the sketch.

Your correspondent's last and best idea of substituting a wooden top suggested itself the first glance I had of the glass. The comparatively small portion stored in the upper portion or lid is a capital feature of the plan, and it occurred to me that by temporarily removing the lid, and in lieu setting on a thin board with a number of good deep pieces of empty guide comb, storing would go on about as rapidly as in wood till its completion, when I proposed with a thin-bladed knife or thread to sever the attachments to the board, remove it, and replace the lid. The bees would at once gather up to lick up the loose honey, and finding the vacuum above them, speedily work up the combs; and here, I may remark, your correspondent's fears, however legitimate with regard to loaded combs giving way of their own weight in common glasses, overlooks the fact that this is an impossibility in the new glass, as when completed they are self-supported from the narrower base, independent altogether of upper attachments to either glass or wood—another happy thought. My plan I duly submitted to Mr.

Mitchell, and found it had occurred to himself some years ago, been tried, and found wanting.

The usual disinclination bees display to begin work on a smooth surface, such as glass, and the persistence with which, when started, they stick to one comb or side of a glass, is a chief cause of the slow progress made. This difficulty Mr. Mitchell, like every worker in glass, experienced, and at last overcame by a very ingenious contrivance, by which, instead of beginning one comb the bees can be induced to start several simultaneously in a regular figure, both downwards and upwards. This is effected by the construction of a little frame of very thin wood, consisting of three pieces crossing and attached to each other by means of a little broad-headed wooden pin in the centre, as shown in the annexed sketch.



To each division of the frame, and on both sides, points of pure guide comb are attached, and it is suspended by means of a thread passing through the hole in the knob on the lid till such times as the combs are fixed to the sides of the glass, when the thread is drawn up.

Another most important point is the thorough shading of the glasses, and keeping up an equable warmth, best effected by means of thick plies of woollens, or if wool can be had it answers capitally. By neglecting shading, Mr. Mitchell, when in his novitiate, lost thirteen young swarms in one hot season, the bees abandoning their hives, and going off after three weeks' occupancy, which mishap, together with the loss the same season of a large order of glasses from London, save one, through bad packing, he expressively added, "About finished me;" and yet he persevered, avoiding similar blunders, and by the use of good roomy stock hives, and combining several swarms, admitting only the honey-gatherers of the end combs into the glasses, he has at last attained such wonderful results.

The glasses are made by Messrs. James Couper & Sons, at the City Flint Glass Works, Glasgow, and can be had of any size, from 4s. 6d., to hold a few pounds, up to the monster glass illustrated, which cost £1.—A RENFREWSHIRE BEE-KEEPER.

OUR LETTER BOX.

EXHIBITING MALAYS AND WHITE DORKINGS (Fair Play).—A Malay comb that has been tampered with is a disqualification. A purely bred Malay wants nothing taken off, nor can he spare anything without positive detriment. The White Dorking cock would not be disqualified by the hollow comb, as it is not a breed in which comb is of any importance. The spurs on the outside of the legs are a deformity, and should disqualify.

PRESERVING EGGS (W. M.).—Eggs may be kept perfectly fresh and fit for any purpose by being put in an earthen pan, and covered with lime worked with water into a paste; alternate layers may be put in till the vessel is full. Care must be taken that the eggs be always covered, and they must be fresh when put in. The process is preservative, not preparative. We have eggs now fit for any culinary purpose that were preserved last year.

POINTS OF SILVER-GRAY DORKINGS (Silver-Gray).—It is wrong for your Silver-Gray pullets to have black heads. It is still worse for them to have grey mottled breasts. The last is a positive disqualification.

CHICKENS' FEATHERING (D. S.).—A chicken never moult; that is an operation of mature age; but the chicken's feathers drop, and are replaced by those that will last till the first regular moult comes. An April chicken should be in full and perfect feather in October and November.

BRAHMAS FOR EXHIBITION (A. E. H.).—Your Brahmas are hatched too late for early showing, as they are only just now getting their plumage. It will be months before they moult. The weight is satisfactory, a pound per month is a good average. There is nothing that will promote the growth of feathers. The twist is not so important in the comb of a Brahma as an inclination to fall over. Deficient feathering of the leg is a great fault. You will be more easily understood by those who know poultry, if you leave out the word neck before huckle. A fowl has but one neck, that is the neck; and the other long feathers form the saddle. The cocks will not crow yet; not till they are past four months old. Judging from the weights you quote, we believe you would be successful in showing against breeds of the same age. If you show against older ones, your chances of success would be diminished.

PREPARING GAME FOWLS FOR EXHIBITION (M. T.).—Game fowls should always be penned some days before exhibition, for several reasons. One very important one is to see whether the cock will agree with the hens, and whether they will agree together. If you exhibit a pen, the members of which are always quarrelling, there is no hope of success. They should not be put in a warm room. An out-house or shed, with protection from draught, is all they want. They should in their pen be able to perch. If there are signs of fighting, remove the weakest bird at once. No food has so much effect on the plumage in making it hard, as good white peas. Most exhibitors and cocks eat their favourite foods; thus, some feed their Game cocks on raw walk of egg; others give rump-steak scraped for food, and allow old ale for drink; others give rusks and stale crusts steeped in port wine. There is no doubt a little of these is good and very instrumental in producing high condition, but it also develops their pugnacious propensities to an extent that often destroys any chance of success. Their legs and faces should be washed scrupulously clean.

POULTRY FOR TABLE AND LAYING (An Old Subscriber).—If you have plenty of room and fields for one breed, you have enough for two, if you manage them aright. You should keep Dorkings for the run, and Brahmas for confinement. The latter will do well in a small space. We believe you very candidly and naively give us the history of your disappointment as regards eggs, when you quit the winter laying of twenty Dorking hens, and five dark Brahmas. Hens do not lay in the winter, chickens do. Winter laying may be made a certainty by keeping proper breeds of proper ages. Dorking pullets hatched in April, keeping pullets hatched in May or early in June, will be laying in the winter. The poor mongrel that did lay, did not do so because it was a mongrel, but in spite of it. When pullets attain a certain age they must lay, because the time is come, and this acts independently of season or temperature; but it is only once in a lifetime. Afterwards, they are hens, and produce eggs only in the natural season. Substitute pullets for hens and you will have eggs. Eachew fines, and all artificial heat; they will only cause you trouble, and will make no return in any profitable way. Do not cross between Dorkings and Hamburgs; no mistake can be greater. Hamburgs are non-sitters. It is yet time to save some of our early pullets, and we advise you to save the handsomest for winter layers. They will not disappoint one.

CARRIER PIGEONS FLYING AND EGGS NOT HATCHING (A Young Fancier).—Do not let your Carriers fly yet, wait until the young ones are a month old; then put them and food on the landing-board, and the old birds after that; then fly will be enticed home, especially if you let them out when hungry. Be sure you do not drive them out, but let them come out as, and when, they please. Meanwhile have a good-sized wire front on the landing-board so that the birds each day can walk about, sun themselves, and get a knowledge of the locality, also feed them there. As to your other question we are not quite sure that we rightly understand you. This hot and dry weather has been very bad for all hatching. We have before now had eggs fail us, owing to their being bruised, when chipped, between the bird's body and the floor, on which just under the eggs there happened to be no nest, and so the young were not hatched. Are your birds liberally fed? After a little longer trial and re-mating we should kill such disappointing Pigeons. As a last thought, you may have too many birds in your loft; if so, a fancier never succeeds.

TEACHING BULLFINCHES TO PIPE (H. T.).—Their education consists in keeping them from hearing any other birds, placing them in a small basket, feeding them every two hours or thereabout, and after each meal covering them up to prevent their attention being diverted, and playing or whistling their lesson over to them two or three times; and even after they feed themselves it is necessary to continue their tuition incessantly for nine months. Some birds can learn as many as three tunes, but it is rare for them to pipe them without fault, and it is often necessary to whistle their tunes over to them after the moult, to prevent their forgetting them. One tone well piped is, perhaps, better than three imperfectly.

SALE OF YOUNG CANARIES (Spot).—Try Mr. E. Hawkins, II, Bear Street, Leicester Square, though Canaries of "no particular breed" are not much in demand.

AUSTRALIAN PAROQUETS (Lucian).—Without seeing the birds we can only judge from the description you have given that they are the Bodgriars or Australian Grass Paroquets. They eat canary seed, oats, and millet; a handful of fresh gathered grass with seed on, should be given frequently, also water to drink. They are easily tamed with careful attention.

CHANGING FLOOR BOARDS (A Novice).—It is immaterial at what season you substitute moveable floor boards for fixed ones.

PROFITABLE BEE-KEEPING (A Cheshire Bee-keeper).—We doubt whether the average wholesale price of run honey exceeds the offer which you have already received (8½d per lb.), although it appears but a low figure for so fine a quality as yours is described to be. You may, however, obtain a much better price for super honey by selling it in the comb. Messrs. Fortnum & Mason, Piccadilly, and Messrs. Neighbour, 149, Regent Street, and 127, Holborn, are large purchasers of honey, and either of these firms would inform you in what kind of vessels it should be forwarded to them.

FINE WINE (J. R. M.).—Take the whites and shells of three fresh-eggs, beat them in a wooden vessel till they become a thick froth, add thereto a little wine, and whisk it up again. If the cask be full take out four or five gallons, and give it a good stirring; next whisk up the finings, and put them in, after which stir the whole well; drive in the bung, bore a hole for a vent, and in about three days close it with a peg.

WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 30—AUG. 5, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. a.	
30	TH	Royal Oxfordshire Horticultural Show.	75.1	50.0	62.5	16	23 af 4	43 af 7	54 af 4	59 af 0	11	6 8	212
31	F		74.8	50.4	62.6	16	24 4	48 7	44 5	40 1	12	6 5	213
1	S	Royal Horticultural Society, Promenade.	75.8	50.3	62.6	19	26 4	45 7	31 6	23 2	13	6 2	214
2	SUN	8 SUNDAY AFTER TRINITY.	75.8	51.0	63.4	20	27 4	43 7	10 7	21 3	14	5 57	215
3	M		74.7	50.5	62.6	19	28 4	42 7	43 7	19 4	0	5 53	216
4	TU	Royal Horticultural Society, Fruit, Floral,	75.6	50.6	63.1	17	30 4	40 7	11 8	19 5	16	5 47	217
5	W	[and General Meeting.]	74.2	51.0	62.6	15	32 4	39 7	35 8	21 6	17	5 41	218

From observations taken near London during the last forty-one years, the average day temperature of the week is 75.1°; and its night temperature 50.4°. The greatest heat was 92°, on the 2nd, 1856; and the lowest cold 31°, on the 2nd, 1864. The greatest fall of rain was 1.23 inch.

THE INFLUENCE OF THE HOT SEASON OVER THE GOOSEBERRY.



THE present season promises to test the capabilities of certain plants and fruits whose well or ill doing has been generally ascribed to the influence of climate, for a summer approaching those of continental Europe and America is hurrying things on more rapidly than we have been accustomed to see in former years. That there are certain plants and fruits which seem to benefit by this rapidity of growth, or rather of maturity, there can be no doubt, but whether the benefits so gained are not more than counterbalanced by the injuries that others suffer is a question which need not be entered into here. Rather let us examine into the conditions of one of our most popular hardy fruits, and see in what way it has been acted upon by the dry hot weather of the last six weeks or more.

The Gooseberry is admitted to be an especially British fruit, owing its present enlarged size and good flavour to the care and perseverance of our ancestors, who have from the small, wild, worthless-looking, spiny shrub furnished us with a plant producing fruit of large size and good flavour, and possessing as much diversity of colour as the Plum. It does not appear, however, that the Gooseberry out of Great Britain is held in such great esteem as it is with us, and the inference drawn would be that no other climate suits it so well. This view was taken by the late Mr. Loudon nearly half a century ago, and, more than that, he pointed out what part of the empire produced the best subsequent experience has proved that he was in the main right, and the present summer confirms the correctness of his views. On further inquiry it will be discovered that other things as well as the Gooseberry are influenced by a scorching season, so as to become less valuable than they are in ordinary years. This and other inconveniences, as we are often tempted to call them, may reconcile us to dull and showery summers when we see and feel the effects of bright continental ones like the present, which is seriously affecting many things that will be missed hereafter, and at the present time is inflicting an amount of injury upon us more than equivalent to the advantages it brings.

Confining my remarks to the Gooseberry, let us see how it has fared with the most extensively-cultivated of all our hardy fruits, for there are few cottage gardens without a Gooseberry bush, while it is equally valuable in a royal garden. In general we shall find that the Gooseberry crop of 1868 was a good, if not an abundant one, and it was so early that a neighbour of mine sent several bushels to market on the last day of April, and I do not think he was first.

Gooseberries have been plentiful, and the trees in general free from the caterpillar, but occasional visitations of it are to be met with, and some little time ago I was grieved on passing a plantation of about four acres of this fruit to find scarcely a leaf on the trees, the attack

being the second in the season, when the caterpillars are much more difficult to conquer than in the first assault, for then hand-picking does much towards thinning them. The trees, as I have said, were almost leafless, and the fruit all but useless. Now, when it is understood that the occupier last year estimated his crop on the four acres at twenty tons of Gooseberries, it is easy to conceive what a loss must have been caused by the caterpillar, and that, too, with one of the hardiest of our hardy fruits. It would be wrong to blame the cultivator in this instance, for where it can be done he has spared no expense in picking off these pernicious insects, and I will not say how many gallons have been gathered off his grounds in some seasons, for he has other fruits as well as Gooseberries, but the quantity seems astonishing.

I would ask all who have noticed the ripening of Gooseberries this season on dry soils and in the broiling sun which we have had, if they have not noticed a great deficiency in flavour? I have certainly thought so. The trees are healthy, the crop good, and apparently it ripened properly, but evidently the season has been too forward for it, and the lack of moisture in the atmosphere has also affected it; for when we had a little rain on the night of July 12th, the fruit being then fully ripe, I expected, in accordance with the experience of former years, that the berries would burst with the pent-up mucous juice. Such, however, has not been the case, not one Gooseberry that I have met with has done so; on the contrary, the skins seem to toughen, and the pulp by degrees to turn sour, the whole fruit having less inclination to drop off than in former years. Now, is this not a proof that the season has been too hot for the Gooseberry? In flavour the fruit has never approached even mediocrity, and I should think that in general it has been somewhat undersized.

The want of the Gooseberry has evidently been those occasional showers which our British climate in the majority of seasons affords, while in the case of the present summer even the assistance of the ordinary dews has been wanting, for we have scarcely had dew all the season, and very often of late a withering north-east wind has been blowing all night. Since the 29th of May up to the present time (July 17th), we have scarcely had any rain, not so much as 1 inch in depth all over the surface. Such extreme dryness is, in my opinion, the cause of the Gooseberry lacking flavour, while, possibly, such fruits as Peaches and some others may in this respect be improved by the drought.

The Gooseberry, being a native fruit, does not require a Persian or Australian summer to ripen its fruit in, and the correctness of the opinion of a garden authority of the last generation, that better Gooseberries are grown in Scotland and the north of England than around London, seems to be confirmed this year; at all events I would like to have the opinion of others on this matter. We may feel some anxiety for our other fruits as well, for they may be affected in a similar manner by the hot summer we are passing through, and in the end present us with fruits resembling those of southern Europe or other warm countries. Should this be the case, our Apples will be more

found fault with than have been our Gooseberries, for the latter in a green state were as good as usual; but if our Wellingtons, Winter Quoinings, Sturmer Pippins, and other favourite Apples be as difficult to cook as these we have from abroad early in spring, we shall remember the season of 1868 for that cause alone, independently of its many other advantages and disadvantages. Coupled, therefore, with my present inquiry as to the Gooseberry, I would ask, What effect is the continued hot weather likely to have on the Apple and other hardy fruits?—J. RONSON.

BIRDS AND CHERRIES.

ALL lovers of Cherries—their name must be legion—know well the difficulty of keeping their Cherries from the birds till they are ripe; in fact, a ripe Cherry on a tree in the open air in woodland districts is not, it is true, a *rara avis*, but it is a very rare thing. I have, therefore, a small pleasure in saying that I have this day (July 20), some of the finest May Duke and Archduke Cherries thoroughly ripe; and that I have circumvented my feathered friends, who in spring give me so much pleasure in listening to their harmony, and in summer so much vexation because they will take the best of every kind of fruit.

I had this season the most abundant crop of Duke Cherries I ever saw. The trees, now ten years old, were at first dwarf bushes on the Mahaleb stock planted on my lawn. A few years ago I trained up from each bush from seven to ten branches, making every branch into a cordon by pinching-in closely all the summer every lateral shoot. The effect has proved remarkable and beautiful, for last April every branch was a perfect cordon of flowers, followed by fruit in equal abundance. I need scarcely add that this was before we received a decree from France that no tree with more than one branch could be a cordon. My Cherries commenced to colour, and then nets, and white worsted, and the gun were called into action; but all of no avail, for the birds seemed to laugh at me as I did at the cordon decree. They tore the nets with their claws, and thrust their beaks through the meshes they could not tear, so as to destroy, although they could not enjoy—too common among men as well as birds. Owing to the dry season I partially foresaw it would be one of bird-hunger; and happening to have a nice row of Duke Cherries, single upright cordons, thirty in number, and about seven years old, I put in practice an invention I gave to the public some years ago—viz., that of enclosing each tree in a tube of coarse muslin—a sort of bottomless bag, made by stitching two yard-widths of coarse muslin together, say 2 yards in length, and then slipping it over the tree, leaving the leader out, and then tying it at top where the fruit commences, and at bottom where no fruit is, so as to enclose all the fruit in a bag. I am inclined to think this coarse muslin at about 3d. per yard is better than tiffany, as it admits more air; and I am not quite sure but that it might be used in spring to protect the blossoms from frost, but that I have not yet tried.

I have never seen anything in fruit-culture more interesting than my row of upright cordon Cherry trees. They are exactly 8 feet in height, their straight stems the size of a stout broomstick, so that no support is required; and they have been so carefully pinched-in all the summer for some years, that their diameter, measured through the fruit-bearing spurs, is not more than 10 inches. They have had their leading shoots shortened, and it is not intended to allow them to exceed 8 feet, their present height. It is surprising the quantity of Cherries these upright single cordons produce. In the course of years they will become stout trees, and bear abundantly from "top to toe." I have said 8 feet as a reasonable height, but 12 feet may be in small gardens a better height, for the taller the trees the larger the crop, only they will require muslin robes of 4 yards in length instead of 2.

The best method to form these very nice garden trees is to plant pyramids of the Duke Cherry tribe, to cut in all their side shoots to 1 inch in length, to train up a straight leader, with a stake if needed, and to pinch-in during the summer every shoot to three leaves as soon as it has made four or five. My trees have been pinched for the third time up to this date, and they will require being looked to till the end of August. The great advantage of these upright cordon trees is their adaptation to either small or large gardens. They should be planted 3 feet apart, and thus any small suburban garden may have its dozen of prolific Cherry trees. The best sorts for the purpose are the Empress Eugénie May Duke, Archduke,

Royal Duke, Love Apple Cherry, Duchesse de Pallau, and Nouvelle Royale, a late sort. These are all compact upright growers, and here they all succeed best on the Mahaleb (*Cerasus mahaleb*) stock, which appears to act upon them as the Quince stock does on the Pear, in circumscribing growth and making the trees fruitful, more particularly in a calcareous soil.—T. RIVERS.

DESTROYING INSECTS.

SOME delay has been caused in the preparation of my notes on insects from my having been favoured with a compound from Mr. J. C. Clarke, Vinery House, Allerton, Liverpool, inventor and patentee, also maker of Clarke's water-jacket furnace boiler, a boiler I think not half so well known as it deserves to be. I have it heating a conservatory and three vineries very satisfactorily, and with a small consumption of fuel. Of this boiler I trust to give a more extended report at some future time, and shall, therefore, confine myself to the insect-destroying compound.

Mr. Clarke, I ought to state, is very fond of gardening, having extensive glass houses and gardens, and takes a more than common interest in the gardening at Vinery House.

The compound very much resembles soft-soap in colour, but it is moderately hard like brown common soap, and it is mottled. The compound came to me in a roundish lump, half of which I was to cut in thin slices and boil in a gallon of water for ten minutes. This was done, and I had a liquid holding the whole of the compound in solution—no sediment; no straining required. It passed freely through a syringe without any clogging; but I made a blunder at the very commencement, for the solution put in a painted watering pot whilst cooling showed its effects upon the paint. Transferring it to a bucket, a narrow one, in order to give depth for dipping, I dipped several plants in the solution, holding them in it for a short time, the solution being cooled so that the hand could bear it comfortably.

I first dipped a small Fig tree infested with red spider; 2nd, a plant of The Czar Violet, also infested with red spider; 3rd, several young plants of Ferns, including *Platyloma adiantoides* infested with green aphid, *Blechnum coreovadense*, *Pteris serulata*, *P. tremula*, *Cystopteris fragilis*, and other small plants, in all about a dozen, which though clean, I dipped to test the effect of the compound on the young tender growths; 4th, a *Cineraria* in flower and infested with thrips; 5th, four branches of Cactus, all having two or three flowers, some open, others on the point of expanding, and covered with green aphid; 6th, a plant of *Platyceerium alicornis* infested with brown scale; 7th, two plants of *Bietia Tankervilleæ* infested with brown scale, much honeydew, and ants busy sucking the sweet secretion, Now, upon withdrawing the plants, the ants were giving their last kick. I had been longing for more than twenty years for something to kill ants, and now I had it unexpectedly. I must now stop further dipping the plants and hunt ants. These are not difficult to find at any time, but particularly this season. As they run I dipped my middle finger in the solution, and a drop hanging from it, the solution on touching the back of the ant fell, and with a marvellous effect on the ant, which began to writhe in the agonies of death. The ants did not stir beyond giving a few convulsive movements of the head and legs, and died in less than half a minute.

Satisfied that the compound would kill ants, I continued further search for plants infested with insects, but finding none having different insects from those already dipped I gave up dipping, thinking I might have injured the foliage of quite enough plants at once; but as this was an all-important consideration with any insect-destroying compound I dipped *Pearlgonium* Countess of Bestive, Mrs. Pollock, Fontainebleau, Argus, Mountain of Light, and other plants all in full flower, for it was one part of the recommendation of the compound that it would not injure the flowers. Finally, I took a syringe and syringed a bad of Roses (dwarfs on the *Manetti* stock), consisting of such kinds as John Hopper, Prince Camille de Rohan, Madame Rivers, Charles Duval—all in full bloom, and from which the sparrows had been for several days at work clearing off green aphid. I gave them the whole gallon of the solution, very little being lost in dipping the plants, and made the flowers thoroughly wet. All the above were done in the evening of a very hot day, and the succeeding days were equally fine and hot. The following evening I went to register the results, having given attention to the plants in the morning, expecting to find the flowers at least discoloured; but the Cactus buds of the previous evening were expanded and gorgeous,

and in this respect the flowers of those plants in my eye outvie those of all others. Mrs. Pollock was as fresh as ever.

I thought, however, that it would be well to wait until evening and then chronicle the results, as the promising fine day must have done something. In the evening I found—1, on the Fig tree the red spider killed, the foliage not injured, and brighter and more glossy; 2, on The Czar Violet the red spider killed, the foliage not injured, taking off some fine pods of seeds; 3, of the Ferns not a frond was injured, the green aphid on *Platyloma adiantoides* killed and quite brown like the Peach aphid; 4, on the Cineraria the thrips dead, the leaves not damaged; 5, on the Cactus branches and flowers the green aphid killed, the flowers not discoloured or injuriously affected by the compound; 6, on the *Platyserium* the brown scale dead, the centre sunk, the young fronds not injured; 7, *Bletia*, brown scale shrivelled, skeletons of ants remaining, deposit of honeydew peeling off, foliage not affected otherwise than made fresher-looking; 8, *Pelargoniums*, not a flower discoloured nor a leaf injured; lastly, the *Roses* in full bloom were not injured in leaf or flower, and the aphid had become brown.

I waited to give the plants dipped in the solution of the compound time to perish, and they have not done so. I waited to be able to say it would kill mealy bug, white scale, and American bug, it being rendered more effectual for these pests by the addition of a few drops of spirits of turpentine. I have written to Mr. Clarke, and obtained his permission to state publicly the results of the trial of his compound made solely for his own private use; and after pointing out to him the value of his invention and the great good it would be to the horticultural public, he has consented to let others have the benefit of the invention as well as himself. It can be made and sold, I believe, cheaply, costing to the consumer about 3d. per gallon of solution. The quantity I used was 1½ oz. to the gallon, which is quite strong enough for thrips and scale; but it should be made rather stronger for mealy bug, whilst 1 oz. to the gallon will destroy green aphid. I hope Mr. Clarke will not lose any time in having it advertised and made known as it deserves.

In conclusion, allow me to ask Mr. Fish if he syringed the British Queen Strawberry plants before dusting with tobacco powder, and also afterwards. Mr. Fish is aware that the British Queen and others of its race are subject in parching weather not to swell well. I do not grow the British Queen now, finding the Frogmore Late Pine vastly superior to it, freer in growth, a better fruiter, the fruit larger, and the flavour good—indeed, it is the best late Strawberry. Dr. Hogg Strawberry is also surpassingly good; also Lucas, after *La Constante*, excellent. I cannot account for the tobacco powder damaging the Strawberries. I have used the powder extensively both in and out-doors, and with the best results. If Mr. Fish tries this compound I think he will not care for any other insecticide.—G. ABBEY.

SOME ROSES AND THEIR MERITS.

I FIND that in my rambles among *Roses*, I have noted *Duc de Wellington* as in every respect a superior dark crimson *Rose*, although its habit of growth may not be quite so vigorous as some of its rivals. I was also very much pleased with *Madame Clemence Joigneaux*, which I saw eight days ago blooming most gloriously in a *Rose* nursery in the south of Scotland. I have also added *Murillo* to the list of my proposed investments. A neighbour of mine has bloomed *Mademoiselle Bonnaire*, which certainly is a superior white *Rose*.

I shall be glad to have Mr. Radclyffe's approval or condemnation of these *Roses*, and also his opinion of Mr. Cranston's new English blush *Rose*, *Miss Ingram*. I have never been able to see a bloom of this new *Rose*, and a propagator of *Roses* in one of the largest wholesale *Rose* nurseries in Scotland, tells me he has been looking in vain for some favourable or adverse criticism on this new aspirant to fame.—THOS. WHITELAW, LL.D.

[The Duke of Wellington is a beautiful *Rose*, wanting only in fullness. It is a moderate grower. *Mlle. Bonnaire* is a lovely *Rose*, but is in most soils a wretched grower. *Murillo* is a beautiful dark *Rose*, wanting in size and fullness. *Miss Ingram*, raised at Frogmore by Mr. Ingram, is a beautiful *Rose*. It is growing freely here, but I have not yet bloomed it myself. I advise Dr. Whitelaw to buy *Souvenir de Dr. Jamin* in the place of *Murillo*, and *Princess Mary of Cambridge* in the place of *Mlle. Bonnaire*. The Duke of Wellington we must all have.

I have two sorts of blush *Roses* here which on the *Manetti* stock bloom well and are very fine *Roses*—viz., *Duchesse d'Orleans*, and *Sœur des Anges*. I do not think they would generally do well on a *Briar* except in first-class ground. *Madame Clemence Joigneaux* is a fine and healthy strong-growing *Rose*.—W. F. RADCLYFFE.]

NORTHWICH GOOSEBERRY SHOW.

THIS was held at the Angel Inn, Northwich, on the 25th inst., when the following varieties were exhibited:—

		dwt.	grs.
G. Wilkinson	Twins	London	41 21
T. Lanceley	Premier Prize	Antagonist	26 21
J. Wynne	Steward's Prize	London	26 20
G. Wilkinson	ditto	Levell	23 18
F. Jemson	ditto	Stockwell	24 3
G. Bratherton	ditto	Hero of the Nile	23 23
T. Shone	ditto	Fluxtonia	22 17
E. Poulson	ditto	Mount Pleasant	22 9
G. Plant	ditto	Plunder	20 14
G. Bratherton	ditto	Seedling	20 22
RED.			
J. Wynne		London	26 18
ditto		Macaroni	24 13
T. Lanceley		Beauty	24 12
ditto		Conquering Hero	23 18
G. Bratherton		Ploughboy	22 12
T. Lanceley		Clayton	22 11
W. Heath		Iskander Bey	21 12
E. Poulson		England	21 9
YELLOW.			
T. Lanceley		Levell	24 15
J. Wynne		Tinker	23 18
G. Bratherton		Mount Pleasant	22 15
T. Lanceley		Drift	22 0
ditto		High Sheriff	21 23
G. Wilkinson		Catherine	21 12
T. Lanceley		Unknown	21 11
ditto		Leader	20 16
GREEN.			
T. Lanceley		Shiner	26 0
J. Wynne		Stockwell	24 17
F. Jemson		Plunder	22 11
T. Lanceley		Thumper	21 5
E. Poulson		London City	20 22
T. Lanceley		Matchless	20 14
F. Jemson		Sonter Johnny	20 9
ditto		Surprise	20 0
WHITE.			
T. Lanceley		Antagonist	25 18
G. Wilkinson		Overseer	25 16
T. Lanceley		Hero of the Nile	23 12
T. Shone		Careless	22 13
F. Jemson		Peto	21 0
J. Wynne		Elizabeth	21 0
ditto		Snowdrop	21 0
G. Plant		King of Trumps	20 18

—THOS. DOBELL, Seedsman, Northwich, Secretary.

FILBERT-BEARING.

EVERYONE who has at all examined his *Filbert* trees in the spring knows that the male and female flowers are both produced on last year's wood; but I notice with surprise that the fruit is borne on spurs of this year's growth, varying from 6 inches to 1 foot in length. The explanation is, of course, that besides and behind the fertile flower, there is a dormant leaf bud, and that there is sap enough to ripen the fruit and to form wood likewise. As far as I know this elongation of a fruit bud is so unusual in fruit-bearing trees, that I think it deserves notice, yet I find no notice of it in any of the books I have consulted, and it has seemed to me that this may not be the rule, but the exception in this hot summer. I should be glad to know if such is the case, and whether any of your readers have observed the same? I should be glad also to know whether these fruit-bearing spurs should be cut out or back after fruiting? My own idea is that they will not bear again, at least I can see no signs of incipient buds.—H. N. E., *Bitton Vicarage*.

[The fruit of the *Filbert* is generally produced on short spurs, formed in the preceding year, but unlike those of many other trees these short spurs elongate from 6 to 12 inches, but the

fruit is always at their point when the little red blossom buds appear. Owing to the dry season the catkins, or male blossoms, are now forming on long shoots of the present season—that is, on shoots from 12 to 30 inches in length. In pruning the Filbert treat it as a Gooseberry bush, leaving plenty of slender shoots, and shortening and removing the stray succulent shoots. The female flowers will appear on the small well-ripened side shoots and buds.]

POTATOES SUPERTUBERATING—ESTIMATE OF VARIETIES.

You would confer a very great benefit on all classes if you could give any advice as to what is best to be done with the present Potato crop, which is beginning to grow, the young Potatoes throwing out spears. Would it be best to take any of the crop up, as, for instance, those that are nearly ripe, such as Milky White and Kings, or must they be left to take their chance?—H. C. RIPLEY.

[We sent the above to one of the most experienced of Potato cultivators, and he has sent the following very instructive reply.—Eds.]

I am sorry to learn that the Potatoes in Mr. Ripley's neighbourhood are showing symptoms of supertuberating; nevertheless, Mr. Ripley may take heart, for hereabouts the later sorts are generally doing so, although as regards the haulm they are wonderfully vigorous considering the drought, and at stool after stool of the very late kinds that I have inspected, not a symptom of a tuber larger than a horse bean is to be found. I advise in such cases that they be allowed to remain unmoved, as there may be just a chance of a crop maturing before the frost comes; root and branch are each waiting for the coming of rain. With regard to those Potatoes which Mr. Ripley mentions as beginning to grow, the young Potatoes throwing out spears, let me advise him to have them taken up immediately, and rub off the spears, then sow the ground with Turnips, or crop with the Cabbage tribe. To leave the Potatoes to take their chance would be equivalent to allowing the tubers that are nearly ripe to exhaust themselves of their present nearly matured nourishment by reproducing a progeny of undersized supertubers. Let me advise also that the crop should be lifted early in the morning, or when the sun has lost its power in the afternoon, otherwise it will be found, if the tubers are allowed to remain exposed in the midday sun, that their flavour will be completely destroyed. I would rather dig Potatoes in a pouring rain than in a broiling sun; in fact, when dug in a Scotch mist and stored moist, providing they are healthy, Potatoes keep best and also preserve their flavour best.

I have many kinds of Potatoes under cultivation in different soils experimentally. I will give instances of extremes. On field stonebrash, in a neighbouring parish, Wootton, from my Onwards, an early second early sort, to the Cornish Kidney, a very late kind, the following is the result:—My Onwards I had dug up quite ripe on the 10th inst., and very excellent they are, though not so prominent for size as they would have been in a "dripping time." The patch is now sown with Turnips. The Emperor Napoleon, or Early Emperor, is producing a good crop of tubers, but it is sadly spearing. I shall have the sort taken up directly. Almond's North Riding Beauty, a rather early Regent, has tubers about the size of horse beans, and the Cornish Kidney has nothing distinguishable but a mass of roots, with the old sets as intact as they were on the day when planted. My Regents are growing in a field of better soil, too far distant to allow an inspection at present; I will give a report of them shortly. Mr. Radcliffe has some of what I consider to be the best; doubtless he will also favour us with their behaviour.

I have examined the Potatoes in numerous cotters' allotments, and the following may be considered as general features of field crops about here. Early and early second-early sorts small, but matured without sprouting. Those of the second earlies about three parts ripe are supertuberating badly, and on the late sorts scarcely a formed tuber is to be found. What the result may prove for them it is difficult to say; but the disagreeable fact clearly to be seen is that the breadths planted with late sorts are thrice the extent of those planted with second earlies.

In the rectory garden, a sound dark loam I have, on the ridge-and-trench plan, thirty-eight kinds growing under my immediate observation, both for good quality and for comparison, besides forty-two new seedlings on trial, and six Potato-growing

experiments. After this year I think of concentrating my attention entirely on my own seedlings, therefore I will now give the names and features of the thirty-eight.

The figure 1 in parentheses after the name denotes Early; the figure 2, Second Earlies; 3, Late varieties. The kinds that are beginning to supertuberate I will signalise by an asterisk (*); those condemned by an obelisk (†).

- Mitchell's Early Albion Kidney (1).—Excellent; dead ripe.
 Early Ten-week (1).—Very good; dead ripe; syn. Early Betty.
 Hogg's Early Coldstream (1).—Excellent; dead ripe.
 Shntford Seedling (1).—Very good; tops green with laterals.
 Webb's Telegraph (1).—Dead ripe.
 Sutton's Racehorse (1).—Excellent; tops still rather green, but no laterals.
 Thomas Almond's First Early (1).—Very good; dead ripe.
 Mona's Pride (1).—Excellent; dead ripe.
 Birmingham Prizetaker (1).—Excellent; tops quite green, but no laterals.
 Gardner's Premier (1).—Excellent; dead ripe; not yet in commerce.
 Walnut Leaf (1).—Very good; dead ripe.
 Old Early Ashleaf, true (1).—Excellent; dead ripe.
 White Blossom Ashtop (1).—Dead ripe.
 Fenn's Rushbrooke (1).—An improved Ashtop for pot culture, not yet in commerce; dead ripe.
 Fenn's Rector of Woodstock (1).—Not yet in commerce; dead ripe.
 Fenn's Onwards (2).—Not yet in commerce; some of the tops rather green with laterals; ripening off.
 Rivers's Royal Ashleaf (2).—Excellent; ripening off.
 Rintoul's Early Don (2).—Very good; ripening off.
 *Edgecote Second Early (2).—Vigorous tops, quite green.
 Hague's Kidney (2).—Ripening off partially.
 Transell's Seedling (2).—Round; dead ripe; excellent.
 *Sussex Kidney (2).—Dead ripe.
 Beehive (2).—Very good; tops quite green, no laterals to the stalks; a "brother bee-keeper's" Scotch seedling.
 Daintree's Baker's Dozen (2).—Excellent; ripening off; not yet in commerce.
 *Almond's Yorkshire Hero (2).—Vigorous; tops quite green.
 *Wheeler's Milky White (2).—Very good; tops partially ripening off, the remainder green with laterals.
 †Emperor Napoleon (2).—Tops quite a forest of green laterals.
 *Taylor's Yorkshire Hybrid (2).—Tops quite a forest of green laterals.
 Dean's Waterloo Kidney (2).—Excellent; ripening off.
 *Dawe's Matchless (3).—Enormous dark green tops, no laterals.
 *Paterson's Scotch Blue (2).—Dwarfish tops, quite green, no laterals.
 *Paterson's Victoria (3).—Enormous tops, quite green, with no laterals.
 Dean's Improved Ashleaf (2).—Very good; ripening off.
 *Ainsworth's "Kidney (3).—Monstrous dark green tops, no laterals.
 Royal Albert (2).—Round; very good; dead ripe.
 A variegated-foliaged Potato (2).—Only variegated when young; I shall cast it away.
 †An Anstralian Potato (3).—Monstrous light green foliage without laterals.
 †Old Cobbler's Lapstone (3).—Vigorous foliage, quite green, beginning to throw up laterals.
- After thirty years' attention to the culture of the Potato, you may conclude that I should not retain an uncertain kind. If any supertuberation shows in the trials of my seedlings I destroy them without mercy. A Potato that will supertuberate this year may prove an excellent sort next year and the year after, but in some succeeding season, sooner or later, it is sure to supertuberate again, and so seriously destroy the hopes of a crop. This is the case of the Lapstone and all its family. I have repeatedly proved it, and although from the superior appearance and quality of this kind I always grow it, it is never to an extent to trust it.
- Again, a Potato that will supertuberate one season is more liable to suffer from the disease in another. Do not the Lapstones confirm this? If another example is wanted, take the Emperor Napoleon. Four years ago when I first grew this kind it supertuberated so badly that I could scarcely save seed enough. The second season I was in a similar case from the disease. Last year from the same cause I found myself in the same position, and for the present I believe if I am rewarded with a dozen of its tubers free from supertubers, that will be the outside, and this from two soils as opposite in their nature as it is possible for them to be. Equally objectionable from the same defect are Old Betty and Early Ten Week, Mitchell's Early Albion Kidney and Sutton's Racehorse, Old Walnut-leaf and Thos. Almond's First Early, Taylor's Yorkshire Hero and Edgecote Second Early, Daintree's Baker's Dozen and Dean's Waterloo Kidney, Dawe's Matchless and "Ainsworth's" Kidney.

Mr. Gardner's Premier is very superior for early exhibiting. The Emperor Napoleon, Paterson's Victoria, and Dawe's Matchless, with their coarse foliage, are fit only for light poor garden soils, or field culture. I fear I must say the same of Taylor's Yorkshire Hybrid. I shall have more to write about the origin of this sort, but express my sorrow now for its present behaviour with me. I found it last year to be one of the very best-flavoured Potatoes I ever tasted.—UPWARDS AND ONWARDS.]

BEWARE OF THE WONDERFUL.

We received last week a letter informing us that "now" something marvellous in the vegetable world is to be seen, not the "gigantic Gooseberry," which annually is placed in the columns of the daily newspapers, but a new and veritable wonder—namely, a Plum tree bearing Apples. Our first informant is well known to us, as is the owner of the tree, both respectable and intelligent, nor was the wonder vouched for by them alone, for several gardeners had examined the transformed fruit, and declared that "they would not have believed it if they had not seen it." We came to the same conclusion, so resolved to go and see it; almost inclined to believe, as was observed, that this was one of the "strange effects which will be caused by this hot dry summer." We said we did not see how heat and want of moisture were likely to turn Plums into Apples; but we were told in reply that it is not at all an improbable transformation. "They are both in the natural order Rosacea. The Apple gradually approaches the Plum through the intermediate forms of the Medlar and Sorb. The flesh of their respective fruits contains malic acid, and their seeds hydrocyanic acid. Moreover, Pliny says the Plum is altered by being grafted on the Apple." "There's something in all that," observed another; "and be assured, 'There are more things in heaven and earth than are dreamt of in your philosophy.'" We could not gainsay this, so we resolved to endure the tropical heat whilst we travelled over one hundred and forty miles of railway, to see and return from seeing this prodigy. But we would wait to hear the tidings the morrow would bring. Fortunate procrastination! and we thought at the time we would in future act upon Sheridan's rule of action, "Never do to-day what you can possibly defer until to-morrow." Intelligence reached us the following morning that the Apples were attached to the bough broken off from an adjacent Apple tree, and so lodged in a cleft of the Plum tree branches as to seem to issue from them.

CYCAS REVOLUTA, OR THE SAGO PALM.

A most noble specimen of this plant is now in fruit in the gardens of John Hutton, Esq., of Sowher Hill, and as I believe it is very rarely known to fruit in this country, I thought the announcement might be of interest to your readers.

The plant is about sixteen years old, and has been under my care for the last ten years. On June 22nd the fruit first appeared, and up to the present time it has daily increased in size, and is now nearly 2 feet in height, and 12 inches in circumference at the lower extremity, gradually tapering to a point. Its colour is a rich golden yellow, and altogether it very much resembles a large Pine Apple.

The stem of the Palm is 36 inches round, and bears seventy-two large graceful fronds, which give it a most noble appearance.

I shall be very glad to hear of anyone else who has been successful in fruiting this Palm, and I shall be well pleased to show it to anyone who comes to see it. I am sure it will well repay the trouble.—J. NICOLSON, *Gardener, Sowher Hill, Northallerton.*

AN EDEN IN CALIFORNIA.—The vineyards and Orange and Lemon orchards make Los Angeles the garden spot of California. Just imagine a collection of gardens, six miles square, and producing at all times of the year almost everything that grows under the sun. One of the largest and most beautiful places in the city is the Wolfskill vineyards, containing 2000 Orange trees, 1000 Lemon trees, 500 Walnut, 100 Fig and 100 Lime trees, and 55,000 Grape Vines. Near by is the vineyard of Mr. Childs, containing 500 Orange, the same number each of Peach, Plum, Nectarine, Apricot, Olive, Walnut and Chestnut trees, and 10,000 Vines. Right in the heart of the city is Don Mateo Keller's place, containing 100,000 Grape Vines,

1000 Lemon, 500 Orange, 100 Lime, 100 Olive, 200 Walnut, and 100 Fig trees, and all of the other varieties of fruits known in the south and in the semi-tropics. He also raised Hops, Cotton, and Tobacco, Wheat, Barley, Corn, all kinds of vegetables and everything of the berry tribe. Last fall Mr. Keller made 100,000 gallons of wine and nearly as much brandy. A few miles from the city a Mr. Rose has a vineyard of 200,000 Grape Vines. Near him is the vineyard of Colonel Kewen, containing 75,000 Vines, 800 Walnut, 500 Orange, and 300 each of Lemon and Olive trees. It must be recollected that from a little elevation in the centre of this garden-city may be seen the broad Pacific on the one hand, and upon the other 200 miles of mountains covered with snow.

CUCUMBER TROUBLES.

"I wonder if amateurs ever succeed in growing Cucumbers," said Mrs. Scott to her friend, Mrs. Thornicroft, "my husband never does. He has been trying ever since I know him, and, doubtless, years before. After every year of failure he tries again on a new plan, or an old one slightly altered. He is always near to success, but somehow it does not come. I wonder he does not weary of such repeated failures."

"Well, I can assure you gardeners do not always succeed to their satisfaction," replied her friend. "We could eat twice as many as our man brings us in, and he has every appliance."

"Yea, but then Henry litters up our poor little garden through half the spring months, the loose straw blows about here and there, and everywhere. It takes us all the summer to clear it away, and I seldom dare venture to look over into our neighbours' garden, for I am sure our long straws have gone over the low wall, and are wrapping round their Rose bushes, clinging to their annuals, and they cannot gather up the rubbish without dragging up their seedlings. 'Oh, never mind,' says Henry, 'we will send them in the first Cucumber we cut, and I shall have lots this year, and that will make amends.' But the straws come sure enough year after year, and do their mischief; but the Cucumbers do not grow, and I am afraid our patient neighbours will never know the taste of our home-grown Cucumbers. I do not know how it is my husband fails, as most assuredly he does, though he will not own it. He uses the best material, judging by the price he pays for it. Two loads come every spring; 5s. a-load, without the cartage, which is not a little, for the material generally comes a long distance, I suppose to enhance its value. Dear me! the cost of our pit would supply us with wholesome vegetables for the summer. This material never seems to be just in the right condition, it is always too hot or too cold, too fresh, or not fresh enough; come when it will, and as it will, it is never in a proper state to be put into the pit and got out of sight. And, then, Henry thinks so much about it, why only the other week he rushed out of doors quite sure his fragrant heap smoked too much, and the very next day it did not smoke enough."

"They are not very easy things to grow," replied Mrs. Thornicroft, "last season our man destroyed two very good plants by putting them in too soon. They were burnt up in one night."

"Henry will never burn his up, he guards against that evil to the very extreme. He leaves his material for nearly a week an unwholesome nuisance in our back garden smoking and smelling. He calls it letting the bad gas escape—we get the benefit. I should not wonder if we were all to have the fever annually, and I think it might come ready for use. And during this time my husband lives in torment lest it should rain, and spoil all. He gets up in the night, times without number, to look out. If he ever dreams—I do not think he does, he sleeps too soundly—it would be about Cucumbers growing all over our garden. He once thought of buying an advertised tent to cover up this precious heap in case a wet time should set in; but upon calculation found it would cover up our neighbour's garden as well as our own. After a time a man comes to turn it over, it takes him a day to do this, at 4s. a-day, and he is sure to spoil the only tidy bit we may chance to have left. After a few more days he comes again to fork it into the pit, along with this forking he pours in a considerable quantity of water. 'A hundred gallons of water if there's a drop in, sir,' he says. Then Henry is sure he has put in too much. They always do put in too much or too little. They then spread a little soil over this, put on the lights, and it is left to settle. I need to think in my inexperienced days that the worst was over, no

such thing with my amateur Cucumber-growing husband, it is only beginning. A long slender stick is thrust down into the pit, and I cannot tell you how many times a-day it is pulled out and felt at. This might not matter much, but then the poor stick is always in fault. Sometimes it is much too hot. 'This will never do, cannot put plants in here, they will be burned up in no time,' says Henry, or it is too cold. 'Worse than doing nothing to expect plants to grow in this miserable place.' So a period of great anxiety follows. He comes home from his business in a state of great excitement, and goes off to his Cucumber pit to see how it is getting on, before he makes any inquiries about little Harry's whooping cough, and in the mornings he rises hours before he otherwise would, to see if all is right. He says it is to get an appetite for his breakfast. He never thinks about his health at any other time of the year. Sometimes to ease his mind he goes up and down other places, to look into other peoples' Cucumber frames and pits. I do not know how he feels when he sees long, smooth, dark green Cucumbers ready for cutting, in beds made weeks after ours."

"Yes, you seem to lose a great deal of time. Our man says they are very ticklish things to manage. He would rather grow anything else. So much depends upon the seasons."

"Seasons do not influence us, we cannot comfort ourselves that way," replied Mrs. Scott. "Henry often comes home quite sure he has found out the mistake, and can remedy it; but then the remedy cannot be applied at once. He must wait until another season, and he can never remember one year how it was he failed the year before. At last the pit is taken as it is, and the plants put in. The oldest plants are chosen as likely to bear fruit first. Long, slender things they are, unable to support themselves, with large leaves a foot from each other, and dry roots dangling from the hole of a small flower pot. Of course, these plants do not always grow. Sometimes they put forth a few small white roots, and then drop off all at once, as if the exertion had been too much. Sometimes they make plenty of leaves and stalks, and yellow flowers, but nothing more. We have frequently three sets of Cucumber plants in a season, and these cost generally from 6d. to 1s. each. Nor is that the only expense we have, two new mats each year, for the old ones are either lost or stolen during the winter. These mats are spread over the lights, over these thick double canvas, then lengths of boarding to keep down canvas and mats, for fear the wind should blow them about. Ours you know is an exposed position. When thus made up for the night, only this takes place early in the day, it is impossible for a ray of light, or a breath of air to penetrate. If these are necessary for the growth of Cucumbers, as I think they are for most other plants, then Henry must be trying some new system, working out some Darwinian theory as to what Cucumbers will be when grown under adverse circumstances. This wrapping-up for the night usually takes place at half-past three. Then the poor plants are left in breathless stillness and total darkness for sixteen hours."

"That is not much too early, Mrs. Scott, ours are done up for the night at four."

"Yes, but ours are sometimes done up at two, or even one. I have watched Henry do it as I have taken off my bonnet after coming home from church, and we have a short service, and a short walk, and when I ventured to suggest the possibility of their having too long a night, received the candid reply, 'Oh! I do not think it matters much, and I cannot be bothered to turn out after dinner.' And when morning comes the boards and the canvas are removed, but the mats remain to keep out the sunshine, a little air is allowed to enter if the wind blows from the right quarter, which it seldom does. I do not know how other people grow their Cucumbers; this is how Henry manages his."

"Then do you never have any fruit, Mrs. Scott?"

"Yea, we have sometimes two or three small bitter things, and a basketful of Gherkins our cook will not pickle, because she says 'they are all outside.' Yet Henry will have it that he does not always fail, he counts back to a period of glorious success, when he cut a Cucumber 2 feet long, and as thick as his arm. But then the said Cucumber was full of seeds, and hollow, and within its yellow green rind contained only a narrow ring, about the third of an inch, of eatable fruit, and the little there was had an unpleasant flavour. And spite of its success, it was rather an unfortunate Cucumber, for it burst the glass tube it was grown in to keep it straight, and was removed from it only by doing damage to its appearance. It had been entered for some great show, and was intended to take a

first prize, but its very presence in such a mutilated condition was not to be thought of. And there was very little pleasure in the using of it, the seeds were so large and thick and plump, Henry was quite sure every one of them would have grown, and to this day he regrets not presenting it to some seedsman for that purpose. So you see Cucumber-growing with us is not only a great failure, but a great expense. Yet in such a light my worthy husband will not regard it, he ever asserts that when all things are considered, there is a large balance left in favour of Cucumber-growing. One thing is certain, all the troubles are forgotten during the winter, and he starts anew each spring with the hope of success. If it ever come I think it will be by chance."—MAUD.

MUSHROOMS FAILING IN HOT WEATHER.

I HAVE been very much annoyed and puzzled after having every prospect of a good crop of Mushrooms, to find that they are all rotting and becoming full of insects when about the size of a shilling. I send you two. Will you let me know what course I should adopt to cure them?—J. E. P.

[Your Mushrooms are infested with grubs of different kinds, and this is a common infliction in such weather, when you cannot give them a cool airy position. The tendency is increased if rank manure is used. We used to be troubled with them in a house; but have never been annoyed since we grew Mushrooms in an open shady shed in the hot summer months. A cool house or a cellar is equally good. Most likely if this weather lasts the evil will remain, and therefore what we recommend is just a chance to miss or hit. In our case the remedy in one instance prevented us having another Mushroom; in two other instances we had a fair crop of sound Mushrooms: so you can choose whether you will run the risk or not.]

We proceeded as follows:—We cleared the bed of all Mushrooms with a hair broom, made small holes with a pointed stick, say one-eighth of an inch in diameter, at every 3 inches, and 1 inch deep, and then watered to that depth fully with water at 200°. In half an hour we left a smooth surface with a clean spade. In the two cases we had Mushrooms in a fortnight; in one case we never had one.]

THE SEASON IN NORFOLK.

Of our garden crops some are quite dead, others are struggling for existence, Scarlet Runners and other Beans requiring to be kept alive by frequent waterings. Of Peaches and Nectarines the forced crops were good, and the flavour was pronounced to be very very fine. Of Grapes, the crops in the first and second houses were very good, and of more than average sweetness and flavour. Grapes in the Muscat house, now nearly ripe, are above the average for size of berry and flavour, and two late Hamburg houses promise well. Many perennial and biennial flowers have died. Bedding plants, which have been kept constantly watered, are looking tolerably well; but as it is impossible to water everything, many hundreds of bedding plants and annuals in borders are either nearly or quite dead, and such a continuance of cold spring water seems to be of but little use. The grass around the mansion we water once a-week, and then it seems barely to exist, owing to the great heat, excessive evaporation, and almost entire absence of dew.

The heat has been very great, the thermometer standing in the open, and shaded from the sun, having registered several times 95°, 98°, and on July 16th, 101°, and this day (July 21), 99°.

The amount of rain which fell from April 20th to July 20th was only 0.88 inch, and from April 1st to July 20th the whole amount was only 3.87 inches. In the corresponding period of last year it was 8.78 inches. Thunder we have heard but very seldom. We have now no appearance of rain, the wind being changeable, but generally north, with a low night temperature.—J. P., Gardener to Sir Wm. Folkes, Hillington Hall, Lynn, Norfolk.

NEW BOOKS.

SUPPLEMENT TO JOHNSON'S COTTAGE GARDENERS' DICTIONARY. London: Bell & Daldy.

This supplement contains the species and varieties worthy of culture introduced between the date of the publication of the first edition of the Dictionary, and the commencement of the

present year. Besides this it corrects some errors and omissions, and makes some additions to the cultural details. No better testimony to the usefulness of the work can be adduced than that it is a text-book accepted by the Royal Horticultural Society in the examination of young gardeners previously to granting them certificates.

HORTICULTURAL BUILDINGS, HOT WATER, AND HYDRAULIC APPLIANCES. By T. MESSENGER, *Horticultural Builder, &c.* Nottingham: T. Forman.

This is a catalogue of garden structures manufactured by the author, who resides at Loughborough, but it is much more, for the thirty-one lithograph plates are worth more than the half-crown which is the price of the volume. They represent very tasteful conservatories, greenhouses, vineries, pits, and their fittings, and the introductory observations explain Mr. Messenger's mode of combining wood and iron in their construction, so as to avoid the disadvantages attendant upon employing either material exclusively.

HARDWICKE.

A MORE pleasant place to visit at any time cannot be found than the beautiful demesne of Hardwicke, near Bury St. Edmunds, and the dwellers in the neighbourhood always avail themselves in large numbers of the privilege of rambling in its admirably arranged grounds whenever Lady Cultum kindly throws them open. Many thousands were tempted by the gloriously fine weather, by the prospect of witnessing a capital summer show of the Bury and West Suffolk Horticultural Society, and by the anticipation of listening to the strains of a first-rate military band, to pay them a visit yesterday (July 3rd). Beautiful as the grounds always look, their charm was enhanced beyond measure by the brilliant colours of the ladies' attire as they promenaded in the flower garden, and in the shady paths.

Viewed from the gallery which has recently been erected over one of the conservatories the scene was enchanting. To the right is the spacious lawn, dotted with fine trees, the Purple Beech—a superb specimen of its class—rising to a great height, and its long limbs sweeping down to and gracefully kissing the green carpet at its base. Close by and in striking contrast to this is a robust Cedar of Lebanon of great age, size, and beauty. Nearer to us is a tall pyramid of Cypress, one of the finest in England, and in the distance are other fine trees and shrubs. Immediately beneath us are the Rose arches clothed with their beautiful white and red wreaths, and some distance beyond that we see the shimmer of the white tent containing the floral beauties that the Horticultural Society has been the means of gathering together. Joining the throng of gay visitors we pass along the first terrace walk, bounded at each end with splendid iron gates in blue and gold, and on one side with a ribbon border, and on the other with a massive wall surmounted with vases, and supported on the garden side with a conical Rose and a Yew or Cypress alternately, and fine masses of Hollyhock already coming into blossom. Another winding ribbon bounds the end of the flower garden. Here, also, is one of the finest trees at Hardwicke—an Elm of extraordinary size and beauty.

Passing along the end of the flower garden, which is bursting into full beauty notwithstanding the dry weather, and gazing with delight along the graceful corridor of Roses, we step on to the upper terrace, a noble walk about 12 feet wide and 300 yards long, bounded at each end with handsome crescent-shaped stone seats. Within a few yards from the western end the cool shade of the Yew walk tempts many of the visitors to ramble down it, while others prefer to visit the lady's garden, devoted to old-fashioned spring and other flowers, and pass by the Roses and among some rare Firs until they come suddenly upon the avenue, a wide piece of turf lined on each side with a row of fine trees and a margin of evergreens, prominent among which are Variegated Hollies. The avenue runs for about a quarter of a mile towards Bury, and it terminates in a fine view of the Abbey Gate. From here we pass along a magnificent winding walk bordered by a large piece of most exquisite turf, devoted to the culture of rare Conifers, to the kitchen garden. Turning sharply to the right, the visitors lost themselves in the many labyrinths of the fernery, and wandered among blocks of stone and larger blocks of wood and masses of earth resembling either or both, so skilfully clothed with Ferns as to make one forget that the whole is the creation of art, and almost mistake it for a natural dell.

Passing through a tunnel, and ascending from the fernery we catch delightful views of Ickworth, the stately mansion of the Marquis of Bristol, and we then at once emerge on the kitchen garden. The first thing that strikes our eye is the extraordinary neatness of arrangement, its cleanness, and the excellence of the crop. Neither are the flowers forgotten here. Fringes of bloom formed of Antirrhinums, Roses, Sweet Peas, Cloves, Marigolds, and Pinks accompany us along most of the walks, while here and there groups of Hollyhocks are placed at fitting points for effect. Nearly all the fruit trees, except those on walls, are trained into pyramidal and spiral forms. A large collection of fine Pear trees runs in double lines around the garden, while most of the inside borders are furnished with Apple trees of the same shape. We also noticed that between each two Pear trees a Rose has recently been planted, to be trained in the same form as the Pears.

Passing another of the beautiful blue gates with which visitors to Hardwicke are familiar, we pass along shady walks, through shrubberies, American plants, Pampas Grasses, and numberless choice trees, until we come to the little lawn where stands a fine tree of the *Aracaria*, and a young, but remarkably healthy plant of the *Wellingtonia gigantea*. From here we pass up the delightfully cool Yew walks, and back to the house.

Entering the conservatory we pass through a continuous range of glass houses, over 600 feet long, divided into various lengths, and maintained at different temperatures for the cultivation of the many flowers and fruits grown at Hardwicke. The conservatory is stocked mostly with Fuchsias and Pelargoniums, and a number of climbers hanging from the roof. Then we pass through a corridor hung with Heliotrope, along a passage with plants of Cactuses, Begonias, and Ferns dangling from the roof or springing out from the side of the walls, and arrive at the orangery. Here there is a large collection of Orange and Lemon trees, with Citrons on the back walls, and the giant white and other Trumpet-Flowers just beginning to bloom. A large Hamburg Vine also covers the roof of this house. A few steps further and we enter the tropical fernery with a rich screen of Passion-Flowers hanging from the roof, Mosses and Ferns peeping from the sides, and an enormous bunch of Bananas in fruit furnishing the centre. Emerging from this we pass through the Peach house into a house devoted to the culture of Fuchsias and Figs, and, having visited the Camellia house we arrive at the first vinery, where the ripe clusters of Black and White Grapes look temptingly down upon us. From here we pass through a second vinery of Hamburgs into what is called the Muscat house, which is filled with a heavy crop of this splendid Grape. This brings us to the end of the conservatories.

Having now inspected the glass houses and the pleasure grounds we must pay a well-deserved tribute to the extreme care which is shown by Mr. Fish in the cultivation of everything at Hardwicke. The neatness and cleanliness of every part could not be surpassed, and at all points are seen proofs of the cultivated taste and designing mind which has contributed so much to make Hardwicke the paradise that it is.—(*Bury Free Press.*)

ORNAMENTAL AND FLOWERING SHRUBS.

(Continued from Vol. XIV., page 296.)

SHRUBS THRIVING IN PEAT SOIL.

ANDROMEDA FLORIBUNDA.—Evergreen. Leaves bright dark green. Flowers bell-shaped, white, fragrant, produced in great profusion, from February to April. It is a very handsome shrub, and of close low growth, and does well in pots for forcing. It succeeds best in a slightly shaded situation, and is impatient of drought; therefore it does not succeed under large trees, which by their shade and roots make the soil little better than dust in summer. Under favourable circumstances it attains the height of 3 feet. The best plants are those from seed, which may be treated in the same manner as that of the *Rhododendron*. It is also propagated by layers.

Andromeda calyculata and its varieties minor and major, *A. axillaris*, *A. mariana*, *A. polifolia*, *A. cassinifolia*, *A. formosa*, and *A. pulverulenta* are all pretty little evergreen shrubs, having white bell-shaped flowers in spring, some tinted with pink; but they are all inferior to *A. floribunda*. They grow from 1 to 3 feet in height, and are increased by seed and layers.

ARCTOSTAPHYLOS UVA-URSI.—Evergreen. Leaves small and shining. Flowers rose or pale red, produced from April to June, succeeded by small red berries. It is of procumbent growth, and is suitable for rockwork. Height 1 foot. Seeds and layers.

AZALEAS.—These, from the profusion of their brilliant sweet flowers, are among the most magnificent of flowering shrubs, and form a splendid display in May and June. The varieties are very numerous, and

I can only give a selection of a few of the best. Of the varieties of *A. pontica*, Thompson's *pontica alba*, creamy white; *maerantha*, deep sulphur, large; *magnifica*, creamy white, large; *grandiflora*, deep yellow; *conspicua*, yellow; and *multiflora pallida*, pale sulphur. Of the English varieties, *Aurantia major*, pale orange; *Calendulacea coccinea*, orange scarlet; *Coccinea major*, dark scarlet; *Calendulacea elegans*, yellow shaded with red, distinct and large; *Cuprea splendens*, pink with yellow; *Decorata*, pink, very beautiful; *Hartnelli*, orange, shaded red; *Mirabilis*, pink; *Prince of Wales*, salmon red, orange in the upper segments, large; *Princeps grandiflora*, deep pink; *Rosea flavescens*, rose and yellowish; *Triumphans*, orange; and *Rosalie*, salmon red, yellow in the upper segment; and, for their sweetness, *Viola odora*, orange and salmon, small, very sweet; *Viscocephala*, sulphur white, very highly scented; *Viscosa florihunda*, white, small, and very sweet; *Double Blush*, pretty; *Monstrosa fascicularis*, yellowish orange, dwarf habit; and *Monstrosa variabilis*, yellowish orange, changeable, dwarf habit. Of the Ghent varieties the following are good:—*Ne Plas Ultra*, orange scarlet, large; *Morteri*, rich yellow and deep rosy red; *Princesse d'Orange*, salmon pink, large; *Marie Dorothee*, whitish, slightly shaded with pink, with yellow in the upper segment, large; *Admiral*, deep red, large; *Coccinea speciosa*, orange scarlet, large; *Cymodoce*, deep red, shaded orange, large; *Elector*, orange scarlet, large; *Julius Caesar*, deep scarlet red, reddish orange in the upper segment, large; *Grand Duc de Luxembourg*, deep scarlet, large; *Fulgida*, orange scarlet, large; *Perle de Printemps*, salmon pink, large; *Rubens*, red and orange, dark, large; *Quadricolor*, buff, shaded salmon and deep sulphur; *Van Dyck*, deep red, large; *Reine de l'Angleterre*, orange red, yellow in the upper segment, large; *Splendens*, bright orange scarlet, large; and *Unique*, deep scarlet, large. All the preceding are good varieties, and make excellent groups, which is the best method of planting; indeed, groups of not less than half a dozen plants, the more the better, should be planted in order to afford a full estimate of their beauty and effect. The groups or beds may be edged with *Azalea amena*; its neat habit and bright rosy purple flowers render it very desirable for the front of American beds. The *Azalea* thrives under the same conditions as the *Rhododendron*. I shall therefore treat of the propagation and culture of *Azaleas* when treating of the *Rhododendron*.

BRYANTHUS ERECTUS.—Evergreen. Leaves bright deep green. It forms a dense dwarf bush, having fine heads of pale pink flowers in June. It does not exceed 9 or 12 inches in height, and is best grown on rockwork, in sunny fissures, in a compost of peat and grit, which must be kept moist. In appearance it very closely resembles *Rhododendron chamæcistus*, and its flowers seem intermediate between that *Rhododendron* and *Kalmia latifolia*. Probably it is a natural hybrid. Layers.

CASSIOPE TETRAGONA is a very beautiful Heath-like shrub, and ought not to be overlooked. It attains a height of from 9 to 12 inches, and produces several white bell-shaped flowers. Requires to be grown in wet stones, peat, or grit, in sunny fissures of rockwork, and should never lack water, nor have defective drainage.

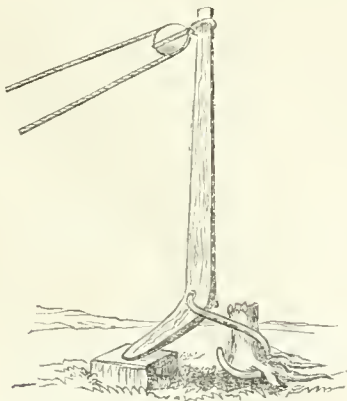
CHAMELEDON (AZALEA) PROCUMBENS.—A neat-growing alpine *Azalea*, succeeding under the same circumstances as the *Bryanthus*. It produces pinkish flowers in June.

EPIGEA REPENS.—A pretty trailing shrub, having in July white flowers that are delightfully orange-scented. It is an evergreen, requiring heath soil or sandy peat, and needs slight shade from powerful sun, being best grown under bushes.—G. ABBEY.

(To be continued.)

A HANDY AND POWERFUL LEVER.

In working in soft ground, whether at pulling stumps or moving stones, the great want is a firm place on which to set



the lever. The accompanying engraving is of a lever which requires a very simple base, and if rigged with a pulley or block and tackle, as shown, gives a great lifting power. For

such lifts a crooked lever has many advantages. The ring to which the powerful inch-iron hook is attached should, perhaps, pass through the bar closer to the inner angle than is represented. It might equally well be made so as to slip over the bar and hold in a notch on the inner side. Such a lever may be from 7 to 9 feet long, and made of oak or ash. It may be operated by hand, by attaching the upper end of the rope to a stump, and pulling down upon the lower end; or by horses, by fixing the lower end and carrying the upper one off to where the team may be conveniently and efficiently used.

NOTES AND GLEANINGS.

LIEUT.-GEN. HON. C. GREY has been elected by the Council a VICE-PRESIDENT OF THE ROYAL HORTICULTURAL SOCIETY for the year 1868-9, in place of Mr. Henry Cole, C.B., resigned.

WORK FOR THE WEEK.

KITCHEN GARDEN.

It is a good plan to dig down early in summer the plot of Winter Spinsch when it has attained the height of 2 or 3 feet, and to plant the space with Brussels Sprouts, Scotch Kale, and Savoys, for an early supply; and the vigour with which they will grow will convince one that such a method might be adopted with great advantage where manure is scarce and ground plentiful. *Cabbages*, in late situations it would be advisable to sow a bed of the earlier sorts for transplanting about the beginning of next March. The middle of August used to be the appointed time for this sowing some years ago, but this is too late for many places. See that the beds previously sown are not too much crowded with plants. *Endive*, sow a large bed for the last time this season, and if you keep it over winter it will help the salads till the spring-sown Lettuces come in. *Kidney Beans*, sow in a situation where it will be possible to defend them from early autumn frosts by covering with mats, choosing the dwarfest sorts, such as the Early Dun, or the Robin's Egg or China. *Onions*, preparations should now be made for sowing thickly the Strasburg, or any other hardy sort, to stand over the winter and furnish large Onions early next summer. Part of them may be drawn for salads during winter, and the other thinnings planted out in March. Sow again in a fortnight; ground previously occupied with early Cauliflowers, or Strawberries that require digging down, will be suitable. *Peas*, make the last sowing, choosing the earlier varieties. *Turnips*, if you have no access to field-grown Turnips, which are always preferable to garden ones, you had better sow a large breadth of them in some light portion of the garden for winter use.

FRUIT GARDEN.

Attend to removing the breastwood of Apple, Pear, Cherry, and Plum trees, shortening the leading shoots, and cutting back to a couple of inches the side shoots of Currants and Gooseberries (unless when the latter are made to bear almost exclusively on young wood), and thinning and shortening the shoots of Apricot and Peach trees as previously recommended. Cover with mats or thin waterproofed cloth those Cherries, Gooseberries, and Currants, that you wish to preserve as late as possible, and defend the remainder from birds by netting. This is a much more pleasant method than attempting to exterminate the feathered tribe. It is only during the fruit season that blackbirds, thrushes, &c., interfere with our comforts, and for a little pecculation now they amply repay us by the number of slugs and other enemies which they devour in spring, to say nothing of their cheerful notes at "early morn and dewy eve." The Hawthorn and Codlin Apples grow freely from cuttings planted under a north wall in November, and no doubt many Pears will do the same. Sometimes people express a wish that they could rear sufficient of these cuttings to plant in a kitchen garden to see if they would be more dwarf, and to ascertain if the flavour of the fruit would be different from that of grafted trees. There is nothing in particular to recommend this experiment, but there are points connected with it which may be of more general application, and are not usually acted on, if, indeed, they are rightly understood. Any one who intends to put in cuttings in November of fruit trees, or, indeed, of any hardy tree that is difficult to strike, ought to begin to prepare the cuttings before the end of the month, by shortening the shoots to one-half or one-third of their length. The passage of the ascending sap being thus cut off, it will so accumulate in the remaining portion of the

shoots as to be ready to burst their buds into another growth. Now, gardeners know very well that when the eyes of any plant are in this prominent state in the autumn, they will shoot with greater vigour in the spring, and there is no reason to doubt but the same effect, to a certain extent, will take place if these shoots are used as cuttings. It follows, then, that all cuttings of deciduous trees are benefited by being stopped before the growing season is over. When cuttings of exotic plants that are difficult to strike, or that take a long time to do so, are first put in, they are kept in a close, cool place till they form at the bottom a callosity whence the roots issue; they are then put into bottom heat to facilitate the emission of roots. It seems, therefore, that the most eventful period in the life of a cutting is that at which the callosity is formed, and fortunately we can accelerate the period of its formation by operations performed long before the shoots are separated from the tree.

FLOWER GARDEN.

It may be well to consider what is best to be done to counteract the effects, as regards flower-garden decoration, of cold, wet, or dry seasons. It may be remarked, that an improvement will be effected in the first place by thoroughly draining and pulverising the soil to the depth of at least 2 feet. This will allow of the free percolation and distribution of moisture throughout the whole mass of the soil; not only of the moisture which falls as rain, or is applied by the hand of man, but also of the moisture which is ever finding its way through the soil by capillary attraction. Where flower gardens are situated on a subsoil of strong retentive clay, it will be best to remove the soil to the depth of 2 feet, placing 6 or 8 inches of brick rubbish or rough stones over the bottom of each bed, and making the remainder good with top or spit loam. To do this with large gardens will be attended with considerable expense and labour, and, therefore, as a makeshift, it will do considerable good to remove only a part of the bad subsoil, and then mix the remainder with brick rubbish and half-decomposed vegetable refuse.

GREENHOUSE AND CONSERVATORY.

No matter how soon in August the Dutch bulbs for very early forcing are potted; the mere roots these bulbs make before they are brought into heat the better. In Holland, the bulbs for the first crop are well established in pots before we think of ordering ours. *Gesnera elongata*, *Crowea saligna*, and some of the *Correas*, will now stand more heat, and with a little forcing they may be brought into flower a month sooner. Attend well to late-autumn flowering plants for the conservatory. *Heliotropes*, *Sweet Briar*, *Mignonette*, *Lemon-scented Verbena* (*Aloysia citrodora*), and *Fairy Roses*, with the *Rose-scented Pelargonium*, are always in requisition for bouquets after the middle of October, or as soon as the early frosts nip them out of doors. Examine every plant one by one, and give such treatment as the different cases may suggest. This has been a trying season for the best gardeners. Besides thus exercising our patience, a large addition is made to the stock of our experience, upon which we can fall back more readily in future.

STOVE.

Plants which flower late in the autumn, and especially those that may be taken to the conservatory to bloom, should now or very soon be in their flowering pots. *Eranthemum pulchellum*, several *Justicias*, *Aphelandra cristata*, *Poinsettia pulcherrima*, *Aeschynanthus grandiflorus*, and many more of similar character belong to this class. Another very essential point to be observed with stove plants in general, which are removed to the conservatory while in flower, is to have the compost lighter for them, and not to give them more pot room than will just keep them healthy, with the assistance of liquid manure. Plants of this nature suffer very much in a cool conservatory late in the season, if they are growing in heavy, rich compost, and in large pots, whereas in a stove that would be the right way to make them flourish.

PITS AND FRAMES.

We are now on the eve of a busy time for pits and frames. *Mignonette* is to be sown immediately for winter use. Large quantities of the best *China Roses* are to be struck without loss of time, to bed-out next May. All sorts of tender annuals that are to be sown in the autumn must be put in early. *Calceolarias* and *Pelargonium* seed ought to be sown as soon as gathered after this time. Cuttings of bedding *Mesembryanthemums* should be put in during the very first, as they do not flower well or early from late autumn cuttings, and hardly at all from those taken in spring. Every cutting that can be

spared of the bedding *Pelargoniums* should be in the cutting-pot or bed as soon as it is ready to take off, till you have a full supply.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

NOTWITHSTANDING the great heat of the 21st and 22nd of July, we see no change of weather as respects moisture. We fear that we shall soon be unable to have crisp young Lettuces, as the seed refuses to grow, or the young plants, from want of moisture in the air, spindle when very young. Celery we have managed to keep healthy as yet, chiefly by covering the bed between, and even very slightly over the plants at first, with dry litter. The sun strikes on the litter without drawing a great amount of moisture from the soil. We have watered Celery seldom, but gave it a good quantity of water when any was supplied. We were obliged against our will to use our house sewage, but that and all manure waterings must be applied with care to Celery, otherwise the leafstalks will be apt to be injured. Such water should be communicated to the earth by the spout of the pot alone. Manure waterings overhead to Celery often begin to show injuriously weeks after the watering. So much is this the case frequently, that when using sewage or dunghill drainings weak enough, we would like to follow with an application of clear water from a rose overhead, and then there would be little of that danger.

We experience great difficulty in such weather in getting men to hold the watering pot low enough. They will stand upright, and send the water down in jets, instead of pouring it on gently. In watering some small seedlings lately a young man was actually throwing the water up as high as he could, enough, by the mere force with which it reached them, to clear all the soil away from their tender roots.

After the parching heat of the 21st and 22nd, the dull day of the 23rd was a relief, and furnished a chance for watering, but any common watering was quite out of the question. Unless the watering reached the most of the roots, it would have been worse than labour thrown away. Much of our soil was as dry as if baked in an oven for fully 6 inches in depth, and yet the plants held their own, drawing moisture from beneath. The damping of half an inch on the surface was, as previously explained, worse than labour lost. A moving of the surface or mulching would in such cases be better than surface-stirring, when anything more was attempted than a mere cleaning and refreshing of the foliage.

Winter crops planted are standing still, with little or no growth, and yet can hardly be said to be standing still, for the fly of different kinds has attacked them, and we dread ere long myriads of caterpillars, as never did we have such clouds of the white butterfly. When we had young boys we used to get them to chase and capture thousands, but such work does not suit staid grown-up men. By thus catching the moths we were seldom troubled much with caterpillars. It is of little use planting vegetables now, even owing to the fly, unless they are protected. We planted out a piece of Cauliflowers, nice little plants, but in a day they were scarcely discernible; the leaves left were like delicate network. The next lot will have a pot turned over each plant; that will also save watering.

Broad Beans not watered are apt to get hard, even when young and well mulched too, the foliage throws off so much water by evaporation. Dwarf Kidney Beans, too, unless watered, though bearing profusely, are apt to be hard when cooked. Scarlet Runners are doing well; also Peas that have been soaked with sewage. Those not watered are soon over. We shall be glad of Scarlet Runners and Dwarf Kidney Beans, for Cabbages will soon be scarce, unless we can water them, and of that we have no hope, as our sewage failed on Friday, and we shall have to wait a few days for a fresh supply. Onions are still holding their own without watering, but not growing. The autumn-sown Onions have been very fine. If we contemplated such seasons we would sow more in the autumn. Those sown in summer for salads refuse to grow without watering and shading. Our Globe Artichokes have done well, but they will soon be over, unless we can drench them well.

FRUIT GARDEN.

Without watering, the dwarf Apple and Pear trees seem as if they would cast no more fruit until it is ripe.

We have mulched the *Fine borders* to keep moisture in, being well assured that the earth is quite warm enough. Though the Peach house is empty, we had to surface-stir and

give a good watering to prevent the soil cracking from dryness. The outside border was mulched in the beginning of the winter, and as the season was so dry the mulching has rotted down, and has never been removed. That border has had no watering all the season, and has kept sufficiently moist owing to the 2 or 3 inches of rotten mulching. There was just a little assistance from Strawberry pots standing on the border, which were several times watered. In such seasons, and in fact in any season, fruit trees would do much better with this mulching than with waterings of cold water. Many years ago we proved this to our own satisfaction, and to the saving of our water supply, and we should have done much more in this way of late, but our mulching material was scarce. A little stable manure and tree leaves formed the protection given to the Peach border; now, of course, all is well rotten, and what at first might be 8 inches deep when loose, will be 3 inches when compact; in fact, the mulching will range now from 2 to 3 inches. It has saved all watering, even in this hot summer, and the fruit swelled beautifully. We shall have something more to say on this subject when alluding to the practice in this respect of one of the best Grape-growers in the country, who never waters his wide outside borders.

Last week we stated that we had fresh-mulched all our orchard-house trees in pots, and we have given the ground a good watering with what we could get. Owing to the heat we have gathered fine Figs in the orchard house earlier than usual. Plums have also come in useful; and Peaches and Nectarines, which could have been in, we are for a definite purpose keeping back, by air-giving night and day. When much is attempted in one house, and that house is unheated, we are apt to injure something. For instance, the higher temperature we were giving this house, merely by reducing the air given, would not only have prevented a little stoppage between fruit-gathering from the Peach house and the orchard house, but the same treatment that would have afforded Peaches and Nectarines a few weeks earlier would also have suited the Vines growing in the house, as such Vines, chiefly late kinds, do best when ripened rather early in the autumn. As it is, there will be a considerable difference in the time of ripening in our two houses, but there would have been more had we not tried to retard the first house, which we may manage for eight or ten days by keeping it as cool as possible in this weather, and slightly shading the roof with a sprinkling over the glass of whitened water. Coolness is also much promoted by slightly sprinkling the floor with water in the hottest time of the day. This is a very different affair from dribbling as an excuse for watering. When real watering is intended it is best to water thoroughly, and then wait until watering is again needed. When clear water can be obtained, refreshing the foliage and even slightly damping the surface so that the water may rise again in vapour are very different affairs.

Some years ago we were asked to look at a large Peach house of promising young trees that refused to swell their fruit after stoning; but at and after that period, though well thinned, the fruit fell from the trees in great numbers, and being chiefly Nectarines were of no use whatever. The trees from constant syringing morning and evening looked well, and the soil of the house seemed good, and if anything too moist; on inquiry we found it was frequently watered and well drained, and therefore stagnant moisture could not be the reason. Being somewhat at a loss to account for the falling of the fruit we turned up a portion of the border with our walking stick, and on doing so in several places we found that the moist soil scarcely extended 2 inches from the surface. Farther down the roots were receiving no benefit from the surface-watering—nay, were injured by it, because the ascent of moisture from beneath the roots was thus arrested. Now, in such a case the remedy had to be applied with judgment. Only a few fruit had begun to fall; and we felt tolerably certain that if the soil of the house were saturated to and beyond the roots, the stimulus given so suddenly would be apt to throw the fruit off in numbers. Our advice was carried out with the best results. The house being a lean-to, about a third of the border next the back wall was forked over, and that was well watered. In four days the middle part had holes made in it, and that received half a watering; in other four days the front part was done in the same way; and then in other four or five days these two parts received enough to saturate the ground about the roots. The trees so treated, we have been informed, have rarely dropped a fruit since; so that the owner says it is of no use delaying to thin, as he is sure to have too many if he does not thin freely at once.

Strawberries.—As we could not water our beds, runners are scarce, and as layering them at the beds, in pots or otherwise would have been of little use without watering, we have taken the runners almost as soon as visible, and pricked them out in beds under old sashes as a protection, and then we will lift them with little balls and pot. We find this plan even in moist years saves much labour in watering, and generally the results are all that could be wished. We almost envy those who will have late Strawberries in August. What with late kinds and turned-out forced plants we have often gathered moderately well until the frosty nights came.

ORNAMENTAL DEPARTMENT.

Proceeded with potting, and shaded most plants under glass, chiefly to save watering. Our chief work, however, has been trying to save the flower garden as much as possible. The parts farthest removed from observation we have been forced to leave unattended to. Hollyhocks would have been fine in a moist season, and even now are good, though shorter than we like to see them, as their grandeur in our opinion consists to a great extent in the height of the stems and the length of the gorgeous spikes, instead of being snubbed and shortened for a mass of flowers for exhibition purposes. These, too, have been left to themselves without a drop of water, and but little or no mulching, though that would have helped them. The flower beds and borders that we have attempted to keep good are looking better than could be expected, those suffering most from dryness being watered only once in eight or ten days. The 21st and 22nd tried them considerably, but the dulness of the 23rd gave them a chance; and in order to do what we could for them in giving water on that and the following day, and applying it so as to reach the roots by making holes and moving the surface previously, we followed the watering by mulching all the exposed soil again with rough Mushroom dung from an exhausted bed, merely passing through an inch-sieve that which was placed near the outside. The beds would have had this mulching long before, but we could not well use the Mushroom bed earlier, as it kept on producing later than we expected. We hope to have enough of sewage to go over another principal part of the flower garden on Monday, and this we will mulch in all open places directly after the watering.

Of course, in such weather the drier the mulching when so applied the better it will act. Many of the beds can receive no attention in this way, as they are too full to permit of any such material getting in among the plants; but in many beds, though seemingly full, the plants can be held a little to one side to permit of a little surfacing, and then the moisture exhaled will chiefly be from the foliage. As to what we have been able to give even such very limited waterings, we have little fault to find, if we only could have a green lawn around them. Even the Lobelia edgings, so unmercifully cut down by rabbits, promise to form blue lines at last, as the rabbits disliked poking their noses so near the lime and sulphur. As regards the beds so watered and mulched, with a slight shower now and then, and the decreased temperature that has prevailed since the 23rd continuing, we hope to be tolerably independent of watering.

A gentleman who visited us lately seeing so much free growth in the plants, and such masses of flowers, notwithstanding the drawbacks, would scarcely believe that we did not water, if not every night, at least every other night, and even now we are doubtful if he does not believe that we have some secret never-failing source of supply to go to. He told us that cocoa-nut fibre would be a neater mulching for the flower beds where it could be seen, and we quite agree with him, but a ton or half a ton that would cover all his beds well, would do little or nothing for us. Many gentlemen with their neat little places which they partly superintend themselves, with the help of a good handy man or two, often run away with the idea that in larger places a proportionate amount of money is spent. Such give a sort of incredulous assent to the statement, that large places are often managed with an economy that would be startling to the possessors of small places. Nurserymen could often tell how not noblemen's gardeners, but amateurs with their little gardens, are their best supporters. However, in such a season as this, many who have from six to a dozen flower beds would have found their labours lightened if soon after planting they had covered their beds over with cocoa-nut fibre refuse. Quite as good, but not so neat, would have been rotten lothed manure, broken and passed through an inch sieve.

Obtaining Water.—It is singular how well-educated men will

run away with any fresh idea, and consider that what is applicable in one case will be applicable in all cases. Through the kindness of a friend who saw the operation, we were among the first to draw attention to the American pump, so successfully used in Abyssinia, by which all sinking of wells is avoided. Visitors have said to us, "Why do you not have two or three American pumps, and thus get plenty of water? We see there is water in your ponds, there is or must be plenty a little deeper in the ground." It is almost useless to tell them that the water in the ponds is that collected from rains, that a tube pump can be of little use where the water is not found under less than 30 feet from the surface, whilst our well only retains water at something like 250 feet from the surface, and even that has dried at times.

Some also tell us there is nothing like artesian wells. "Why don't you get one sunk, and have the water bubbling up for you?" and all this though we occupy the highest ground for miles, and must go to the level of the nearest streams before we can obtain water at all, and then raise it by machinery and force-pump to the surface. An artesian spring can only run over when the water comes from a much higher altitude, and therefore, as a rule, can only be had in a valley, and not on the top of a hill. Strange things as respects water do sometimes take place. For instance, on one side of Barnet, and that on high ground, you cannot sink 3 or 4 feet without coming to water; on the other side you must go down some hundreds of feet. Those who think they can have American tube pumps and artesian wells anywhere would admire water-work fountains as much at the top of a hill as in the level in the valley, though the valley is the only place in which a fountain can appear naturally; and all fountains on higher grounds will suggest to the considerate the machinery that is required to raise the water. The water works, as at Chatsworth and Enville, will ever be the most successful when no such thought of machinery, steam power, &c., is obtruded on the mind of the spectator. At the former place the knowledge that there is a lake on the top of the hill throws everything of the artificial as to obtaining the water aside. At the latter the splendid fountains in the lakes are supplied from a large elevated reservoir, and if not told, you know nothing of the steam power that keeps the large reservoir full. The smoke and the clanking from the steam-engine, if seen and heard, would rob the gorgeous scene of half its charms. The lesson to be learned is not to attempt much in the way of wells and fountains on the tops of hills, and to make no great effects with jets or falls of water unless you are placed in a valley, as then a fountain would look natural.—R. F.

COVENT GARDEN MARKET.—JULY 29.

A GREAT falling off in the supply of soft fruits, Raspberries and Strawberries being quite over. Large arrivals of West Indian Pines are again reported, and we have heavy consignments of Apples and Pears from the Continent. Good vegetables are scarce.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	1	6	0	0	Melons..... each	3	0	6	0
Apricots doz.	2	0	4	0	Nectarines..... doz.	4	0	8	0
Cherries lb.	0	0	0	0	Oranges..... 100	12	0	0	0
Chestnuts..... bush.	0	0	0	0	Peaches..... doz.	6	0	12	0
Currants..... ½ sieve	4	0	0	0	Pears (dessert) .. doz.	2	0	0	0
Black..... doz.	4	0	5	0	Pine Apples..... lb.	3	0	5	0
Flgs..... doz.	4	0	8	0	Plums..... ½ sieve	5	0	6	0
Filberts..... lb.	1	0	0	0	Quinces..... doz.	0	0	0	0
Gobs..... lb.	0	9	1	0	Raspberries..... lb.	0	0	0	8
Gooseberries .. quart	0	4	0	8	Strawberries... per lb.	0	0	0	0
Grapes, Hothouse.. lb.	2	0	5	0	Walnuts..... bush.	10	0	16	0
Lemons..... 100	8	0	12	0	do. per 100	1	0	2	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes..... doz.	2	0	3	0	Leeks..... bunch	0	4	0	6
Asparagus..... 100	0	0	0	0	Lettuce..... per score	1	0	2	0
Beans, Kidney ½ sieve	4	0	0	0	Mushrooms.... pottle	3	0	4	0
Beet, Red..... doz.	2	0	3	0	Mustd. & Cress, punnet	0	2	0	0
Broccoli..... bundle	0	0	0	0	Onions per doz. bchs.	6	0	0	0
Brns. Sprouts ½ sieve	0	0	0	0	Parsley..... per sieve	3	0	4	0
Cabbage..... doz.	1	0	1	6	Parsnips..... doz.	0	9	1	0
Capsicums..... 100	0	0	0	0	Peas..... per quart	0	9	1	6
Carrots..... bunch	0	6	1	0	Potatoes..... bushel	4	6	6	0
Cauliflower..... doz.	3	0	6	0	Kidney..... do.	4	0	7	0
Celery..... bundle	1	6	2	0	Radishes doz. bunches	0	6	0	0
Cucumbers..... each	4	1	0	0	Rhubarb..... bundle	0	4	0	9
Endive..... doz.	2	0	0	0	Sea-kale..... basket	0	0	0	0
Fennel..... bunch	0	3	0	0	Shallots..... lb.	0	8	0	0
Garlic..... lb.	0	8	0	0	Suinach..... bushel	3	0	5	0
Herbs..... bunch	0	8	0	0	Tomatoes..... per doz.	3	0	4	0
Herbsradish .. bundle	3	0	5	0	Turnips..... bunch	0	6	1	0

TO CORRESPONDENTS.

•• We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

DARK OR PINK HYBRID PERPETUAL ROSE (*A Subscriber*).—"You require a dark or pink Hybrid Perpetual which will bloom abundantly and late in the season, and which must be a successful and quick climber on a west aspect." For the dark, I recommend *Duc de Cazes*, and for the pink, *Anoa Alexieff*; they are both good. If first-class flowers are needed, for dark procure *Prince Camille de Rohan*; and for salmon pink, *William Griffiths*, a Rose that has never been excelled.—W. F. RADCLYFFE."

ROSE CARDINAL PATRIZZI (*E. H. Dowson*).—"Having earthed-up Cardinal Patrizzi 3 inches over the point of union, no doubt it has made roots of its own, independent of the Manetti stock. If you wish to have blossoms this season from the 4-foot blind shoots you must cut back 6 inches or so to a plump eye in tolerably hard wood. At the fall of the leaf you will do well to take the plant up, cut away the Manetti stock which is too far removed from the surface, and having replanted, dry-vaunch through the winter.—W. F. RADCLYFFE."

ROSE OVER-LUXURIANT (*The Rose at the Cottage*).—"The glorious crimson Rose, of a deep colour, and large size, growth of wood 6 inches, I imagine was *Louis XIV.* Another Rose of moderate growth, and of a similar description, would be *Victor Emmanuel*, a Bourbon. If the lady will forward me a bloom, or a piece of wood, or foliage, I might be able to tell the name. *Louis XIV.* is of the colour of rich blue, dark-shaded, and not over-full. *Victor Emmanuel* is crimson purple. There are two other deep crimson Roses of moderate growth, and which may be called glorious—namely, *Madame Mason*, large, expanded, a claret crimson; and *Xavier Olibo*, globular, fine before expansion, but hollow as a drum. I expect if the rate of growth is correct that the Rose is either *Louis XIV.*, or one of these two. Supposing the variety not to be any of these, it may be *Duc de Cazes*, *Pierre Notting*, or *Prince Camille de Rohan*. The first is not over-full, the second is globular and full, the third is flat, or expanded, and dies off nearly black. With regard to the long blind shoot, cut the shoot back one-third, and if the Rose is not a summer Rose, it will probably put forth side branches and bloom this year. No matter what the Rose is, if the growth is rampant, the less it is cut the more chance there is of producing blossoms. If the ground is not in high condition when the Rose is cut back, supply a little manure, and water.—W. F. RADCLYFFE."

GRAPES SPOTTED (*O. C. G.*).—"The Grapes you enclosed are affected with what gardeners call "the spot." It is believed to be an ulcer caused by the roots not supplying a sufficiency of sap. Water them with tepid water abundantly, and give a little weak liquid manure. Thin half the berries out from each bunch in which they are as close as in that you enclosed.

NAME OF GRAPE (*John Ferris*).—"The berries were totally smashed and dry. Send some in a tin box.

VINES FOR CONSERVATORY (*E. B. B.*).—"We recommend a Black Hamburgh and a Royal Muscadine.

FERN AT THE LEICESTER EXHIBITION.—"In your account of the Floral Committee's awards at Leicester, you give Mr. E. J. Lowe, instead of J. E. Mapplebeck, the credit of receiving a first-class certificate for a Fern exhibited by me, which I found, and he does not possess. The name of it is *Lastrea Filix-mas var. Mapplebeckii*.—JOHN E. MAPPLEBECK, *Moseley, near Birmingham*."

ADDRESS (*J. F. N.*).—"Messrs. Downie, Laird, & Laing's address is Stanstead Park, Forest Hill, London, S.E., and 17, South Frederick Street, Edinburgh.

TRAINING VINES IN A VINERY (*Reader*).—"If you make no other use of your front glass, there is no objection to spurring the Vines from the ground to the top of the front glass, and thence along beneath the rafters, but here we should advise the mode of management to be the same, for if under the rafter you were chiefly to use the rod-system, it would starve the lower part of the Vine. With Vines 3 feet apart you will do little good on the back wall by training down after the Vines are established, but the plan may be tried. The shade will be against them there. If you grow much below the Vines, your spurs in front will keep out light from the secondary crops.

PRUNING FRUIT TREES (*Richd. Taylor*).—"If the strong leading shoots are stopped early, the laterals produced would have time to ripen their wood perfectly, and the shortening of the stronger shoots would diffuse the strength more equally over the tree. We should in your case stop back freely, and we think that as you have so little fruit, we would also root-prune in September, doing it so as to check growth, but not so much as to cause the trees to flag.

HEATING A PEACH HOUSE WITH HOT WATER (*J. M., Northfield*).—"Although it is not necessary to heat a Peach house, it would be an advantage to do so, as you can take pipes very readily from your present boiler. Pipes on the Truss principle will be best for removal. We think they will cost a little more, but it would be best to ask the advertiser, as we have used none ourselves. As you have common jointed pipes in the other houses it would be well to have an understanding as to removal with the landlord. A boiler complete in itself may be removed, but one

brickwork we think is not removable without a proper understanding to that effect.

DESTROYING ANTS (A. G.).—In another column you will see a notice of a compound Mr. Abbey has used for the destruction of insect pests. A solution of 2 ozs. to the gallon of water is instant death to every ant it touches, and poured into the nest it will destroy the colony. If you sprinkle guano over their haunts it will drive the ants away.

SAVING AND SOWING FUCHSIA SEED (H. B.).—The berries should be left on the plant until they are quite black, and readily part from it, then with the fingers squeeze them in a basin of water until the seeds are separated from the pulp. They will then sink to the bottom; next drain off the water and pulp, and set the basin on its side in a dry place, so as to dry the seeds. When dry wrap them up in paper, and keep them until spring. They may be sown at the beginning of March, or if now ripe we would sow forthwith. Sow in pots or pans, well drained, and filled to within a quarter of an inch of the rim with a compost of two-thirds sandy fibrous loam, one-third leaf mould, and about one-sixth silver sand. The compost should be sifted. Place the soil remaining in the sieve over the crocks to the depth of an inch, and on it the sifted soil. Level the surface by pressing it with the bottom of a small flower-pot. Scatter the seeds rather thinly and evenly, and cover them lightly to a depth about equal to the thickness of the seed; give a gentle watering, and place the pots in a house where there is a temperature of from 55° to 60° at night, and from 70° to 80° by day, keeping the soil moist, and near the glass. When the plants appear afford plenty of light and air, and by degrees harden them off. The pot or pan may be placed in a hotbed, and the seedlings forwarded there until they are of sufficient size to be put singly in small pots. This should be done as soon as they can well be handled, and after potting they must be returned to the hotbed, and kept there until they become again established; then harden them off, and remove to an airy position in the greenhouse. A shelf near the glass is the most suitable place.

SUNFLOWER SEED SAVING (D. B.).—Cut the heads as soon as the seeds are ripe. Lay them on a floor in a dry, airy building for ten days or a fortnight, and then beat them with a stick, and the seeds will fall out. In a windy day winnow them, placing a sheet or cloth on the floor or ground. The seeds being thus freed of husks and dust should be stored in bags in a dry place. The heads should be gathered in a dry day.

SYRINGING FERNS (A. B. S.).—We are in the habit of syringing our Ferns in the evening, and we do not find their foliage damaged. The specimen sent appears scorched, probably owing to the syringing being heavy, and the house being closed at night; there will, consequently, be more or less condensed moisture on the fronds in the morning, and the sun's rays falling upon them in that state will account for the brownness of the specimen. Do not give more than a gentle sprinkling, keep the atmosphere moist by sprinkling the paths, walls, and other surfaces with water morning and evening, and give a little air at night, but not in excessive quantity so as to create a current. A temperature of from 70° to 75° at night is much too warm for the kinds of Ferns you name. Admit air more freely so as to reduce the temperature. Spongy peat is not good for Ferns. That most suitable is of a brownish colour, and full of fibres and of particles of sand. If upon wetting the peat does not when squeezed form a ball of mud, nor give off very black water, it will grow Ferns well, and almost all plants needing peat soil. *Ficus repens* is a stove climber.

SITE FOR HARDY FERNERY (W. O. B.).—We have found a north aspect most suitable. The plants are less liable to injury from cold in winter, as the house does not become hot in the day and very cold at night. Extremes of heat and cold, or sudden changes of temperature, are not beneficial to the growth of Ferns. The house, though with a north aspect, will need shade in summer. We have not noticed any tardiness of growth in the case of Ferns in a north aspect.

PORTUGAL QUINCE (R. S.).—The Portugal Quince is the finest, but not so productive nor so hardy as the Apple-shaped. The tree bears when of comparatively small size, and a good tree two or three years grafted will bear the second or third year after planting. A Quince tree or two would be desirable in a selection, but whether it is worth while growing one must be determined by the taste of the proprietor.

THRIPS ON MELONS (Primus).—The best means of destroying thrips on Melon plants is to fumigate them, when the foliage is dry, with tobacco, filling the house with smoke. Shade from bright sun, give a thorough syringing on the evening following the fumigation, and repeat the fumigation next evening if necessary. It may be necessary to repeat the fumigation at intervals, taking care to have the foliage dry, and to deliver the smoke cool.

LILIUM AURATUM STEM BROKEN OFF (W. D.).—The bulb should not be disturbed, but left in the soil and pot. It would not do to take up the bulb and store it away in a dry place until winter. It will, no doubt, make a good growth next year, and early. You could hardly expect it to flower this year, as the flowering portion of the stem was broken off.

SEDUM CALIFORNICUM PROPAGATION (W. D.).—The plant used as an edging to some of the beds in Hyde Park, we think from your description, is *Sedum (Sempervivum) californicum*. It forms large dense green rosettes tipped with reddish brown. It is increased by division, which may be performed early in autumn or spring; it is also raised from seeds when these are procurable. They may be sown now in light, sandy, open soil. It is a free grower and of easy culture. Any of the principal nurseries could supply you.

MISTLETOE SOWING (De Foix).—We would sow the seed at once, making incisions in the under sides of the branches of the trees you name similar to those made for budding, and insert a seed in each incision between the bark and wood. Being on the under sides of the branches the seed would not be so soon discovered by birds, and placed in the incision it would not be so liable to be displaced, as if it were merely placed on the branch, which, however, is quite sufficient. In addition to Poplar and Elm we may name Lime, Apple, Thorn, and Crab, as suitable for the growth of the Mistletoe.

PLANTING AN ORCHARD HOUSE (T. B.).—Your plan will answer very well. The height of the house will do for standards, but they will need root-pruning. The front row will do well for pots. If you aimed at the least trouble we would plant the front and train the trees on a trellis the same as the back.

STRAWBERRY PLANTS (W. B.).—We cannot recommend nurserymen. Any who advertise in our columns could supply the varieties you name.

GRAPES MARRED (An Old Subscriber).—The box was smashed, as well as the berries, by the post-office punches.

SEEDLING PANSY (C. Stuart).—Your Pansy may look well in a mass, but the flower is deficient in form and substance. It appears to be a seedling from one named Magpie, whose only recommendation is the contrast of colour, the flower being of very bad form.

RATING GARDEN STRUCTURES (S. Walters).—The appeal we alluded to is to the Quarter Sessions; and if the decision there is adverse, and you were advised to do so, you might have the case brought before the Judges in London. A subscription should be raised among the gardeners interested to have one case thus fully decided, and by which the other cases would be ruled. It is perfectly useless to occupy any space in our columns with mere outcry.

PELARGONIUMS (H. W.).—What are intended to be shown as Pelargoniums, are not as you suppose any of the genera of the family Geraniaceæ, but species or varieties of species belonging to the genus Pelargonium; and the Zonal Pelargoniums mentioned in the show schedules are varieties of either Variegated Pelargonium zonals or iniquimans, and their hybrids. In the class of Variegated Pelargoniums, any plant may be shown that belongs to the genus Pelargonium and which has variegated leaves. Paxton's "Botanical Dictionary" is published at 25s.

FRUITS FROM FRANCE (Centurion).—The Pears called Marie Louise de Jersey and Windsor de Jersey are merely the ordinary sorts known by that name, and the affix "de Jersey" indicates that the possessor obtained them from that island. Columbia is an American Pear which in some seasons is of good quality in this country, but not always so. Chassela Rouge Royale is the same as Chassela de Falloux, of Hogg's "Fruit Manual." The Apples, Calville Rouge and Calville Rouge d'Hiver, are synonymous. It is only of second-rate quality. Of Duchesse de Brabant we have no experience.

BLACK SOIL (A Constant Reader).—A little of the soil sent would be useful for Fern culture in a house, but not much of it, for it seems as sent, and also when wetted and dried again, to become so hard. If we are not mistaken, it would act much like pieces of grit or sandstone, but it is not easy judging from such small quantities.

VINE MILDEWED (Idem).—What you have done for your Vines is all proper and ought to have lessened the tendency to mildew. We would advise dusting the parts with flowers of sulphur, dabbing the open parts of the wall with sulphur and soft-soap, and giving a good watering to the roots. We fear the roots want more help than they have received.

TRAINING VINES (Half-pay).—Having successfully treated your Vines as advised on the 9th of January, we would now nip out the points of the shoots that have reached the top of the wall, so as to throw back more vigour to the stem nearer home. For this purpose encourage laterals there for a couple of months, merely nipping out their points. This will do more to strengthen the stem than allowing the Vine to run along the back wall, but you may let some laterals grow there. The reason of this will be more obvious if you attend to what is said about cutting back these Vine shoots after the wood is ripened in the autumn. Recollect that taking much fruit from these Vines next year will paralyse them for the future. You did quite right with the Peach tree. Alice Mand is a good Strawberry for a pot and for your house, and so is President and Prince of Wales; the former is generally fruitful.

COST OF ERECTING A VINERY (B. M.).—We cannot enter on the subject of estimates, as there is such a difference in the mode of doing work. We have allowed others to state how cheaply they erected fixed glass roofs by using large squares and no rafters. Tradesmen advertise in our pages how cheaply they can send out sashes complete. Given a wall, a lean-to about 12 feet wide may be put up for something like 10s. per foot run, but it will be useful rather than ornamental; the rafter ash-bars fixed, and the glass from 18 to 20 inches from bar to bar. A span-roof 20 feet wide will be a useful house. If the wall is to be built, the span-roof will be the cheaper, as glass costs less than brick, and then you would only need a low wall all round, say 2½ feet, and glass ¾ feet. Iron piping will cost from 2s. 6d. per yard, and the boiler for such a house would be from £5 to £6. You can have good glass cut for 2d. per foot, and the prices of wood in battens, or in rafter pieces to receive the glass, from 3½ to 4½ inches in depth, can easily be ascertained.

CUTTING DOWN AN INDIARUBBER PLANT (C. T. O.).—You may cut down your one-stemmed Indiarubber plant to 1, 2, or 3 feet, according to the space you have, and then you may have several shoots or branches instead of one. Before you do so, let the soil in the pot become as dry as the plant will endure without much flagging, and if you tie a string tighter and tighter every day for a week, before you cut off the head, there will be less bleeding. Scar the cut part with a hot iron, and put damp white lead on it.

CONSTRUCTING AN ORCHARD HOUSE (A Constant Reader).—To meet the cost of your requirements obtain from our office Pearson on "Orchard Houses," which you can have for nineteen postage stamps. Such a house, if 16 feet wide, would be best if a span running north and south, with sides facing east and west, but as on the east side you have a wall 8 feet high, you might put your house against it. In this case a hipped and a sloping roof would be best for the width—say a short hipped-roof at the wall, 5 feet in length, forming a ridge-board 13 feet from the floor. This, with a front of 6 feet, part glass and part wood or brick, would give you a front rafter of about 18 feet. But for your wall, a span-roof would be best, say 12 feet high in the centre, 6 feet high at the sides, and having a double ridge board so as to have a swing ventilator between. Then, in the first place, you should have a fixed roof, and the wood should be 4½ by 1½ inches, and from 16 to 20 inches apart. In the span-roof, the roof would be so much shorter that 3-inch-deep rafter ash-bars would do. In either of these cases there would be no sashes. The size of the squares of glass might be 16 inches by 12, or 20 by 12. Have the floor level if convenient, but there is no great objection to a sloping floor and a sloping roof, but the level floor will always be most easily managed. As you can easily go up, there is little use in sinking the earth or floor. What you gain in warmth you lose in damp. A heating apparatus will be an advantage if you contemplate flowers as well as fruit. A good iron or brick Arnot's stove would, however, keep out frost; if you want much more you had better have a flue or hot water. The most pleasing

and profitable way of stocking such a house, if span-roofed, is to plant at each side, train to the ridge-board, and have a broad walk in the centre. There are numerous modes, either by pot culture, growing as bushes, &c. If Grapes are wished, Black Hamburg and Royal Muscadine will be the best. The best time to build is as soon as possible. The best time to stock it is as soon after October as the wood of the trees is ripe. The flowers, if in pots, may be obtained as soon as the house is finished.

NAMES OF FRUITS (Mr. Cobbett).—The White-fruited Black Currant. (*J. Ashmole, Hford.*)—Early Harvest Apple.

NAMES OF PLANTS (Julia).—*Veronica agrestis.* (*J. D. G.*)—*Rhus cotinus.* (*H. Oakley.*)—*Veratrum nigrum.* (*S. A. M.*)—1, *Athyrium Filix-femina*

rheticum; 2, 4, and 5, *Aspidium (Lactraea) Filix-mas*; 3, *Cystopteris fragilis.* (*J. B. Boyd.*)—No fructification to the specimens. (*F. E. H.*)—1, *Gynogramma japonica*; 3, *Nephridium setigerum.* (*G. E. Cox.*)—Seedling frond of *Athyrium Filix-foemina.* (*Penelope.*)—*Cystopteris fragilis.* (*A. H. of B.*)—*Asplenium bulbiferum.* (*Stephanotis.*)—*Nephridium glabellum.* (*J. B. P.*)—1, *Aspidium trichomanes*; 2, *Sclaginella Martensii*; 3, *S. Kraussii*; 4, *Saxifraga sarmenosa.* (*S. S.*)—1, *Asplenium nidantum nigrum*; 2, *A. trichomanes*; 3, *Polypodium dryopteris*; 4, *Adiantum tenerum.* (*E. C. B.*)—*Geltis occidentalis.* (*J. Bailey.*)—*Panicaria parviflora.* (*B. A. M.*)—1, *Latus corniculatus*; 2, *Galium verum*; 3, *Achillea millefolium*; 4, *Taula pulicaria (Pulicaria vulgaris)*; 5, *Lysimachia nummularia.*

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending July 28th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 22	29.940	29.835	93	57	73	68	S.	.00	Hazy, fine; very fine and hot; fine, hot air.
Thurs. 23	30.040	29.874	79	46	73	67	N.	.00	Very fine; cloudy; clear and fine at night.
Fri. .. 24	30.030	30.028	72	51	77	66	N.E.	.00	Fine, cold wind; fine; fine, slightly overcast.
Sat. .. 25	30.036	29.928	78	56	75	65	N.	.00	Very fine; clear and very fine, brisk wind; cloudy.
Sun... 26	30.009	29.931	80	56	70	66	S.E.	.04	Clear and fine; heavy showers; clear and fine.
Mon... 27	29.838	29.737	88	53	70	64	S.W.	.00	Fine; dull and cloudy; fine and very clear.
Tues. . 28	29.733	29.622	87	52	71	66	S.	.16	Overcast; very fine; cloudy and overcast.
Mean	29.945	29.851	82.43	53.00	72.71	65.43	..	0.20	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

FEEDING GAME FOWLS FOR EXHIBITION.

Good barley, white peas, or good peas of any colour, bread steeped in strong red ale, or in port wine or sherry, are the best things in feeding for exhibition. Meat should never be given, as feeding Game fowls on meat is technically termed "foul feeding," and makes the birds smell rank, as butchers' Game fowls generally do. Some give the raw yolk of eggs, but I do not approve of any egg-feeding. If the birds are penned, a good green turf containing worms, ants' eggs, and insects, is excellent in the pen with them. They should have a little pure water as well.

Exhibitors should be especially careful about not sending to an exhibition any bird in a pen in the least roup, or at all inclined to be so. One bird will, if in this state, infect all the other occupants of the pen, and they on their return will infect the whole run and spoil the stock. The roup, it should be remembered, is when had just like the glanders in horses; and all birds having it, like glandered horses, should be at once destroyed.

Exhibitors should also recollect in putting up a cock and hens for exhibition, that the hens, or rather their eggs, will be influenced by the cock the hens have been penned with for the next three weeks or month at least, even if they are separated from him directly they return from exhibition, a cock's influence lasting on the average three weeks after separation from the hens.

Feeding on meat is called dirty or foul feeding by all good judges, and it not only makes the feathers smell rank, but I have been informed tends to encourage the breeding of insects under the feathers. Worms, insects, and ants' eggs are the only proper animal food for poultry, and never meat, either raw or cooked, though cooked meat if fresh is better than raw meat. Stinking or putrid meat is very bad food.

The hampers in which the birds are sent should be well lined and covered with canvas in cold weather, and there should be hay at the bottom of the hamper. If the exhibitor resides only a short distance from the place of exhibition, it is better to put the birds in large bags, having a hoop stitched in each to keep it open, with hay in the bottom of the bag, and then to sling the bags to a dogcart, and drive with them to the exhibition in the old cockers' style. I used always to do this when living near Newmarket in former years. Bags do not ruffle and disorder the feathers, especially the cocks' long tails, so much as hampers do. I believe it is legitimate to trim or cut the bristles on Game cocks' heads, but never the smallest feather. Some strains have more bristles than others have.—**NEWMARKET.**

(To be continued.)

MIDDLETON (NEAR MANCHESTER), POULTRY SHOW.—The prize list is liberal, with but few alterations in that of last year. A

new class has been made for French fowls, and birds shown in this class will also have the chance of a £5 cup; another alteration has been made in the Selling Class, which will make it a rather dangerous thing for those who enter valuable birds merely to take away the prize and buy in their own birds. We allude to the paragraph at the top of the class, which states that birds are not to be claimed before eleven o'clock on the morning of the show. If this plan were adopted at all shows, much of the trickery now practised in the Selling Class would be prevented. For Pigeons the prizes have advanced from 15s. and 7s. 6d. to 20s. and 10s., without a corresponding increase in the fee, which still remains at 2s. A new class has been made for Silver-Grey Rabbits.

JAPANESE BANTAMS.

By a letter published in last week's Journal, I find that Mr. J. N. Beasley complains that in the report of the Oundle Show a pen of his "Japanese Bantams" were described as a "cross between the Silkies and the Frizzled Bantams;" "that being imported from Japan last year, he believes them to be a pure breed; that they are not half the weight of either the Silkies or the Frizzled Bantams, and that he believes them to be the only specimens in England." The report itself simply runs thus: "We noticed in the Bantam class (here open alike to every variety of Bantams), birds of very novel character, being evidently a cross between the Japanese Bantam and the Silky fowl." It is evident, therefore, that no such statement exists as that of which Mr. Beasley complains, the birds that were exhibited at Oundle being beyond a question the cross of the Silky and Japanese, not the Frizzled Bantams.

The simple fact of their importation from Japan last year does not necessarily involve purity of descent, as not a few individuals proved to their personal loss and vexation at the time so many of the large cross-bred Asiatic fowls were imported as true Cochins, during the "mania" some years back, when anything under the name of a Cochins realised an almost fabulous price. Again, there are now two hatches of chickens bred within a few miles of my residence purposely of the cross named; they are identical both in plumage and general character with the pen exhibited at Oundle Show, and they will, I am told, be entered for competition in a little time when perfectly matured, under a name purposely manufactured by the breeder and owner, to give them due importance with the public. I am quite aware by personal experience that the product of the Frizzled fowl and the Silky is, as stated by Mr. Beasley, a full smooth-feathered fowl with a top-knot; but the product of the true Japanese and Silky fowl is another bird altogether, both as to form, plumage, and character.—**YOUR REPORTER.**

BRIGHOUSE AND RASTRICK POULTRY SHOW.

THOUGH not a large Show, this was a generally good and very attractive Exhibition, and the very numerous attendance of visitors made the Meeting a decided success. The arrangements were excel-

lent, and every possible provision for the comfort of both the visitors and poultry had been well considered. The Game classes were the worst in the Show, scarcely a single pen approaching perfection being entered. Grey *Dorkings* and *Spanish* fowls were well shown. Of *Cochins* and *Brahmas* the entries were very limited in number, but *Hamburghs* and *Polish* were superior. The prize pen of Rouen ducklings was by far the best we have seen this season. There was only one entry of *Turkeys*—a very good pen, but of *Geese* there were several, all of which were good.

The *Pigeons* were numerous, and in general superior. In the extra "Variety" class for Pigeons two additional second prizes were given, as a well-deserved mark of general high quality; and several pens were favourably noticed by the Judges. A pen of English Turtle Doves in splendid feather, entered as Australians, were shown in this class.

GAME (Black Reds).—First, L. Biney, Manchester. Second, H. Beardsland, Bowling, near Bradford. Commended, J. Hodgson, Bowling Old Lane, near Bradford.

GAME (Brown Reds).—First, R. Hemingway, Shelf, near Halifax. Second, J. Spencer, Queensbury, near Halifax.

GAME (Any other variety).—First, J. Mason, Worcester. Second, J. P. Edwards, Fixby Park. Commended, J. Pickles, Banks, near Mytholmroyd.

SPANISH.—First and Cup for best pen of poultry exhibited, H. Beldon, Bingley. Second, J. Thresh, Bradford.

DORRINGS.—First, W. H. King, Sandfield, Rochdale. Second and Commended, Mrs. F. S. Arkwright, Derby.

COCHINS.—First, H. Beldon. Second, L. Biney.

BRAHMAS.—First, E. Leech. Second, H. Beldon.

POLISH.—First, H. Beldon. Second, J. S. Senior, Dewshury.

HAMBURGHS (Golden or Silver-spangled).—First and Second, H. Beldon.

HAMBURGHS (Golden or Silver-pencilled).—First and Commended, H. Beldon. Second, W. Bentley, Hipperholme.

HAMBURGHS (Black).—First, H. Beldon. Second, J. Robinson, Falls-worth, near Manchester.

GAME BANTAMS.—First and Second, W. F. Entwistle, Leeds. Highly Commended, J. S. Senior. Commended, L. Biney.

BANTAMS (Any variety).—First, T. C. Harrison, Hall. Second, C. B. Riley, Ovenden, near Halifax. Highly Commended, Messrs. S. & R. Ashton, Mottram, Cheshire.

DUCKS.—First, J. White, Netherton, near Wakefield (Rouen). Second, T. C. Harrison, Hull. Highly Commended, E. Leech.

GEESE.—First, J. White (Toulouse). Second, E. Leech. Highly Commended, J. Crossland, Huddersfield.

TURKEYS.—Prize, E. Leech.

ANY VARIETY.—Cup, H. Beldon (Spanish). Highly Commended, J. S. Senior (Polish); H. Beldon (Polish). Commended, H. Jackson, Huddersfield (Chinese Silver Pheasants).

PIGEONS.

POUTERS (Any colour).—First, H. Yardley, Market Hall, Birmingham. Second, J. Hawley, Bingley.

CARRIERS (Any colour).—First, J. Hawley. Second, H. Yardley.

DRAGONS (Any colour).—First and Second, H. Yardley. Highly Commended, J. Crossland. Commended, Jesse Thompson, Market Place, Bingley.

TUMBLERS.—First and Second, J. Hawley. Highly Commended, Jesse Thompson; J. Fielding, jun., Rochdale. Commended, W. Lund, Shipley, near Bradford.

BARBS (Any colour).—First, J. Hawley. Second, H. Yardley. Highly Commended, J. Crossland.

JACOBS (Any colour).—First, Jesse Thompson. Second, J. Crossland. Highly Commended, H. Yardley.

OWLS (Any colour).—First and Second, J. Fielding, jun.

TURBETS (Any colour).—First, J. Crossland. Second, Jesse Thompson. Commended, J. T. Sykes, The Market, Rochdale; J. Crossland; J. T. Lishman, Gillington, near Bradford.

COMMON.—First, W. Lund. Second, J. Hawley.

ANY OTHER VARIETY.—First, J. T. Lishman (Black Swallows). Second, H. Yardley (Satinettes). Extra Second, J. Hawley; H. Yardley (Ice Pigeons). Highly Commended, H. Jackson; Jesse Thompson (Isabels). Commended, T. Denton, Southwam.

Edward Hewitt, Esq., of Birmingham, and E. Hutton, Esq., of Pudsey, officiated as Judges.

PONTEFRACT POULTRY SHOW.

THE eleventh annual Exhibition of the Pontefract Agricultural Society was held on the 23rd inst., and being favoured with delightful weather, there was a large attendance. The Show, so far as poultry was concerned, was but indifferent, a first prize of 12s. 6d. not being sufficient to bring into competition first-class birds. Subjoined is the list of prizes:—

COCHINS.—First, S. Robson, Brotherton. Second, T. Turton, Ackworth.

BRAHMAS.—First, Lord Hawke, Womersley. Second, E. Ingle, Stubbs.

DORRINGS.—First, Lord Hawke, Second, Dr. Horsfall, Carleton Grange.

HAMBURGHS (Golden-spangled).—First, Master Kenworthy, Ackworth. Second, C. Bradshaw, Pontefract.

HAMBURGHS (Golden-pencilled).—Prize, J. Charlesworth, Pontefract.

HAMBURGHS (Silver-pencilled).—First and Second, J. Wardie, Ackworth.

GAME (Black-breasted or other Reds).—First, J. Turton, Ackworth. Second, J. Squire, Rothwell.

GAME BANTAMS.—First and Second, Lord Hawke.

BANTAMS (Any other variety).—First, T. Woodcock, Carleton. Second, J. Addy, Cutsyke.

ANY OTHER VARIETY.—First, J. Ashworth, Tanshelf. Second, C. Bradshaw.

CHICKENS.—First, C. Bradshaw. Second, H. Poskitt, Darlington.

ANY VARIETY.—Cock.—First, A. Hathorn, Smeathalls. Second, S. Robson.

DUCKS.—First, Master Kenworthy. Second, J. Wilkinson, Great Houghton.

DUCKS (Rouen).—First, Lord Hawke. Second, Dr. Horsfall.

GEESE.—First, H. Poskitt. Second, Lord Hawke.

TURKEYS.—Prize, Lord Hawke.

GUINEA FOWLS.—First, Mrs. Lodge, Upton. Second, Lord Hawke.

PIGEONS.

POUTERS.—First, S. Robson. Second, W. Fowler, Pontefract.

CARRIERS.—First, S. Robson. Second, J. Briggs, Ferrybridge.

TRUMPETERS.—First, S. Robson. Second, W. Fowler.

JACOBS.—First, W. Fowler. Second, Amery, Methley.

FANTAILS.—First, Master Earnshaw, Rawcliffe. Second, D. Longstaff, Monkroyd House.

RUNTS.—Prize, S. Robson.

BARBS.—First, W. Fowler. Second, Master Simpson, Pontefract.

TUMBLERS.—First, J. Dale, Pontefract. Second, C. Grail, Thorne.

NUNS.—First, W. Fowler. Second, Master Simpson.

ANY OTHER VARIETY.—First, J. Briggs. Second, W. Fowler.

The Judges were Mr. J. Wright, Snaith, and Mr. Coulson, of Drax Hall.

BIDEFORD POULTRY SHOW.

At this Show, held at Westward Ho! on the 23rd inst., there were upwards of 170 entries of Poultry and Pigeons.

DORRINGS (Coloured).—First, L. Patton, Taunton. Second, Rev. A. C. Thynne, Penstowe, Stratton, Cornwall. Third, J. Tarratt, Stratton. Highly Commended, L. Patton.

DORRINGS (White).—Prize, C. Hammett, Bideford.

SPANISH.—First, L. H. Ricketts, Banwell, Weston-super-Mare. Second, J. Joce, Bideford. Third, G. Piper, Exeter.

GAME (Black and Brown-breasted).—First and Third, Rev. G. S. Cruwya. Second, W. A. Deane, Bideford.

COCHIN-CHINA.—First, W. L. Trewin, Kilkhampton, Cornwall. Second, L. Patton. Third, Mrs. Baker, Barnstaple.

BRAHMAS.—First, Capt. J. O. W. Scott, Smytham, Torrington. Second, J. Tarratt. Third, Capt. Page, Ilfracombe.

HAMBURGHS (Gold-pencilled).—First, T. R. Harris, Cusgarne, Gwennap, near St. Day, Cornwall. Second, W. L. Trewin. Highly Commended, Messrs. Stevens Brothers, Bideford.

HAMBURGHS (Gold-spangled).—Prize, J. Oliver, Bideford.

HAMBURGHS (Silver-spangled).—First, W. Colwill, Bideford. Second, R. Grant, Bideford.

HAMBURGHS (Silver-pencilled).—Second, J. Turner, jun., Abbotsham.

POLANDS.—First and Second, W. L. Trewin.

EXTRA PRIZES.—First, W. Albin, Venn Mills, East Putford. Second, H. Gloin, Bridgerule, near Holsworthy. Third, Rev. A. C. Thynne.

SINGLE COCK (Any pure breed).—First, L. Patton. Second, J. Tarratt.

THIRD, K. Andrews, Barnstaple. Chickens.—First, Rev. A. C. Thynne. Second, G. Walsh, Halsdon, Dolton. Commended, Rev. A. C. Thynne.

BANTAMS.—First, Capt. J. O. W. Scott. Second, T. R. Higham, Morchard Bishop. Highly Commended, H. M. Bazeley, Bideford.

GUINEA FOWLS.—First, W. Pridham, Bideford. Second, W. M. Lancaster, Thoborough.

DUCKS (Aylesbury).—First, J. Heal, Parkham. Second, Mrs. Baker.

DUCKS (Any other sort).—First, L. Patton. Second, R. Petherbridge, Ham, Alverdiscott.

GEESE.—First, L. Patton. Second, J. Heal.

TURKEYS.—First, L. Patton. Second, Capt. Willett, Petticombe.

PIGEONS.

CARRIERS (Black).—Prize, N. L. Greet.

BARBS.—Prize, T. Tossell, Barnstaple.

FANTAILS (White).—Prize, N. L. Greet.

JACOBS (Red).—Prize, N. L. Greet.

TRUMPETERS.—Prize, J. S. Heath, Barnstaple.

TUMBLERS.—Prize, E. A. Bazeley, Bideford.

NUNS.—Prize, J. S. Heath.

COMMON (White).—Prize, J. Heal, Parkham.

The Judges were the Rev. G. F. Hodson, and H. Leworthy, Esq.

ANTWERPS VERSUS DRAGONS.

HAVING been a breeder of Antwerps for upwards of twenty years, I have read with interest the articles on the above subject inserted in your Journal, and should have joined the controversy sooner for a severe illness. I have during my time won and lost a great many flying matches. I have tested Antwerps against Dragons, the latter in every instance failing to return so quickly as the Antwerps, and in sending Dragons a long distance I invariably lost them.

I have personally bought Pigeons in Belgium from the best flying strains. I fancied the Dun Red-chequered and the Blue-chequered, which, if well bred, will be found good homing birds. I have tested the above colours, and always found the Red-chequered and the Dun to come the longest distance. I therefore kept Pigeons of the colour which homed the best. I find the Red-chequered Antwerps breed true to colour. I may say, without being guilty of egotism, that I have one of the best cotes of Red-chequered Antwerps in England, that breed well to colour, and I always dispose of the young at good prices, which is a good proof of their excellence. I dare say many of your subscribers can bear out this statement from the fact that they are now waiting until I can supply them. It is, therefore, my firm opinion that Antwerps are one of the most valuable breeds a fancier can keep. I have kept all kinds of Pigeons, but none which paid me so well as Antwerps, and if I had not

them for feeders I should have lost many a valuable pair of another kind.

If "WILTSHIRE RECTOR" could spend a short time in Yorkshire, he would find that Pigeon-flying is a favourite pastime with a portion of the working classes, both for profit and amusement; Antwerps being their favourite birds, and the majority being Red-chequered, Dun, and Blue-chequered.

I need scarcely say that the merits of the different breeds have been well tested, and always in favour of the Antwerps. They are a grand style of bird, breed well to colour, and are faithful to their homes. I am of opinion that, instead of leaving them out as a class, as suggested by "WILTSHIRE RECTOR," there should be more classes made for them. This would be to the advantage of exhibitors and the Committees of the different Pigeon shows, as I am well persuaded the classes would fill as well as those for Game Bantams.—JOHN CROSSLAND, JUN., Wakefield.

MANAGEMENT OF PIGEONS IN HEALTH AND DISEASE.

WE are obliged at present in England to keep our "fancy pets" in confinement, contrary to what their welfare requires, though future generations will see the valuable kinds at large in the same way as I have seen flocks of the most valuable fancy Pigeons which we possess flown just the same as the common Tumblers are in England, and to this I shall refer in due course.

No Pigeon can exist long in confinement without the greatest possible attention to cleanliness and diet. I have adopted the English saying, "Prevention is better than cure." With the exception of what I may term a general epidemic which happened the first year of my English career, nearly seven years ago, my pens have been free from all diseases; and I have often met with valuable birds unhealthy, which I bought for a trifle, and by my usual treatment in many cases have been able to restore them.

I consider that confined Pigeons require top ventilation and a dry floor; but the most important consideration of all is their diet. I never feed my birds with the same grain for more than six months in succession, and I feed them very sparingly indeed on white or grey peas, Indian corn, vetches, buckwheat, and barley. I feed thus—six months with white peas and vetches, six months with grey peas and Indian corn, then with white peas and buckwheat, and so on. The proportions I prefer are two of peas to one of any of the other kinds of food. I never give Pigeons Indian corn in winter, and never buckwheat in summer. I never give them any salt, nor any water to bathe in, though there is an aviary attached to their loft in which they flutter and get sprinkled when there is rain. I keep their floor always covered with gravelly sand about half an inch deep, and give them daily in a pan some crushed old mortar.

I feed them, when breeding, twice a-day, and when not breeding but once, and give them only what I consider enough—that is, I stop when I see they can do with a handful more, so you can never see a grain lie on the floor; and this I suppose is the reason that I never saw a mouse in my pen yet.

When they have done breeding I take away the straw and turn the pens upside down. This causes the birds to take to the perches, which should be plentiful and at different elevations, so as to enable the Pigeons to keep in motion. I never divide the pairs, as I consider it quite unnecessary.

I find that nearly every disease commences with bad digestion, and this is occasioned by overfeeding; and the proof is, that diseases are prevalent in winter when the birds are almost in a dormant condition through inaction and bad weather, and then overfeeding is equivalent to killing. As soon as I perceive a bird with the food in the crop from the preceding day, which makes it look rather dull, I shut it up at feeding time, so that it will have none till all the swallowed food has gone. I give it very little water, and to assist it, give it a pinch of carbonate of soda. In some cases digestion is restored in twenty-four hours, in others it may take two and even three days. In no case do I let such a bird have more than half the usual quantity the first day I allow it to feed, and I supply it with grain different from that previously given.

I find roup and canker the prevailing diseases in England, and I do not consider either contagious. Both may originate in a pen through the bad constitution of the birds. I have twice admitted into my pen birds with roup, and not only

were none of my birds affected, but one of the birds became well.

I have tried many remedies for both diseases, and I find that some Pigeons are recovered by one remedy, some by another, and others never; some will get rid of the roup by a dose or two of charcoal powder, some by a dose of carbonate of soda or a pinch of alum, and some by a dose of flowers of sulphur. I am now trying some pills which the inventor forwarded me, and which he states will cure any Pigeon or fowl from the worst case of roup, and I will report the result.

The birds that never get well are those in which the disease is hereditary. I know a friend nearly all whose birds bred from a certain strain have the roup; I tried the same breed, and I found that though all my birds were quite healthy, the young of this breed had the roup when only a week old, and they died of it when about six weeks old.

The canker is, in my opinion, easier to cure. If in the mouth, I apply a strong solution of alum with a feather twice a-day. The next day I find the white substance getting loose; I remove it with a feather, and again apply the solution for the last time. This will do if you discover the disease in time. Some fanciers never think of examining their birds, and only discover the disease when all the month and throat down to the crop is a mass of inflammation. Then it is too late for any remedy. If on any part of the beak, peel the canker off, wash the place well, and apply finely-powdered alum and charcoal. In both cases feed the birds very sparingly, and only with bread crumbs, and pull out all or half the feathers of the tail.

I keep for water an earthen fountain of a size sufficient to contain water enough only for one day in winter, so that I am compelled to fill it daily, and twice a-day in summer. I keep in it a quantity of large iron nails, which help to preserve cleanliness inside, they being well shaken every time it is filled, and at the same time they are most beneficial by making the water chalybeate.

There is in no small degree another plague prevailing on the Continent and also in England—namely, a kind of abscess formed in the joints of the wings, which terminates in death, or cripples the bird for life. I have tried for this every remedy suggested, and some very cruel ones, and at last perfect success has crowned my efforts. As soon as I discover a bird beginning to fly awkwardly, I examine the joints of both wings, and if I perceive any swelling, which is always the beginning of the disease, I pluck out the ten long flight feathers of the wing affected, and by the time they grow again the birds will be perfectly free from disease, and will fly as usual. If the swelling is very bad I pluck all the long feathers of the wing, examine the swelling, and see if it is hard, and if not, but like a bubble, it contains matter about the colour and thickness of liquid glue. In this case I treat the bird as before, but cut the skin of the bubble, and press all the fluid out; Many consider plucking cruel, and I am of the same opinion; but in this case it is the only remedy, and the most certain of success—in fact, it will never fail.

Pigeons at liberty can do with less attention. I do not supply them with mortar, nor clean them so often, with the exception of the nests containing young ones. They may be fed more liberally, but they must be supplied daily with fresh water. During summer I supply all my birds with green food every other day, and soaked bread. I give them a lettuce, lay a brick on its root, and they soon devour it.

In using fresh birds to fly, I am opposed to plucking the wing, as I do not like to see them crippled for nearly a month. I adopt, therefore, the method pursued on the Continent, which, in my opinion, is the safest. I thread a needle and pass it through the two first quills, about an inch from the root, then twist it round nine of the flight feathers and tie it. This prevents the bird flying, the tying cannot become undone, and when in the pen the wing so tied is in a natural position. In this state I keep the bird till it takes to a perch in winter, or till it pairs in summer; and when I intend to let it out I free some of the flight feathers from the thread, so as to give it the chance to get on the building when about feeding time, and after it comes down once or twice then I cut and pull the thread off, and let the bird have full liberty. The best time for breaking birds is when they are sitting, and the worst when they are feeding their young. I have two birds which I broke a distance of only one mile; these go home even now, the third year, every time they have young. They do not go at all during the winter, but they commence their visits about a week after the hatch. Though I supply them with abundance yet

they will go, sometimes three or four times a-day, walk about with their former companions, but never going into the old pen, and then return.—A FOREIGNER.

QUERIES AND ANSWERS ABOUT CANARIES.

1. I HAD a pair of Canaries together last month, but for certain reasons I took away the cock, on say Monday morning, and put a new mate in the side compartment of the breeding cage. The next morning I withdrew a wire, and he passed through to the hen, who received him very spitefully, but he soon thrashed her into submission, and in two or three days she built her nest, and the morning following laid her first egg. She laid four in all, and hatched out three young ones. Two died, and the survivor so closely resembles the first mate that was removed, that I want to know if it is possible he could be its father.

[Quite possible. The fact of her resisting the overtures of the second cock seems to favour this conclusion.]

2. A hen lays soft eggs; she is fed as usual on rape and canary seeds. Please state cause and cure.

[The absence of a supply of chalk or lime. Give her a piece of old lime rubbish to nibble at, and strew some at the bottom of the cage.]

3. A young Canary does not put its hind claws round the perch, but they stick out and up in front. Is this a deformity? What could cause it, and what cure it?

[It is a natural deformity; a freak of Nature, and incurable.]

4. What are the exact measurements of the nest box?

[Mr. Blakston's are 3 inches square inside, and 1½ inch deep.]

5. What is the proper food for young birds? and when do they begin to feed themselves on hard food?

[Crushed hemp seed and hard boiled egg mixed, or take a slice of stale bread, soak in cold water, and squeeze nearly dry, which substitute for the hemp seed. They will help themselves to this as soon as they leave the nest, and will crack seed in from a fortnight to three weeks afterwards.]

6. Are scales on a cock bird's hind claws a sign of his being too old for breeding purposes?—C. A. J.

[No.]

GAS STOVE IN CANARY AVIARY.

I do not see that gas, when properly managed, should necessarily be injurious in a Canary room. At the same time, I am quite ready to admit that there is a risk of the "mischief it causes when it goes out in the night;" but that risk can be reduced to nothing if the apparatus be properly erected, with due regard to draughts, &c. My bird room is at the top of the house; in fact, it is the attic or garret, which I think Walker defines to be the uppermost room in the house, and my chimney is conveyed into the cockloft, which he defines to be the room above the garret. The outlet is immediately under the roof, and sometimes in very gusty weather I wish it were not quite so gusty; and I believe I have been known to get out of bed at strange hours of the night, in a costume more airy than elegant, and creep up to my bird room just to see if it was all right. I also believe that on one occasion, a very squally night, I did turn the gas off altogether for fear of its going wrong; but as a rule, I never found the slightest ill effects result from it, and certainly never the least effluvia. I keep an open vessel of water on the stove, the philosophy of which I will not enter into, because I do not quite understand it, but I fancy it rectifies the dryness of the atmosphere. I do not advocate gas *versus* an open fireplace, but I have no fireplace.

My birds have been very healthy all the season, and I have been fortunate enough to breed a few which I hope will be heard of at the "British National," at Manchester, in which I am happy to find Mr. Ashton is taking an active part.—W. A. BLAKSTON.

THE BARON VON BERLEPSCH ON FOUL BROOD.

(Continued from page 53.)

CONTAGIOUS FOUL BROOD.

In some districts this form of foul brood never appears to occur. Spitzner, in Upper Lusatia; Busch, of Arnstadt; Kaden, of Mayence; and Kleine, in Hanover, state that they have never witnessed this disease in their apiaries or in their re-

spective neighbourhoods. In Thuringia it was entirely unknown until 1858, and my old instructor in bee-culture, Jacob Schulze, had not met with it either in his own colonies or in any others during an extensive practice of more than fifty years.

This, the most formidable of all the diseases to which bees are subject, presents itself in various aspects, being sometimes more and sometimes less destructive; at times running its course rapidly, at others lingering through a protracted period. Sometimes it is of so manageable a character as to be easily removed; and not unfrequently it spontaneously disappears. It is impossible to specify these various grades minutely, though three of them may readily be distinguished:—

First Grade.—We find at the commencement of the disease in one or more combs from ten to twenty sealed cells, more or less, with collapsed covers or caps. If closely examined these caps will be found perforated with a small round hole. When the cap is removed we find the full-grown larva stretched out at length with its head towards the septum of the comb, and its body discoloured of a brownish hue. The larva usually dies before the head enlarges, evidently soon after the cell is sealed and before assuming the pupa state. Unsealed putrid larvæ are seldom seen, and putrid pupæ (the form approximating to the winged state of the insect), still more seldom. When crushed we find the contents consist of a viscous slimy mass. The specific form of the larva speedily becomes no longer recognisable, decomposing into a clammy glutinous substance, which in the course of ten or twelve days dries up into a dark brown scale or crust approaching to black, adhering to the under side of the cell. This crust the bees are unable to remove, but while they remain sufficiently numerous to work with some spirit they will demolish the entire cell and rebuild it with new material; but when the disease has made greater progress they abandon all efforts to remove the obnoxious matter and cease building altogether, as they are not disposed to build combs unless the stock be strong and pasturage abundant. When the disease has become very virulent and overpowering they almost cease flying, and content themselves with endeavouring to expel the vitiated air from the hive. They are apt also to swarm out and desert their hive altogether, either in spring or autumn, if tempted thereto by the occurrence of a fine genial day.

If minute brown or black scales or granules which produce a slimy fetid substance when rubbed between the fingers are found on the floor-board, the existence of foul brood in the hive may be considered certain. When once commenced it usually spreads rapidly, and frequently from a half to three-quarters of the brood becomes affected and dies. At this stage of the disease its existence is proclaimed by the offensive smell, resembling that of putrid meat, which is diffused from the mouth of the hive in place of the agreeable scent usually perceptible there, the bees ventilating the while with unwonted vigour.

It is a very singular fact that all the brood does not perish. Even in hives in which foul brood exists in its most malignant and noisome form, some portion of the brood, however small, will always be found in a healthy state and attaining a perfect development. Considering the great contagiousness of the disease, this is in truth a great mystery. The malady will not, however, be long confined to the hive in which it originated, but will gradually spread to other hives, so that in the course of a year two all the stocks in the apiary or even in the neighbourhood will be more or less affected. Colonies infected with this kind of foul brood in its malignant form never survive long. The malady progresses rapidly, and not only does the brood first affected die, but the very brood-cells are converted into nurseries of disease, so that in a short time the queen can find none in which to lay her eggs. Thus the colony becomes rapidly depopulated, and generally perishes during the first year, or certainly in the second.

Second Grade.—This grade differs from the first only in this, that first the malady does not spread so rapidly; secondly, that it rarely becomes so intense; and thirdly, that it usually disappears spontaneously. I have myself had frequent opportunities of observing this. For instance, in the spring of 1859 many stocks belonging to Mr. Umbreit, of Wolfis, in the duchy of Gotha, were strongly infected with foul brood; yet in 1862 the disease had entirely disappeared, though no means had been adopted for its removal or cure. Mr. Klein, of Tambuchshof, has experienced a similar case as related in the "Bee Journal" for 1864. The disease when occurring in this grade is always curable if treated with ordinary care and attention, and is even in many cases easily removed, as I have repeatedly

had occasion to observe. In 1860, one colony in Mr. Kalb's apiary at Gotha was infected, and in the summer of 1865 three more became diseased, and in each of these four cases a cure was effected by simply removing the combs containing the diseased brood. Probably the disease would have disappeared spontaneously. But such expectation should not induce the bee-keeper to become careless or inattentive, for not unfrequently instead of disappearing this grade of the disease will (generally during the second year), degenerate into confirmed virulent and contagious foul brood, such as might appropriately be styled *brood pestilence*, and which so far as we now know must be pronounced utterly incurable.

Third Grade.—Dzierzon says:—"Where this form of foul brood exists the greater portion of the unsealed larvæ perishes. That portion which is sufficiently advanced to be capped or sealed over usually remains healthy and becomes perfectly developed. A sealed and yet putrid brood cell is here a rarity. The matter into which the dead larvæ decomposes is more paste-like and less tough than that resulting from the malignant form. It dries into a scale at the base of the cell, which is easily detached, and so long as the colony remains strong it will be removed in the shape of dark brown scales, dropped on the floor-board and afterwards carried out of the hive. When such dark brown scales are found on the floor-board they may be regarded as proof positive that foul brood, even though it be yet in its milder form, exists in the hive. Colonies thus infected not unfrequently sustain themselves during two seasons, because only a portion of the brood dies, and that being in open cells is easily removed by the workers. The cells are then again furnished with eggs by the queen, a portion of the larvæ from which will remain healthy and mature perfectly, thus keeping up the strength of the colony tolerably well for a protracted term. At times, too, the disease will disappear again. Colonies which in the summer diffused a strong putrid smell have been found perfectly pure and healthy in the autumn." I have myself had no opportunity of witnessing this stage of foul brood.—A. VON BELLEPSCH.

(To be continued.)

SILKWORM-REARING IN ENGLAND.—No. 14.

SILKWORM DISEASES.

ATROPHY, or wasting consumption, is the scourge of silkworms at the present day, and is but little understood. This malady is more confirmed after the fourth crisis of the worms, when great part of the trouble and expense of rearing them is over, which makes the loss the more vexing. I have noticed particularly that the insects wake from the fourth sleep, presenting a dirty nankeen colour, flabby, and weak. They look shrivelled, fall off in appetite instead of growing, diminish in size, discharging a fœtid humour over the leaves. The existence of this complaint is to be apprehended when there is great inequality of time in hatching the worms, not all coming out of the eggs under a week or more, instead of two or three days. It is observed during the successive slow development of the insects, and their not eating vigorously, as those do in a healthy state. It is discernible in their being less active than they should be, and by their withdrawing more or less from their food. Mortality is frequent among such worms. Their beds become humid, although the renovation of the air has not been neglected, and the proper temperature maintained. Black blotches or spots appear on the insects' bodies, feet, and horn over their tail ends. The moths seized with this malady indicate it by great inactivity, and do not discharge any reddish humour like the healthy ones, but blackish. Black drops of fluid often appear on their wings, which are dirty-coloured instead of a creamy white, often small and shrivelled, whereas they should be of a goodly size indicative of perfection. The moths sometimes present a reddish or blackish swelled body. These have no desire to pair, and if they lay, the eggs are few and of no use. Such moths should be immediately removed when discovered. Care should be taken that only healthy ones are used in the production of eggs.

THE REDS usually shows itself after hatching, or some time during the first age of the worms. Naturally the skin of silkworms is white, and their dark appearance when hatched is caused by the innumerable hairs covering their bodies. Worms affected with the reds show more or less redness. Those which do not succumb, little by little acquire a dirty darkish white, and become languid, whereas healthy worms are vigorous and active, showing the same by the manner they attack their food

and consume it. When this complaint progresses consumption generally follows, although sometimes slowly. Often the insects arrive at spinning, although imperfectly. Several authors affirm that it is produced by hatching the eggs at a high and sudden temperature. It is my opinion that it is more likely to arise from bad preservation of the eggs than from a high temperature, or from bad ventilation along with heat. The silkworms do very well at 65° or 70°, and are only a few days longer coming to maturity, therefore why endeavour to force them on by undue means, endangering their lives by disease?

THE JAUNDICE.—Another mortal complaint, generally manifesting itself at the second age of the worms, and sometimes later. Of the insects having this disease the heads swell or the skins wrinkle. They look shining, as though varnished, having more or less a yellow appearance. They crawl slowly, and at last perish. Count Dandolo attributes this disease to humidity, too much heat, fermentation of beds, vitiated air, &c. Doubtless, the noxious gas from fermenting beds entering the worms' breathing holes, and mixing in the fluids, causes a general tension of the body, accompanied by death. This complaint is of an epidemic nature, and as soon as any worms are discovered with it they should be removed from the healthy ones, and any dying of it should be buried.

SUFFOCATION.—There are no noticeable symptoms in this malady, for the worms die almost in their natural state without indicating any altered appearance. Their form and colour are preserved, but they soon putrefy after death. In Italy I have particularly noticed this disease. It occurs during hot close weather. Sometimes it occurs at the mount, and the insects having spun feebly imperfect cones, die therein without changing to the chrysalis state, spoiling the little silk produced with their decomposed bodies. Other worms die immediately they are mounted, and are often to be seen hanging, head downwards, from the spinning materials. To prevent the effects of this malady, renovation of the air in the room, and keeping the worms as much as possible in a state of nature, having plenty of room to crawl about, and never neglecting to maintain cleanliness, are the means to be adopted.

LUCIDITY OR TRANSPARENCY is a complaint appearing after the fourth sleep, but the causes of it are not altogether clear. I find Signor Nisten believes it proceeds from deficiency of leaves, and Signor Moretti, a good authority, that it is caused by feeding the worms with those that are too hard; and infected air, and sudden changes of temperature may produce it. Worms having this complaint become somewhat transparent, presenting a rose colour, and having a clear discharge from their mouths. They contract or shorten, and then die, their bodies becoming black and corrupt. Sometimes they mount, but fall without forming their cocoons. Some walk about wasting their silk, but if taken and placed in a basket containing small branches, shavings, straw, &c., will go to work and spin.

THE SPOT.—This is a terrible disease, more general after the fourth sleep of the worms, and before or after spinning. It is indicated by black, yellow, livid, or rose-coloured spots usually appearing on the head, and afterwards on other parts. It is not uncommon to see an eruption of black spots over the entire bodies of the insects. It is attested by Signor Pitaro, that he has seen worms with this malady covered with numbers of the most minute lice, generated from neglect of cleanliness. I have never noticed the lice, but they may occasion the black spots by biting, although no suspicion of their existence be entertained. When the disease makes progress, the surface of the worms' bodies, especially the anterior parts, becomes of a cinnamon colour. The insects die, but do not become corrupt. They harden, so as to resist being cut, and remain in this state until acted on by atmospheric humidity.

THE DROPSY.—This malady generally appears after the third sleep. The worms gradually swell, appearing as though they would burst their skins. From the great tension, the skin cracks, and a whitish yellow humour comes forth, which wets the leaves, and death puts an end to their misery, when they immediately putrefy. Some persons assert that this disease is caused by too tender leaves, but I do not think this at all feasible, unless, indeed, they be bad leaves, or what I would term "watery," from having grown on stagnant and wet soil.

DIARRHŒA.—Silkworms having this malady discharge an almost liquid greenish matter, which daubs over and wets the leaves, producing corruption of the air in which they live. It is said to be produced from feeding the worms with leaves covered with honeydew; also in conjunction with this the fruit of the mulberry. The suppression of respiration, producing indigestion, also causes it, and then the cure is to raise the

temperature in order to re-establish respiration, giving the worms small and frequent meals of good leaves rather dry, or which have been gathered a day or so. This cure, however, is not always effectual; indeed, I am a small believer in the cure of silkworm diseases when established.

THE MUMMY DISEASE, so called because the worms dying of it become black and mummy-like inside their cocoons. It is not discoverable what morbid action precedes, for worms apparently in good health mount and spin their cocoons, but afterwards are found dead, either in the worm or chrysalis state, black and solid, although there is a modification of this disease, and the worms instead of becoming solid remain soft, of a soapy nature, and acquire a foetid smell. The cocoons remaining in this state propagate a quantity of insects, which eat out, spoiling the silk for reeling.

THE CALCINE MALADY.—Writers generally do not agree in respect to this disease, for while some affirm it to be identical with the mummy complaint, only differing by reason of some atmospheric or chemical combination, producing calcination; others teach that it is totally different. Be this as it may, the symptoms are certainly different; nevertheless, I am inclined to think the causes of it may be similar, as, indeed, I do in regard to most of the complaints of silkworms. Certain atmospheric changes may produce diseases which man could not always prevent; but my opinion is that the majority of cases arise from neglect to keep the worms clean, by frequently removing their refuse, excrements, &c., which, left to accumulate, ferment and produce gases infecting the air of the room, which too often is not kept properly renovated with fresh from without. Often worms are allowed to be too thick on the stages, with the idea of economy of space. Most of these errors produce an obstruction of the respiration of the insects. I myself incline to think with Moretti, that this disease is contagious, and communicated by the lime-like powder covering the bodies of the worms dying of it. Sometimes the calcine disease does not show itself until the worms have completed the cocoon. The danger from it, then, is over, the only defect being that such cocoons are lighter and of no use for breeding purposes; and the quality of the silk is just as good. Such cones being much lighter are worth more money, for the insects drying up quite hard lose in weight, producing in proportion more silk.—**LEONARD HARMAN, JUN., Old Catton, Norwich.**

STEWED APRICOTS.

As some of your readers may be at a loss to employ their abundance of apricots agreeably, I beg to be allowed to tell them how they may be made into a wholesome and pleasant dish. I daresay the recipe is very old, and was perhaps known, if not to Adam, at least to our mother Eve.

To employ the phraseology of the *cuisine à la Glasse*: take your apricots, cut them in halves, take out the stones, blanch the kernels, break them, and mix them with the fruit, which should be placed in a pie or other dish, and powdered loaf sugar thickly strewed over them. The dish should be closely covered and suffered to remain in the oven about an hour, depending upon how hot it is. They will come out floating in their transparent juice, and should be served cold either among the sweets or with the dessert. They are wholesome and perfectly delicious.—**MR. GLASSE.**

OUR LETTER BOX.

DORKINGS (H. Borer).—We hardly understand you when you ask if a Grey Dorking cock will do to put with your half-bred hens. Do you mean a Silver-Grey? We only know the Greys distinguished from the White. Either in our opinion will do, because just as you have the speckled breast in the Grey, so you have the black one in the Silver-Grey. Both are met with in the coloured Dorking cock. The Silver-Grey Dorking pullet has points in common with a good pencilled Brahma hen; for instance, the striped hackle and the grey body. The resemblance ceases there. We believe the only two decent crosses are Brahma and Game, the latter the better. We conclude by advising you to use the Silver-Grey cock if you have one of that kind.

CHICKENS HATCHED LATE IN APRIL (P. C.).—They will be young to exhibit, but we have seen good winners that were no older. That they should be thin is natural, as much of the food they consume goes into growth. You are feeding very badly when you give brewers' grains. They are too stimulating, and induce a fevered and unwholesome state of body. They cause the feathers to grow under the skin. Instead of picking these out draw the end of the feather through the skin with a needle; it will grow well afterwards. A few days' confinement often add considerably to the weight of Brahma or Cochins chickens. Feed them frequently thus, recollecting you have an especial object in view.—Give in the morning ground oats or oatmeal mixed with milk, afterwards give them the scraps from the breakfast table, pieces of cooked meat, and crumbs. We have little faith in thirds when we want to push chickens along, and none in porridge unless we know its component parts. Our

feed would be chopped cooked meat, kitchen scraps, good barley, ground oats or oatmeal mixed with milk, and stale crusts steeped in strong broth. For a change give every other day a handful of Indian corn. If on examination you find them put on weight, and we think you will, continue them at liberty. If they do not, put them in comparative confinement, not in a very small place, but in one where they will not have the opportunity of gnawing all the flesh off their bones. It is difficult to explain some judgments, but, as a rule, the oldest chickens get the prize, and justly—they are the earliest, and that is a great point. The deformity you mention is not important, and would probably never be noticed.

WHITE-CRESTED BLACK POLAND COCK (Z.).—He should be straight-backed, full-breasted, proud and upright in his carriage, and have dark legs. Unlike many of his brethren, he should have full gills. His plumage should be scrupulously black, without any mixture of any other colour. The topknot should be entirely white, composed of long hackle or saddle-shaped feathers, growing all over the head and falling outwards. This topknot should be large, and in good specimens there should be no hollow in the middle of it.

DARK BRAHMA POOTRA COCKEREL (C. L.).—He is hardly in formed plumage at sixteen weeks old; we have a weakness for the white hackle and saddle, but seldom meet with them. They are generally more or less striped. In a very choice specimen we should ask for the white hackle and saddle, spotted breast, black thighs, black and white wings, black tail, and yellow legs. We should ask in vain. Perfect Brahmas are as scarce as perfect men. We should not then object to the few white feathers.—**B.**

PROLIFIC CANARY (T. C. Hosc).—"A Norwich Canary producing fifteen young ones is unusual, inasmuch as it is far above the average, but it is not extraordinary. Such instances of fertility and good nursing are by no means rare. I have several in my memory at this moment. If the whole fifteen, however, are all 'well marked,' that is unusual—very unusual. Bear in mind there are marked birds, and marked birds! If the hen be in health and apparently not distressed, let her try once more, and give the Canary world the history of the result. I see no reason why she should die in moulting, but it is probable that before she succeeds in bringing up another nestful she might commence moulting, in which case she would refuse to feed.—**W. A. BLAKTON.**"

POULTRY—BEES (Overdressed).—Brahma-Pootra pullets and a Dark Dorking would be most useful. You can have "The Poultry Book" free by post from our office if you enclose seven postage stamps with your address. So you can have "Bee-Keeping," a new edition of which is in the press, if you enclose five postage stamps. Nutt's collateral hive is one of the most objectionable. You will find full particulars in the book we have named.

DRIVING BEES (E. R. Kidwelly).—The best modes of driving and uniting bees have been repeatedly described in our pages. We may particularly refer to an exhaustive series of articles on "Utilising and Uniting Condensed Bees" from the pen of Mr. Woodbury, which commenced in January and was concluded in April of the present year. As, however, you may not be able readily to obtain access to them, we extract the following from the "Bee-keeper's Calendar" of "The Gardener's Almanac" for 1868. "Driving should always be performed in the daytime, and the beginner had better wear a bee-dress and a pair of stout gloves; but the only absolutely essential implements are a couple of empty hives (one of which should be of the same diameter as the hive to be operated upon), an empty bucket, a long piece of stout linen (a roller towel with the seam ripped answers admirably), a sufficient length of small cord or large twine, and a lighted fumigator or cigar, or a smouldering roll of linen rag. The bucket having been placed so as to stand firmly on the ground, about a yard from the stock to be operated upon, a little smoke should be blown into the entrance; as soon as the bees retire, the hive must be slightly raised from its floor-board, and a few whiffs of smoke blown under it all round. Then raise the hive altogether from its place, and steadily invert it on the bucket, covering it immediately with an empty hive of the same diameter, and closing the junction between the two by first winding the cloth round them, and then securing it by four turns of string, taking two turns round the upper and two round the lower hive. The bees within being thus safely enclosed, the second empty hive may be placed on the floor-board, to amuse those returning from the fields, and the united hives, with the bucket, conveyed to a shady spot at a little distance. Here it will be found very convenient to have a couple of kitchen chairs, upon one of which the hives and bucket may be placed, whilst the operator seats himself on the other; and then a smart and regular rapping of the full hive with the palms of the hands should take place. In about ten minutes, the great majority of the bees will generally be so alarmed as to quit their own hive and take refuge in the empty one—a fact which may be ascertained by listening to the noise made by them in ascending. The cloth may now be removed, and the hives sufficiently separated by raising one side of the upper one to admit of inspecting the interior. If nearly all the bees have ascended into the hitherto empty hive, the operation may be deemed complete, the remaining bees being brushed out with a feather. If, on the other hand, many bees still adhere to their original domicile, or if, as is sometimes the case, only a few stragglers are found to have quitted it, one side of the top hive should be up-raised a few inches, and an iron skewer having been stuck into the edge of the lower hive to prevent slipping, kept steadily in that position, with the left hand, whilst the under hive is rapped smartly with the right. When all, or nearly all, have quitted, the upper hive should take the place of the decoy one upon the stand; and when stragglers have collected, the whole may, in the dusk of the evening, be united to another colony, by being knocked out on a cloth spread on the ground, and having the inhabited hive stood over it, supported on a couple of thick sticks, laid on the cloth to avoid crushing the bees. Early the next morning the new doubled hive should be placed on its own stand, and all will then generally fall to work in peace and with renewed vigour.

DRIVING BEES (C. R. Norwich).—The bees in your three hives can readily be expelled by driving, and advantageously added to other stocks in the manner described above; see also page 59 of "Bee-keeping for the Many." No one who has once witnessed the effects of chloroform on bees would be likely to repeat the operation.

WINE FINING (J. R. M.).—The recipe will suffice for sixty gallons. Of course, put back the four or five gallons. The time elapsing before the fining is effected varies with the temperature and other circumstances. You must draw out some of the wine from time to time until you find it is clear.

WEEKLY CALENDAR.

Day of Month	Day of Week	AUGUST 6—12, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. a.	
6	TH	DUKE OF EDINBURGH BORN, 1814.	73.2	59.6	61.9	20	83 af 4	83 af 7	59 af 8	24 af 7	18	5 35	219
7	F	East Neuk of Fife Horticultural Show.	74.0	59.7	63.6	15	35 4	37 7	22 9	29 8	19	5 28	220
8	S		74.5	49.2	61.8	17	36 4	36 7	43 9	33 9	20	5 20	221
9	SUN	9 SUNDAY AFTER TRINITY.	74.4	49.5	62.0	16	38 4	31 7	8 10	39 10	21	5 12	222
10	M	Royal Botanic Society's Anniversary	75.0	53.0	63.5	19	39 4	31 7	33 10	45 11	23	5 8	223
11	TU	Clay Cross Horticultural Show. [Meet.	75.7	59.5	63.1	19	41 4	28 7	3 11	after.	24	4 53	224
12	W	Eilon Horticultural Show.	75.0	50.5	62.7	16	43 4	26 7	38 11	6 2	24	4 43	225

From observations taken near London during the last forty-one years, the average day temperature of the week is 74.6°; and its night temperature 50.5°. The greatest heat was 93°, on the 10th, 1843; and the lowest cold 33°, on the 11th, 1864. The greatest fall of rain was 1.08 inch.

RIPENING THE WOOD OF FRUIT TREES.



ACCORDING to the maxims of some gardeners of former days it was time enough to think of this when the leaves first commenced decaying, and consequently we find them urgently recommending the use of the besom pretty freely in October. Brushing off the leaves to assist in ripening the wood is an old practice now tolerably obsolete, but, notwithstanding its repudiation, it may be attended with some advantages, for perhaps a broken crutch

is better than no crutch at all. I will not go so far as to assert that sweeping off a few decaying leaves early in autumn may not have the effect of rendering the buds in the axils of these leaves still remaining more perfect, but this only proves a previous neglect; for if light and heat acting on the fully exposed surfaces of the leaves of tender trees be essential to the proper organisation of the bud—and who shall dispute it?—why should an improper amount of the annual spray be reserved during the thinning or disbudding season only to cause mutual injury in the first place, and in the second to render necessary a more troublesome course of winter pruning than there is any real need for? What a controversy has been carried on in the pages of horticultural periodicals about the covering or non-covering of fruit trees in order to protect the blossom, and to facilitate the setting of the fruit! Some say that covering does not always insure a crop. I wonder how many yards of canvas it would take to insure a crop of fruit on a Marie Louise Pear tree, or, indeed, on any other tree, the embryo buds of which had been smothered in the previous summer with watery spray?

Trees are at many places suffered to hang in a wild state from the walls until the approach of September, and then, for the first time perhaps, the future blossom buds have full daylight for about three weeks, and are allowed to enjoy that degree of light which a darkening autumn affords. Then, in the spring, a great to-do is made about covering; it is done, yet the blossoms perish, and the unhappy cultivator comes forth like a lion with a fresh argument against the utility of covering or protection.

What would be thought of a writer who recommended Strawberry-forcers not to get their runners too soon for forcing purposes, but to delay until the end of August, and then to select them from gross and overcrowded plants, with leafstalks dangling a foot in length? I wonder whether the best of winter protection, or the most complete and expensive pit ever invented, could insure a crop of Strawberries on such plants? I think this is sufficiently illustrative to all who will grapple with the real bearing of the question. Those who will persist in adhering to a set of notions which have no real foundation either in science or practice, must still be content to endure disappointment.

If, then, protective coverings are not to be shorn of their great utility, let the extra labour and attention requisite for tender fruits be bestowed in summer, instead of practising so much elaborate winter pruning. Both common sense and economy will be found in favour of this view.

Surely a man's day's work is more productive in July than in January. Let those, then, who deem it expedient to follow the advice oft-repeated in this Journal carefully examine all their trained trees immediately. There is still time on all good aspects to obtain tolerably firm wood by a careful and immediate removal of all waste spray.

To give my observations a definite character, in which shape they are chiefly useful to amateurs and young beginners, I will point at once to some trees, with their probable condition.

The Peach and Nectarine about this period, and a little sooner in the case of Peach trees which have grown at only a reasonable rate during the early part of summer, burst forth with an improper amount of strength; and shoots which had been pinched long since on account of their luxuriance, or a doubt as to the propriety of retaining them, finally produce a considerable number of axillary shoots, and these shoots at once arrest and appropriate the ascending sap; they also cause an injurious amount of shade to the true and bearing wood. All of them should be pinched immediately, and it is not unlikely that they will require pinching again within another fortnight or three weeks. The production of such spray at a late season indicates a too-powerful action of the roots, and some persons would be ready under such circumstances to advise root-pruning. Now, although a strong advocate for this operation, and probably the first to urge it in general practice in this country, yet I would by no means interfere at this period with trees bearing fruit.

In the Peach and the Nectarine, fine growing young shoots frequently may be seen over the centre of the tree, and, perhaps, on one particular side, while the extremities of the limbs which are carrying a crop are destitute of young shoots, or have a stunted appearance. This frequently happens from such shoots having carried a large crop on their extremities the year previously; these portions, therefore, being too heavily drawn upon, a temporary exhaustion is the consequence. Now, if the ascending current of sap is not transmitted in sufficient abundance to excite these branches to produce young wood, a partial contraction of the sap vessels will take place, and such branches will have to be pruned away before long, in order to give place to a progeny which has fattened at their expense. Now, lopping-off the older limbs of Peach and Nectarine trees is a perilous practice at the best, and it is well to know that by an early stopping of most of the stronger young shoots below them, and stopping again if necessary, such old shoots may be re-invigorated by the sap thus directed towards them, and which, as before observed, had been arrested in its passage. In other words, they will commence making young shoots with freedom, and these young shoots will encourage a renewed vitality, as well as cause the fruit to be better fed, and more perfect.

As to stopping, my practice is to stop in the first week in August every shoot that is of sufficient length to be useful in the next year, excepting in the case of delicate or weak trees. Here there is no occasion; Nature will stop such soon enough. An exception is also made in

favour of weak shoots on robust trees; these are left altogether unstopped.

Now it is that the renewed balance of strength takes place, the weaker and unstopped shoots at this general stopping soon show signs of having gained strength at the expense of their proud neighbours, and before the latter can develop other buds, autumn with its chills has arrived, and it is scarcely possible for them to do much mischief.

There can be little doubt that this general stopping, which should be performed as soon as the last swelling has fairly commenced, increases both the size and the flavour of the fruit.

The Pear—that fruit so necessary to the winter dessert, for who does not wish for a rich melting Pear in December and January?—deserves some consideration as well as the Peach. Although the principles of stopping, and the general control and equalisation of the sap are equally applicable to both Pear and Peach trees, yet some peculiarities of habit in the former, partly arising from modes of training, require special notice.

In the first place, then, go over the trees thoroughly, and remove all watery spray produced since the previous dis-budding, leaving not a vestige of it. Next, take care that every leading shoot considered necessary for the future year shall be carefully tied down or nailed. This done, all that remain may be examined closely, and every short-jointed shoot that is brown and fruitful-looking, especially those with enlarged buds, and affording, therefore, a guarantee of early and sure fruitfulness, should be tied down or nailed. The remainder will be rejected spray, but a little caution is necessary in the disposal of this on the cooler aspects; and where a doubt exists in any situation in our northern counties it will be well to cut such all away to within two or three leaves of the base of each shoot. In doing this regard must be paid to kind as well as to aspect. Such varieties as the Easter Beurré and some of the autumn Pears will be apt to ripen prematurely if exposed too suddenly to intense sunshine, for that which perfects the future blossom bud is not always favourable to the development of the highest amount of flavour in the fruit. Nature, it would seem, is more intent on the former than the latter process. Everyone, therefore, should regulate his proceedings according to the climate, aspect, and variety with which he has to deal, and to enter fully into these points would require more explanation than I have now time to give.

As soon as the more tender fruits, as Apricots, Peaches, Nectarines, and Pears, have been attended to, the Cherry and Plum trees must also undergo a revision. As to Plum trees, they may be treated precisely like the Pear trees; and tie down the Cherry trees in a similar manner, but they are not so manageable by this mode as the other fruit trees. The Morello Cherries may have their shoots laid in three times as thickly as the large-leaved kinds.

With Apricots the utmost care should be taken after this period to keep down all superfluous breastwood. The sun must be permitted to shine on the embryo fruit buds without hindrance until the leaves fall; this is the chief secret of the blossom setting well in the following spring, and thus it is that old Apricots which produce scarcely any breastwood, generally succeed much better than young and gross trees.

I hope ere long to read in the pages of this Journal the opinions of brother fruit-growers as to the best mode of ripening the wood of fruit trees in general.—CHARLES ROBERTS, *Dorford Hall.*

THIN PLANTING OF FLOWER BEDS.

SOME writers, both in these and other pages, are not unfrequently in the habit of comparing flower gardening to music; and though the idea is not altogether a happy one, yet taking it as it is, and in a matter-of-fact sense, there are some features in both which do rather resemble one another. As an instance, everybody knows the ludicrous effect produced when the first note of a piece is struck in a key so high that the succeeding higher notes are found to be far above the shrillest capabilities of the human pipe, so that a dead halt or something worse is the inevitable result. This feat is called by rustic musicians, "a going up and never coming down again," and though it is anything but pleasant to listen to, it yet carries with it a useful lesson, as the most of misfortunes do.

Somewhat analogous to this is the common mistake which many of us commit, of attempting to decorate a far greater area with what are popularly known as bedding plants, than the extent of our winter and spring accommodation will permit. When an increase in the number of beds or borders to be so

decorated is not met by a corresponding increase in the number or size of glass structures, then thin planting must be resorted to, and the ambition of having an extensive display thus defeats itself by having little or none for the greater part of the season. Eight weeks of rainless weather are a fearful ordeal for even thickly-planted beds to pass through; but when we come to look at those planted on the "extended" system, we are forced to the conclusion, that we have indeed aimed too high, that we have, in fact, "gone up never to come down again," at least, not during the remainder of the present season.

There are several ways of preventing a recurrence of this state of things without adding to either glass or labour, and the first which presents itself, and the most natural, is to reduce, where that is practicable, the number of beds to be filled; but that is a retrogressive step, and unless as a last resource ought never to be thought of. Another is the more extensive use of florists' and other flowers, both showy and interesting, and which at most need but the aid of a cold pit to help them through the winter. Such plants as Phloxes, Pentstemons, Antirrhinums, Pyrethrams, &c., when only the best named sorts are grown, have that charm of individuality or separate attractiveness about them which is not to be found in a great bed of Pelargoniums, where each plant is an exact counterpart of all the rest; and if these and such as these were planted with a more liberal hand we should then be enabled to concentrate our limited number of bedding plants upon some given spot, making it as perfect as possible, bearing always in mind that a dozen beds well filled and properly cared for afterwards, will ever give more satisfaction to all concerned than a score of the same size thinly planted. We are not all Handels to compose oratorios, or Costas to render them, but a little song exquisitely sweet and simple is what we all may sing.

Some of the hardier variegated-leaved plants are proving themselves subjects which, on the score of economy, we ought to be really thankful for. Chrysanthemum Sensation, so far as the roots are concerned, is almost hardy, for if laid-in somewhat deeply in a dryish border over winter, and allowed the protection of a few leaves and branches in hard weather, they shoot up in spring most vigorously. Large quantities of the Golden Feverfew can also be reared at one-half less cost and trouble than is often bestowed upon many worse subjects, while a cold frame or even a turf pit winters autumn-struck cuttings of the variegated Polemonium to perfection. Any, or all of these three can be used in conjunction with the best bedding plants we have without putting them to the blush. One of the finest beds I have seen this season is a large one, which for ugliness of outline could not be easily beaten. It has a rather broad edging of the old-fashioned variegated Pelargonium Manglesii, the narrow-petalled pink trusses of which are not removed; all over the bed about 15 inches apart are well-grown plants of this Polemonium, while the ground colour is supplied by a very light variety of Lobelia Paxtoniana, and the result is, despite its ungainly form, a bed of surpassingly light and airy beauty.

Another disadvantage to which we subject ourselves by thin planting—of bedding Pelargoniums at least—is that cuttings in sufficient quantities cannot be obtained in time to strike them out of doors without giving a twinge to our heart-strings every time the knife descends. Taking one cutting off each plant it may be thought will not much hurt the appearance of a bed, but when the plants do not meet by some inches it is a painful proceeding.

It is only just to state that this growl at the dry weather and at thin planting, comes from a place where the soil is naturally light and shingly, and where the beds do not in winter and spring receive that elaborate treatment so long and ably advocated by writers in the Journal, and without which anything like perfection in bedding cannot be obtained.—A. W. S. GARDENER.

SPECIAL GLADIOLUS EXHIBITION.

I AM sorry to say that for the present year this must be abandoned, for owing to the absence of the Secretary I did not receive the answer of the Crystal Palace Company until this week; but it was quite in accordance with their usual liberality, as they placed £20 at Mr. Wilkinson's disposal, to be added to whatever sum might be subscribed for the purpose. I had, however, received several communications from Gladiolus growers, stating that owing to the very exceptional character of the season and the forwardness of their blooms, they very much questioned whether they could exhibit; and as everything

in this matter depended on the character and number of the flowers set up, I thought it better to stay proceedings. In one respect I am not sorry. Had it been held this year I should have been obliged to arrange the schedule myself, whereas if deferred I shall have the opportunity of consulting other growers, and of thus, I hope, making a more generally acceptable one. Will lovers of this beautiful flower bear all this in mind? They will now have fair notice, and an exhibition may be held which will astonish those who have not hitherto taken any interest in the growth of the *Gladiolus*.—D., Deal.

THE SCARLET PELARGONIUM IN A HOT SEASON.

At a time when the outcry for water is heard far and near, it is worth while looking round to ascertain what crops or plants suffer least from the want of moisture, and we may find some which exhibit no sign whatever of distress, but, on the contrary, show to greater advantage than when those refreshing showers we so much long for exert their influence on vegetation. Among the plants whose capabilities of withstanding heat and drought stand out most prominently, the Scarlet Pelargonium may be placed in the front rank, for in the present season this ornament to the parterre does good service by the brilliancy of its bloom and the healthy condition of the plant itself. Exceptions there are even to this, but in general the Scarlet Pelargonium, where it has had fair play, will be found to have performed its duty in a more satisfactory manner than most other plants, and without that assistance which some of them seem to require. To ascertain the cause of this we must go back to planting-out time, and likewise take into consideration the habit and character of the plant.

The Scarlet Pelargonium in its wild state enjoys a climate which is even hotter and more sunny than the present season, therefore sunshine and want of moisture are nothing strange to it. Neither would it appear to require the shade of friendly trees; on the contrary, basking in the blaze of an African sun, external heat is not likely to hurt it in this country, if the other conditions necessary to its existence are afforded. Now, in the present season, one of these conditions would appear to be depth of soil to grow in, and where this has been suitable, and where the plant has not had to contend with other plants more robust than itself for the appropriation of this soil or subsoil, it has invariably succeeded well. Where, on the other hand, a shrub or tree, a standard Rose, a Hollyhock, or any other strong-growing plant near it, has usurped the subsoil, and the Pelargonium has had to subsist on the surface soil only, the result has been unsatisfactory. In many cases, indeed, the plant has succumbed altogether, as watering only tended to encourage the roots of its robust neighbour to intrude themselves among its roots, and then all progress was at an end, and the plant, expanding what flowers it had formed in embryo, gradually sank into that condition between life and death which is even worse than the latter. As this want of success is easily accounted for, it would be well on all occasions where practicable to give the Pelargonium a position where its roots are not likely to be interfered with by those of a more vigorous opponent.

I have been induced to give the above short notice of the Scarlet Pelargonium, from having observed how much better it withstands the heat and drought than most other plants, and even as compared with some of the pink varieties of Pelargoniums. The cause of the latter not doing so well I cannot discover, as I hardly think the flowers of those which have proved so unsatisfactory contained sufficient blue in their tints to account for the failure. The very worst I have is Christine, an old popular variety, which has invariably done well for many years, but this summer the blooms seem to bleach into a dirty white, and fall off so quickly that only three or four flowers are met with on a truss, with plenty of seed-vessels sticking out, porcupine-like, in all directions. Now, if the cause of failure is firmness of the petals or some other defective arrangement of the flower, perhaps it may do duty again another year; but if other varieties withstand the heat better than Christine, then I say discard it. In my own case I need hardly state that it is not likely to occupy such a high position again, as some other pink kinds appear to be less injured, although not so much favoured by situation. Perhaps some of your readers will give their experience with this plant.

Having said that the Scarlet Pelargoniums have done best with me, I must also state that the best of them are those

partaking of the Nosegay character—as Stella, Cybister, Waltham Scedling, &c.; or when the other varieties have succeeded it has generally been those of robust habit, as Punch and some others of its class, while the dwarf varieties of the Tom Thumb breed have not done well. Later in the season, however, will be a more fitting time to report upon them, but while the hot weather continues it would be worth while for all to observe how their various plants support themselves under it, with a view to giving their experience afterwards. In my case I may say that, with the exception of some Pelargoniums on high-raised beds and mounds, not one of mine on the ordinary level has had a drop of water, excepting from the clouds, since planting, and where the soil was well prepared for them I can find no fault with their success. Where, as already stated, they stand near other more robust neighbours, they have suffered as described. Some other plants left to themselves have also done well. On the other hand, there are plenty of failures, one of the most prominent being a plant I predicted many weeks ago as not likely to do well in a dry season—namely, *Viola cornuta*, while blue *Lobelia* are but little better. Indeed, I am half-disposed to think that blue flowers are the worst to withstand bright sunshine, and I partly attribute the failure of Christine Pelargonium to its partaking in some degree of this tint; but I would like to hear the opinion of others on the matter.—J. RONSON.

SAVING CABBAGE SEED.

I SEE in notices to correspondents, page 66, some advice on this subject to which I must beg to take exception. Indeed, I think there is some error in the printing, because Cabbages sown in May would run to seed the same season, not the following year. Though much Cabbage seed is thus raised it is a very bad practice, and no doubt much of the mischief in the way of runners so often complained about is traceable to this cause. My opinion is that Cabbage ought to be treated as a biennial—that is, grown one season and seeded the next. If you seed it the same season as it is sown, can you be surprised at its running to seed when you would rather it formed a good solid heart? It has been treated as an annual, and behaves accordingly.

I have been for some years rather famous for an early Cabbage of the Battersea race, called Conqueror, and have always raised it in the following manner:—It has been sown in July, and grown as if for Cabbage. When fit to cut the whole have been looked over, and all not quite up to the mark pulled up, and the remainder cut off. The stumps of the good ones are planted the following autumn in well-manned ground, and flower and seed the next season. This is the only way, I believe, Cabbage seed ought to be grown. It is true this is not the way to obtain a fine-looking sample of seed; it is neither so large nor so black as seed from plants sown the same year. Nor is it the way to produce cheap seed. A large amount of labour bestowed on a two-years crop is a very different affair from what is required by a crop which occupies the ground but four months, say from May to July or August.

This changing the nature of biennials is a very serious subject. You see a farmer sowing his Mangold Wurtzel in May, and say, "My dear sir, how is it you did not sow in the second week of April? Your land at that season would have been sure (if got ready in the autumn), to have been moist enough to make your seed grow—in fact, mine are all in full rows; but now if dry weather set in yours will, perhaps, not grow at all, and, besides, you lose several weeks, and consequently some tons per acre." He will very likely answer you, "Ah, yes! I used to sow earlier, but I had so many runners I determined to sow later." Now how is this? Why, because instead of Mangold seed being grown from large, formed roots, it is grown from seed sown in August, thus making it nearly an annual. So it is with Turnips. In travelling through the county you see acres of Turnips sown on corn stubbles, which when winter comes are like little Lettuce plants. These are intended for seed; and when Turnips from seed thus produced for some years run away to seed when they are expected to form roots, no one is in fault, but the farmer is a great loser.

In the same reply (page 66), it is stated that Turnips in flower near Cabbage will spoil the latter. Permit me to say this is a mistake. If you want to keep your Cabbage seed pure, plant it, if you can, in the middle of or close to a large piece of Turnips for seed. The bees will have plenty to do on the Turnip flowers, and will be much less likely to find the

Cabbage after having fed on some other Cabbage or Borecole. If a bed of Red Cabbage be in flower anywhere within a mile, your early Cabbage will in all probability show it has been injured, and in a less degree the Broccolis and Savoys, &c., will injure it; but I never yet saw a cross between a Cabbage and Turnip, though, as you are aware, I am a large grower of Turnip seed, and generally grow my Cabbage close to it.—
J. R. PEARSON, *Chilwell*.

BUDDING ROSES IN JUNE.

IN your number for May 28th, a correspondent under the above heading gave so very clear and simple a description of the method which he had pursued with success, that I was resolved to follow his example. About the middle of June I selected buds from Gloire de Dijon and Madame Julie Daran, and have been so successful as to be able to measure the growth of the buds by inches, the latter Rose having already attained a height of half a foot. About the 23rd of June I budded another lot, and with the exception of two or three all are doing well.

There can be little doubt that early is preferable to late budding when the season is a very dry one. During the latter half of June and the first week in July I budded about a hundred Briar and twenty Manetti stocks. At least two-thirds are growing, though the relative proportion of success is much in favour of the Briar; yet I budded on the shoots and not on the stem of the Manetti. Rose-growers in this neighbourhood, who have put off the budding until this month, complain that they can seldom get the bark to rise freely, and when they can the buds soon become shrivelled up. This result, so inevitable with an almost tropical sun and a total absence of moisture, I have obviated by copious watering every other day at the root of each stock. The rise of sap is something wonderful, for I often find that a stock innocent of its own buds in the morning, has put out several tiny shoots before I reach home in the evening. I should like some of your correspondents to explain, if they can, why buds "take" so much less easily on the Manetti than on the Briar stock.

The hot weather has produced butterflies in myriads, and I have noticed a singular fact in connection with them. My garden has, perhaps, five hundred Lobelia plants in it, and seven or eight hundreds of other kinds of plants. I rarely see a butterfly on any plant save the Lobelia, and it is no unusual thing to be able to trace the pattern of the blue in butterflies alone. Can you account for their singular attraction to this pretty bedder?—C. W. M., *Wylde Green*.

AN EXPERIMENT IN BUDDING.

IN August, 1866, I budded upon Late Admirable Peach Violette Hâtive Nectarine, the reason for doing so being the habit of that Peach, here at least, of casting its buds during winter or early in spring.

The tree in question is one of the healthiest trees in the place, and its one bad habit led me to try the effect of putting a Nectarine upon it. I put in about twenty buds. They all grew, but four or five proved blossom buds, which in the end fell off. The remainder grew well in 1867, and were tied in. This year, 1868, I left on the tree about fifty Nectarines and all the Peaches, about the same number. The Nectarines are quite ripe—in fact, most of them are gathered, some a fortnight ago. The Peaches are just beginning to swell off, and will be quite a month later than the latest Nectarine.

By a person of limited means and time I think this idea might be carried out with advantage much further. I cannot perceive any difficulty in having by this means ripe fruit from the same tree for eight or ten weeks, instead of, as before, for two or three.

I cannot see much difference between the fruit from the parent tree and the fruit on the Peach, except that the latter is larger and more coloured—a rather singular fact, when we consider that Late Admirable Peach scarcely ever has any high colouring.

The Late Admirable Peach did not cast its buds this year so much as before; the Nectarine not at all. This is the point of my experiment. Still, I think this matter worth looking into by some of our large fruit-growers.—A. S. KEMP, *Haughton Hall, Shifnal*.

[Mr. Kemp sent us specimens of the Nectarines. Those from the parent tree were not more than half the size of those

from buds inserted in the Peach, neither were they so highly coloured nor so luscious. Mr. Kemp also sent a Peach from the tree. It was only about two-thirds the usual size, and quite green and hard.—Ens.]

THE ROSE.

HAVING grown Roses for twenty years so successfully that I have won more than thirty cups "open to all England," with a multiplicity of money prizes; having originated the first show of Roses, that is to say, of Roses only; and having attended since that time nearly all the great Rose shows, either as a judge or as an exhibitor,—I ought to have something to tell worth hearing to those who love the Rose. I will try to tell it, as Bossuet preached, *sans étude, familièrement, de l'abondance du cœur*.

De l'abondance du cœur—these words shall be the text of my sermon, because he who would have beautiful Roses in his garden must have beautiful Roses in his heart. He must love them well and always. To win, he must woo, as Jacob wooed Leah's daughter, though drought and frost consume. He must have not only the glowing admiration, the enthusiasm, and the passion, but the tenderness, the thoughtfulness, the reverence, the watchfulness of love. With no ephemeral caprice, like the fair young knight's, who loves and who rides away when his sudden fire is gone from the cold white ashes, the cavalier of the Rose has *semper fidelis* upon his crest and shield. He is loyal and devoted ever, in storm-fraught or in sunny days; the first upon a summer's morning to gaze admiringly upon glowing charms, and the first to tread upon the deep white snow to discover anxiously what harm is done, and to give what help he can. And as with smitten bachelor or steadfast mate the lady of his love is lovely ever, so to the true Rose-grower must the Rose tree be always a thing of beauty. To others, when its flowers have faded, it may be worthless as a hedgerow Thorn: to him, in every phase, it is precious. "I am no more the Rose," it says, "but cherish me, for we have dwelt together;" and the glory which has been, and the glory which shall be, never fade from his heart.

Is it rare or frequent this fond and complete affection? Go to one of our great exhibitions, and you must surely bring the conviction home, that true love, however rare in the outer world, may be always found "among the Roses." From all grades and epochs of life, what vows of constancy, what fervid words! "Sir Thomas and I are positively going to ruin ourselves with a new rosarium." "As soon as I get home," says a country rector, "I shall plant an acre of my glebe with Roses." There you may see a Royal Duchess so surprised out of her normal calmness, that she raises two pale pink gloves in an ecstasy of surprise, and murmurs, "Oh, how lovely!" over *Maréchal Niel*. There a Cabinet Minister stands tiptoe to catch a glimpse of his brother senator, *Vaisse*, and wishes he had a neck as long as Cicero's. Obstructing his view with her ample form and bonnetful bonnet, our old friend Mrs. Brown, who has just had "one drop of the least as is," informs the public that she "knows for facts that Mr. Turner of Slough has a dead horse under every Rose tree, and Pauls & Sons has hundreds of young men with gig umbrellas standing over their Roses when it rains heavy." Mrs. Brown is delighted, like all around, and "means to tell Brown, as soon as ever she sets down in her own parlour, that *Maréchal Niel* all over the house, and Sulphur Terry round the back door, grow she must and will. But, goodness me," she suddenly exclaims, "what a mess o' them reporters!" No, my dear madam, they are not reporters, only spectators, putting down in their note-books the names of Roses, with an expression of eager interest which says, I must have that flower or die.

Every year this enthusiasm increases. It is not easy to collect reliable statistics; some shut their mouths closely; some open them so widely as to justify the amusing sarcasm of my reverend and roseate brother, Radclyffe, "When they count their trees, they include the aphids!" but I have obtained trustworthy and interesting information from some of our chief rosarians, who have kindly answered my inquiries in a fraternal and friendly spirit. Without mention of names or minute details, I may state that these all bear witness to a most extensive and progressive enlargement of the demand for Roses. The largest of our wholesale growers writes to me that he has more than twenty acres of Roses, and that his stock of Briars and Manetti, with Roses on their own roots and Roses in pots, exceeds one million. The young but most successful represen-

tative of one of our older firms informs me, that their first planting of Rose stocks, so an old Briar-man tells him, was a lot of 2000, some forty years ago; and that from 2000 they advanced in 1861 to 62,000 Briars. In 1860, he adds, we commenced the out-door culture of the Manetti with 4000: this year (1867) we have 60,000. Rapid as this increase appears, the same writer goes on to say that he anticipates a time when their present stock will seem lilliputian in comparison with that which will be required for the home and export trade. I propose to revert in some future chapter to the history of this development, concerning which I am favoured with some very interesting facts by one who has had more to do with it than any living man—my dear friend, Mr. Rivers, of Sawbridgeworth. Suffice it to say now, that where Roses were grown twenty years ago by the dozen they are grown by the thousand, and where by the thousand now by the acre.

But now comes a most important question:—Have we beautiful Roses in proportion to this great multiplication of Rose trees? The printer will oblige me by selecting a brace of his biggest and blackest capitals, with which I may reply emphatically, NO. It is indeed, at first sight, a marvel and perplexity, that while the love of Roses is professed so generally—while the demand for Rose trees has increased so extensively, and the flower itself has every year disclosed some new and progressive charm—Roses should be so rarely seen in their full and perfect beauty. Queen Rosa, in common with other potentates, has greatly enlarged her armies, but how few young officers have as yet distinguished themselves fighting in the wars of the Roses. Field-Marshal Rivers still commands from his hill at Sawbridgeworth. The names of the generals who were eminent when I first joined as Cornet—Paul, and Wood, and Lane, and Francis—are still famous in our ears. Mitchell, and Cranston, and Cant have long been men of renown; and though Turner and Keynes have joined more recently the Royal host, and, rushing at once to the van, achieved the first honours of victory, they are well known veterans in other fields, and men of war from their youth. It is the same among the amateurs as with the professionals, among the volunteers as with the regular army. The old champions ride into the lists and hold their own against all comers; the new aspirants for the smile of our Queen of Beauty go home, with one exception, the gallant Knight of Sibley, discomfited. They may say as they enter the arena, with the gladiators of old to the emperor, or, in absence of an emperor, to the policeman at the entrance of the exhibition, *Moriturus te salutant*.

We must pass from the public Rose show to the private Rose garden to see in its saddest phase the difference between what is and what ought to be, the feeble harvest of good Roses from the broad acres of good Rose trees. These remind us of Martial's description of his works, "*Sunt bona, sunt quedam mediocria, sunt mala plura*." Collectively we can hardly say of them, as an Edinburgh Reviewer (was it Sydney Smith?) of a volume of sermons, criticised in the first number of that work, "Their characteristic is decent debility." As a rule, the amateur rosarian has made about as much progress as George III. with his fiddle. After two years' tuition, the King asked his tutor, Viotti, what he thought of his pupil; "Sire," replied the professor, "there are three classes of violinists; those who cannot play at all, those who play badly, and those who play well. Your Majesty is now commencing to enter upon the second of these classes." There is not a garden now-a-days, of any pretension, which has not its collection of Roses, and yet there is not one garden in twenty where the flower is realised in its beauty. I have scarcely known at times whether to laugh or weep, when I have been conducted with a triumphal air by the proprietor to one of those dismal slaughter houses which he calls his roery. The collection is surrounded by a few miserable climbers, justly gibbeted on poles or hung in rusty chains, and consists of lanky standards, all legs and no head, after the manner of giants, or of stunted "dwarfs," admirably named and ugly as Quilp; the only sign of health and vigour being the abundant growth of the Manetti stock, which has smothered years ago the small baby committed to its care, but is still supposed to be the child itself, and is carefully pruned year after year in expectation of a glow of beauty. There is no beauty, and there never will be, for the florist; but to the entomologist what a happy peaceful home! There can be no museum in all the world so exquisitely complete in caterpillars, so rich with all manner of flies. And oh! if clever "M. J. B." could only see the fungus and the mildew, what leaders we might have in the *Gardeners' Chronicle* when he had toned down his joy! For me there is no solace in these charms. I stand

serrowful and silent, like Marius among the ruins, until my companion wishes to know whether I can tell him why that wretched Charles Lefebvre behaves so disgracefully in his garden? On reflection, perhaps I can. Charles Lefebvre is placed, like Tityrus, "*sub tegmine fagi*," under the drip and shadow of a noble Beech tree, whose boughs above and roots beneath effectually keep all nourishment from him. And do I know why Charles Lawson, Blairii 2, and Persian Yellow never have a flower upon them? Simply because they are pruned always, as no man with seeing eyes could prune them twice, so closely that they make nothing but wood. The single standards, again, are grassed up to the very Briar, except where a circular span is left for "just a few bedding-out things,"—leeches draining the life blood of the Rose. It is Mrs. Hemans, I think, who sings,—

"Around the red Rose, the Convolvulus climbing,"

and it sounds sweetly pretty, and would be the loveliest arrangement possible, only that, unfortunately, it is death to the Rose—death to that queen who brooks no rival near, much less upon her throne. Look, too, at those vagabond suckers clustering like Jewish money-lenders or Christian bookmakers round a young nobleman, and stealing the sap away. The earth is set and sodden; no spade nor hoe has been there. As for manure, a feeling of profound melancholy comes over us, as over Mr. Richard Swiveller, when he discovered that the Marchioness had passed her youthful days in ignorance of the taste of beer. We know that they have never seen it, and yet they are expected to bloom profusely; and when they are covered, not with Roses, but grubs, the nurseryman, or the gardener, or the soil is blamed. Then there is dole in Astolat, and a wailing cry over dead Adouis. "Is it not sad that we cannot grow Roses? We have spared no trouble, no expense, and we do so dole on them!"

The last time I heard a howl of this kind I felt myself insulted as a lover of the Rose and of truth; and instead of yelping in concert, as I was expected to do, I snarled surlily: "You have taken no trouble which deserves the name; and as to expense, permit me to observe that your fifty Rose trees cost you £5, and your sealskin jacket £20. You don't deserve beautiful Roses, and you won't have any until you love them more." If I am accused of discourtesy to the fair sex (she was not very fair, my reader), I can only plead that I have been far more explicit with the male specimen of pseudo-rosist. "I say, old fellow," remarked to me a friend as we rode together in the Row, and with a tone which, though it pretended a cheery indifference, was fraught with rebuke and anger, "those Rose trees which you recommended me to get turned out a regular *do*. Cost a hatful of money—precious near a *tenner*, if not all out—and, by Jove, sir, our curate at the county flower show came and licked them all into fits!" "Robert," I responded (I was too indignant to address him Bob, as usual), "I never in my life recommended a person of your profound ignorance to have anything to do with Roses. You asked me to give you a list of the best, and I did so reluctantly, knowing that you had neither the taste nor the energy to do them any justice. As to the outlay, the animal on which you have recklessly placed yourself, and whose hocks are a disgrace to this park, cost you, I know, more than eighty guineas; and for a tithe of that sum, without further supervision or effort, you expect a beautiful Rose garden. I rejoice to hear that the curate beat you, just as that earnest boy on his nimble pony is out-trotting at this moment your expensive but tardy steed."

Not a *soupeçon* of sympathy can I ever feel for the discomfiture of those Rose-growers who trust in riches. They see lovely blooms at the Rose shows (yea, the Duchess of Kensington said that they were lovely)—selected, probably, from fifty thousand trees, and the results of excellent culture, untiring vigilance and care—and they say, We will have these Roses for our own forthwith, and in abundance. They have only to put down the names, give an order, and sign a cheque, to buy as they buy chairs and tables. They go home and tell their gardener that they have ordered a most splendid collection of Rose trees, and that they quite expect him next summer to have the best display in the county. From my heart I pity that gardener. They might as well have brought him Bob's hack, and told him that if he could not win the Derby and the St. Leger with him they really must find somebody who could. He is not even allowed to choose a situation. The tall ones are to be planted on each side of the broad walk, and the little ones opposite the boudeir window. The broad walk may be as black as a common, or, under the shade of

lancholy boughs, as dark as a mausoleum; and the dear little bed opposite the houndir never sees the sun until mid-day, when it is grilled for three mortal hours, and then given back to gloom. So there the poor Rose trees stand—through the winter, *tudibrium ventis*, or without any air at all, and in the spring a rialto, reudezvous, common room, and tap for all the riff-raff of the insect world—so infirmly for all the diseases which the neglected Rose is heir to. Some few, perhaps, may brave all, and bloom, but they no more resemble the glorious flowers which my lady saw at Kensington or the Crystal Palace, than my little boy's toy railway train resembles the Scotch express.

In my next chapter I will tell what may be done in a very small garden, by a very poor man, who really loves the Rose.—**S. REYNOLDS HOLE** (in *The Gardener*).

ROYAL HORTICULTURAL SOCIETY.

AUGUST 4TH.

FRUIT COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. Messrs. Barr & Sugden exhibited a specimen of Lettuce called *Bossain*, a variety received from France. It is a Cabbage Lettuce with fringed leaves, and with a tinge of brown. Mr. Barr stated that it was a variety that resisted the very dry weather, and was one of very few in his collection which were slow to seed. Mr. Cooling, of Bath, sent specimens of a seedling Apple called *Brailbrook Seedling*, which possessed considerable merit as an early variety. He also sent tubers of a handsome Kidney Potato called *Shiners*. Some were cooked, and received the high approval of the Committee; and it was proposed that it should be sent to Chiswick to be grown and compared with other varieties.

Mr. Penn, the Rectory, Woodstock, sent dishes of six varieties of Gooseberries, all of which were of large size, and of the sorts known as *Lancashire Prizo*. They consisted of *Rideman*, *Leveller*, *Young Wonderful*, *London*, *Stockwell*, and *Leader*, and from the lateness of the season and high condition in which they were exhibited gained the commendation of the Committee. Mr. John Heamen, gardener to J. Couits Antrobus, Esq., Eaton Hall, Congleton, sent fruit of a *Pench unamed*, which appeared to be *Royal George*. He also sent fruit of a *Pear*, which proved to be the *Peach Pear*. Mr. Whiting, The Deepdene, sent fruit of the *July Green Gage Plum* grown against a north wall, and notwithstanding the disadvantages of position, they were perfectly ripe and of delicious flavour. Mr. Eckford, gardener to Lord Radnor, Colehill, Wilts, sent a bunch of a firm hard-fleshed Grape, of an oval shape and yellowish white colour, but without any flavour. Mr. M. Henderson, gardener to Sir George Beaumont, Coleorton Hall, sent a large bunch of a Grape received from Australia. It is of the race called *Olivette Noir*, a long oval berry, which colours at the point while the lower part of the berry is green, in the same way as *Black Morocco* does. The flesh is rather firm and the flavour sweet, but the variety was not considered to be of any great merit.

FLORAL COMMITTEE.—Although the hot weather and lateness of the London season might have reduced the number of the attendants at this meeting, the exhibition of plants by no means fell short, and many new and interesting subjects were exhibited. Mr. Salter, of Hammersmith, introduced a new *Campanula* called *floribunda*, a useful plant for rockery decoration. It received a second-class certificate. G. T. Davy, Esq., Colston Hall, Bingham, Notts, sent a bulbous plant without any name; the flowers were of the form of a small *Crocus* bloom. A second-class certificate was awarded it, and a name was requested to be given. The Rev. E. Hawke, Willingham Rectory, sent two seedling *Hollyhocks* of great merit—*Ida*, rosy salmon, and *Willingham Rival*, pale sulphur-coloured. A first-class certificate was given to each. Mr. Bull received a first-class certificate for *Allamanda nobilis*, a fine flower highly scented; also for *Homocallis pieta*, a plant curiously marked just above the surface of the soil. W. Sladden, Esq., Ash, Kent, sent twelve seedling *Gladioli*, which were awarded a special certificate. There were some very nice flowers among them, but they were not equal to the standard, being deficient in form. In a collection of plants sent from the Society's garden at Chiswick, *Cyanophyllum Bowmani* was awarded a second-class certificate as a fine ornamental-foliaged plant.

Messrs. Standish & Co., Ascot, exhibited a very fine seedling *Ipæa*—*Dixiana*, one of the finest yet seen, having pale orange and red fringes of flowers, with excellent dark green foliage. A first-class certificate was awarded it. G. F. Wilson, Esq., sent an interesting group of *Liliums*, arranged in a stone vase. Among them were *Lilium tigrinum Fortunei*, distinguished from the ordinary *Tiger Lily* by the white down clothing the stem; *Lilium lancifolium rubrum*, *L. lancifolium punctatum*, *L. lanifolium album*, and *atro-purpureum*, a dark variety of *rubrum*, *Lilium Wilsoni*, and *L. longiflorum*. A special certificate was awarded the collection.

Mr. Green, gardener to W. Wilson Saunders, Esq., received a second-class certificate for *Yucca de Smetiana*, and a special certificate for his collection of curious plants. Mr. Green also brought a cut specimen of a *Myrsiphyllum*; this was very beautiful; the numerous

small white flowers gave it a light and pleasing character. As a climbing plant it will be most useful. Messrs. Rolliason, Tooting, received a second-class certificate for *Caladium Meyerbeer*, and a special certificate for a collection of *Orchids* and other plants. Messrs. Veitch sent a fine collection of plants. *Darlingtonia californica*, one of the North American Pitcher-plants, received a first-class certificate; *Caladium Reine Victoria* was likewise awarded a first-class certificate, and *Caladium Alfred Blen* had a second-class certificate; *Cyathus Hookeri*, a beautiful Fern, was awarded a first-class certificate; and *Odontoglossum Kramerii*, a very neat and delicate Orchid, distinct, a first-class certificate; *Acrides Huttoni*, a beautiful Orchid, was also awarded a first-class certificate, and a special certificate was given for the group of plants. Among them were *Nepenthes hybrida maculata*, *Miltonia virginialis*, *Lælia elegans Wolstenholmiana*, and several new *Caladiums*.

Mr. Parker, Tooting, was awarded a first-class certificate for *Primula sinensis filicifolia* with double white flowers. Messrs. Downie, Laird, and Laing sent several new continental varieties of *Caladium*. *Caladium Dr. Lindley* received a first-class certificate; *Caladium Louis Perrier* a second-class certificate. The same firm sent three seedling *Phloxes*—Mrs. Laing, R. B. Laird, and Venus, good flowers, but not superior to many varieties in cultivation; also *Phlox Madame Atger*, a continental variety of a very distinct colour, rosy red; *Pentstemon Mrs. Arthur Storey*; pale lavender-striped *Verbena Lady Dixie*, and *Sedum atro-purpureum*, a dark variety of *S. telephium*. Mr. Hodge, gardener to E. Wright, Esq., Birmingham, was awarded a special certificate for a cut specimen of *Catasetum barbatum*, a very curious fringed or bearded Orchid.

Mr. Cooper, Reigate, exhibited a very interesting collection of *Mammillarias* and *Echinocacti*, which were awarded a special certificate. Mr. Eckford sent a stand of seedling *Verbenas*. One, a white variety named *Pearl*, was awarded a second-class certificate; it is a fine flower, but with too green a centre. The rest were rough and deficient in form. Mr. Frost, gardener to C. Fortescue, Esq., Dropmore, sent two flowers of a beautiful *Passiflora*, which was named *cinnamata*, from its curly purple thread-like filaments; it is a beautiful greenhouse plant; a first-class certificate was awarded it. Messrs. E. G. Henderson exhibited a small collection of fine bedding plants, which was awarded a special certificate. Among them were a new *Fuchsia* called *Golden Treasure*; *Graphalium tomentosum*, a very useful plant; *Dactylis elegantissima*, *Salvia officinalis aurea*, *Centaurea ragnina*, and *Centaurea ragnina compacta*, *Polemonium caeruleum variegatum*, *Pyrethrum Golden Feather*, and *Fuchsia Golden Fleecce*. Mr. G. Smith, Welworth, sent a small promising plant of his variegated *Lilium eximium Smithii*. Mr. Tanton, of Epsom, had a fine specimen of *Allamanda Wardleana*, which was considered to be *Allamanda Schottii* of Henderson, a fine kind, but well known as a plant of some years' standing. We may probably hear more of this plant, as a diversity of opinion was expressed as to its merits, and especially as to its not possessing the climbing habit of its congeners. As a proof of its freedom in producing an abundance of flowers, even when the plants are small, some cuttings in pots only recently struck were very remarkable.

GENERAL MEETING.—G. F. Wilson, Esq., F.R.S., in the chair. The following new Fellows were elected—viz., Lord Courtown, John Buck, Esq., W. Penn Cox, Esq., and T. Charlesworth, Esq. The last three were elected forty-guinea Life Fellows, in recognition of the services rendered by them in connection with the Society's Leicester Show. M. Louis Van Houtte, and Mr. Thomas Ingram, of Frognore, were elected Corresponding Members. A list of donations having been read, and a vote of thanks accorded to the donors, the Chairmen of the Fruit and Floral Committees announced the awards of these bodies, and in doing so the Rev. Joshua Dix directed attention to the *Gladiolus* competition which will take place at the meeting to be held on the 18th inst.

SCIENTIFIC COMMITTEE.

REPORT OF CHEMICAL SUB-COMMITTEE, DRAWN UP BY DR. AUGUSTUS VOELCKER.

At the meeting of the Scientific Committee of the Royal Horticultural Society, held June 2nd, 1868, Dr. Gilbert brought forward the subject of "The characters of growth by virtue of which one plant dominates over another in mixed herbage, under the influence of different manures, &c."

This subject, having excited considerable interest and discussion, was referred to the Chemical Sub-Committee, with the request to report whether the Sub-Committee deem it desirable to recommend experiments to be tried as likely to throw further light on various questions relating to vegetable growth and the specific action of certain fertilising elements, such as potash, phosphate of lime, nitrogenous matters, &c.

It will be remembered that Dr. Gilbert, at the June meeting, referred to some very striking experiments conducted for many years at Rotbamstead Park, by Mr. Lawes and himself, on permanent pasture, which has been under grass probably for centuries.

Under ordinary management this herbage yielded about fifty species of graminaceous, leguminous, and other plants usually found in permanent meadows.

The number of species of plants was but little changed on those experimental plots in the park to which a complex but purely mineral manure was applied, consisting of salts of potash, soda, magnesia, and sulphate and phosphate of lime.

On the other hand, salts of ammonia, nitrate of soda, applied by themselves, or the addition of nitrogenous manures to mineral fertilising matters, greatly diminished the number of species in the herbage.

According to the particular kind of nitrogenous manure used, and the quantity and combination with other fertilising matters in which nitrogenous manures were employed, the diminution in the number of species varied, but in all cases it was strikingly apparent, and in some instances amounted to about one-half of the species in the herbage from the unmanured part of the park, or those parts dressed with purely mineral manures.

Attention was further directed to the fact, that not only the weight of the produce reaped per acre was much influenced by the description of the manures which were put on the different experimental plots, but that likewise the relative proportions of graminaceous and of leguminous and miscellaneous plants in the produce were found to vary considerably with the manures employed.

Thus, to cite only a few examples, the weight of the graminaceous plants in the produce from the unmanured plots, and those dressed with purely mineral manures, in round numbers amounted to about 60 per cent. of the whole produce. Dressed with salts of ammonia or nitrate of soda, and other purely nitrogenous manures, the herbage yielded from 70 to 80 per cent. of the whole weight of produce in graminaceous plants, and in some instances in which an abundance of both nitrogenous and mineral manures were employed together, the weight of the graminaceous plants in the whole produce amounted to nearly 95 per cent.

The effect of nitrogenous manures in encouraging the growth of true Grasses, and raising the weight of graminaceous produce and the corresponding diminution of the weight of the leguminous and miscellaneous plants in the produce, was strikingly exemplified in these experiments.

On the other hand, it was found that purely mineral manures, such as salts of potash and phosphate of lime, favoured materially the growth of the Clover tribes, and greatly increased the percentage by weight of the leguminous plants in the whole produce of the permanent pasture.

A wish having been expressed by several members of the Committee to inspect the interesting and highly important experiments which for a succession of years have been carried out and are annually in progress at Rothamstead Park, Mr. Lawes kindly issued an invitation, of which several of the members were able to avail themselves.

The remarkable character of the results obtained in experiments on permanent pasture, and other no less interesting results, having reference to the growth of Wheat, Barley, Beans, and other crops, highly impressed the visitors with the importance of the experimental inquiries instituted at Rothamstead in relation to many physiological and horticultural problems.

At a subsequent Committee Meeting it was agreed to call together the Chemical Sub-Committee, who, regarding the co-operation of botanists and others interested in vegetable physiology, were joined by Dr. Masters, Dr. Hogg, Mr. Murray, Major Trevor Clarke, and Mr. Miers; Dr. Hooker and Mr. Bentham expressing regret at being unable to attend the meetings of the Sub-Committee.

Accordingly the Sub-Committee met on Thursday, June 18th, the following members being present:—Professor Abel, Mr. G. F. Wilson, Dr. Masters, Dr. Gilbert, Mr. A. Murray, Dr. Voelcker.

Dr. Gilbert invited the botanical members of the Sub-Committee to examine the herbage reaped this season on the several experimental plots of the permanent pasture in Rothamstead Park, and promised to furnish them with the requisite materials for such a botanical examination.

The Sub-Committee next fully discussed the manner in which manuring experiments on graminaceous and other plants occurring in pastures might with advantage be instituted, and considered it advisable to investigate rather the more strictly scientific physiological questions, which no doubt will suggest themselves in the course of the experiments, than to bear in mind the purely agricultural and economic points of interest which they may present.

Instead of growing together a number of plants such as are common in pastures, it was deemed desirable to study the influence of various manures on particular species, grown separately in wooden boxes 2 feet square and 18 inches deep, filled with poor soil, such as is found in unmanured and rather exhausted soils of our fields, and not with good garden mould.

The boxes are conveniently sunk in the land, level with its surface, in order to protect the soil in them from excessive evaporation.

It is suggested that the experiments be carried out in the Society's gardens at Chiswick, and also at Rothamstead by Mr. Lawes and Dr. Gilbert, as well as by any gentleman who feels disposed to undertake them.

In each set of experiments the same kind of soil should be employed, but as the nature of the unmanured soil must exercise its due influence on the growth of the plants submitted to experiments, it will be desirable, if possible, to try one series of experiments on rather light sandy soil, and another on more heavy clayey soil. Dr. Voelcker will

willingly undertake the chemical analysis of any soils that may be employed for the experiments.

After due deliberation the Chemical Committee have selected the following plants for experiments:—

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| 1. <i>Dactylis glomerata.</i> | 8. <i>Lotus corniculatus</i> (perenne),
Bird's-foot Trefoil. |
| 2. <i>Anthoxanthum odoratum.</i> | 9. <i>Trifolium repens</i> (perenne),
White or Dutch Clover. |
| 3. <i>Lolium perenne.</i> | 10. <i>Plantago lanceolata.</i> |
| 4. <i>Poa pratensis.</i> | 11. <i>Achillea millefolium.</i> |
| 5. <i>Poa trivialis.</i> | 12. <i>Carna carni.</i> |
| 6. <i>Bromus mollis.</i> | |
| 7. <i>Trifolium pratense</i> (perenne),
Red Clover. | |

It will be seen that of the dozen plants recommended for experiment, six are true Grasses, three Clovers, and three common weeds in pastures.

For each of the preceding plants, six boxes, each 2 feet each wide and 18 inches deep, are recommended.

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| 1. One box to be left unmanured. |
| 2. " manured with a purely mineral mixture. |
| 3. " " with ammonia only. |
| 4. " " with nitrate of soda only. |
| 5. " " with ammonia and mineral manures. |
| 6. " " with nitrate of soda and mineral manures. |

The following manures and quantities are recommended:—

For box 2.	1.47 oz. of sulphate of potash, or at the rate of 1,000 lbs. per acre.
	1.47 oz. of carbonate of lime..... 1,000 "
	.15 oz. of chloride of sodium..... 100 "
	(1.47 oz. of bone ash treated with..... 1,000 "
	(1.10 oz. of sulphuric acid..... 750 "
For box 3.	.59 oz. of sulphate of ammonia..... 400 "
	.59 oz. of chloride of ammonia..... 400 "
For box 4.	1.62 oz. of nitrate of soda..... 1,100 "
For box 5.	The manures used in 2 and 3.
For box 6.	The manures used in 2 and 4.

The amount of nitrogen in the preceding quantity of nitrate of soda recommended for box 4, it may be observed, is the same as that in the sulphate of ammonia and chloride of ammonia, employed in box 3.

Dr. Gilbert has kindly promised to furnish the preceding manures, which should be intimately incorporated with the whole of the soil in the several boxes.

When necessary, the plants under experiments should be watered with soft pure water, and otherwise attended, and their progress be watched and recorded.

A sample of water to be retained for examination when distilled water can [not?] be used.

It may, perhaps, also be desirable to fill moderate-sized flower-pots with soil from each of the experimental boxes, and to grow in each a single and strong plant, side by side with the more numerous specimens in the several boxes.

The preceding experiments cannot be undertaken without a good deal of trouble, but it is confidently expected that they will throw light on the conditions most conducive to the rapid development of various orders or species of plants, as regards some of the more characteristic manuring elements present in complex manures, and they may lead to a more systematic and certain mode of treatment of not only these but also of other plants as regards manuring.

Some of the manures recommended in the foregoing scheme are known to favour early maturity; it is therefore likely that the experiments will suggest others which may be of much value to fruit growers.

M. SOUCHET'S GLADIOLUSES.

I HAVE just heard from my friend M. Souchet, and send an extract from his letter.

"The drought having continued with extraordinary intensity, the bloom of the Gladioluses, which I had expected to be very brilliant, is up to the present time a complete failure; it will be, perhaps, better from the 10th to 25th of the present month, we hope so, although not counting upon it. I am greatly grieved at this want of success. Will you be good enough to communicate this sad news to any who may be interested in it?"

There can be no better way of complying with his wishes than to ask for your insertion of this extract. It quite confirms me in my judgment, that it was better to postpone the Gladiolus Exhibition for another year.—D., Deal.

MR. CRIPPS'S NURSERY, TUNBRIDGE WELLS.

I DERIVED much pleasure from a hasty visit to this well-known nursery. The seedling Clematises particularly attracted my attention; for form and beauty they cannot be equalled. A white variety named Madame Van Houtte, and a purple one called Crippsii, were superb. Although for abundance of flowers they may not equal some of the new and leading varieties, the

exquisite form of the flowers is unrivalled. A variety of *Anemone japonica* with pure white flowers was most beautiful, and I believe not generally known.

The fine specimens of *Fuchsia Dominicana* excited my admiration. It is very remarkable that this plant is not more generally cultivated. There were some fine specimens in great perfection. *Bignonia grandiflora* was also in fine condition, and is a most beautiful greenhouse plant.

The collection of Conifers cannot be surpassed for vigour and luxuriance of growth. To enumerate the species and varieties grown in this nursery would occupy too much space. I will only add that a visit to this establishment will afford a treat to any admirer of ornamental plants.—X.

ORNAMENTAL AND FLOWERING SHRUBS.

(Continued from page 78.)

ERICAS.—There are many varieties of hardy Heaths. The best of them in my opinion are the following—*Erica anstralis*, the tallest, attaining a height of from 5 to 6 feet; *E. mediterranea*, also a free grower, sometimes attaining a height of 4 feet—both of the preceding have red flowers in spring and early in summer—*E. scoparia stricta*, pale red, end of summer; *E. cinerea alba*, white, June to September; *E. cinerea atropurpurea*, purplish red; *E. cinerea rubra*, and *E. cinerea rosea*, the one with red, the other with rose-coloured flowers. The varieties of *Erica cinerea* flower in summer and autumn. *E. tetralix alba*, white, and *E. tetralix carnea*, flesh, flower from June to August. *E. vagans alba*, white, *E. vagans carnea*, flesh, and *E. vagans rubra*, red, all flower in July and August, and, with the last-named three species and their varieties, attain a height of 1 foot. *E. vulgaris alba*, white; *E. vulgaris flore-pleno*, reddish purple; *E. vulgaris carnea*, flesh; *E. vulgaris coccinea*, bright red; *E. vulgaris decumbens*, red; *E. vulgaris variegata*, red; *E. vulgaris Hammondii*, rose, and *E. vulgaris Alporti*, red, all flower in summer, and attain a height of 1 or 2 feet. Heaths are very pretty, and considering they flower in summer, and their flowering is often prolonged until autumn, it is surprising they are not more generally cultivated. They succeed admirably on banks, on slopes and ledges of rockwork, and in any situation not damp. They are very handsome in beds well drained and formed of suitable materials. The soil should be a sandy peat. *Erica anstralis* and *E. mediterranea* should have a sheltered situation. Propagation is effected by layers, and by cuttings of the young shoots in silver sand under a hand or bell-glass, keeping them close until rooted.

FOTHERGILLA ALNIFOLIA.—Deciduous. The leaves on their under sides and the shoots, are covered with white down. Flowers white and sweet-scented, in April and May. Height from 3 to 4 feet. It requires a moist peat soil, and is increased by layers and cuttings.

GAULTHERIA PROCUMBENS.—Leaves oval, shining, green. Flowers white, succeeded by bright red berries. It flowers from July to September, and is a pretty shrub of 6 inches in height. Sandy peat is most suitable for it. Propagation is effected by division and seeds.

GAULTHERIA SHALLON.—Habit procumbent. Leaves dark green and shining. Flowers white, tinged with red, followed by purple berries. It flowers in May. Layers. Height, 2 feet.

GORDONIA PUBESCENS.—Deciduous. Flowers white, in August and onwards to November. Height, 4 feet. Layers.

ITEA VIRGINICA.—Deciduous. Flowers white, numerous. A pretty shrub, flowering in July. Layers and root cuttings. It ought to have slight shade as well as peat soil. 4 feet.

DAPHNE CNEORUM.—Leaves small, lanceolate. Flowers numerous, rose-coloured, very sweet scented. Being of trailing habit, it is very suitable for rockwork, and planting in well-drained soil among stones. It is easily propagated by layers, and grafting on the Spurge Laurel (*Daphne laureola*), upon which the sweet-scented *Daphne* forms handsome drooping heads. Very suitable for forcing. Peat soil is desirable, and a slightly shaded situation. Height, 1 foot.

DAPHNE PONTICA.—Flowers yellowish, sweet, and numerous, in April and May. 3 to 4 feet. It should have a warm sheltered situation.

KALMIA LATIFOLIA.—Leaves large, lanceolate, shining, green, and very dense. Flowers rose or flesh-coloured. Very handsome in June when in flower, and at all seasons by its dense foliage. Height, 5 feet and upwards; the tallest plant I remember was 7 feet in height.

KALMIA LATIFOLIA MAJOR SPLENDENS is finer in foliage, and has flowers of a bright red, which retain their colour until they fall. A pretty companion to the very handsome *Kalmia latifolia*.

KALMIA LATIFOLIA MYRTIFOLIA.—Very like *K. latifolia*, only smaller in every way, and on that account desirable for planting around groups of *K. latifolia*.

KALMIA ANGUSTIFOLIA.—Leaves narrow, dark green. Flowers red. 2 to 3 feet.

KALMIA GLAUCA.—Leaves narrow, glaucous on the under side. Flowers red. 2 feet.

The *Kalmias* are increased in the same manner as *Rhododendrons*, requiring a peat more sandy than for *Rhododendrons*, and the situation should be moist and slightly shaded. They are not very hardy, and should have a situation sheltered from cutting winds.

LEDUM LATIFOLIUM.—Leaves lanceolate, downy beneath, of compact globular growth. Flowers white, in spring. Layers. 3 to 4 feet.

LEDUM ANGUSTIFOLIUM AND PALUSTRE are pretty shrubs with white flowers in spring, but inferior to *L. latifolium*. Height, 2 to 3 feet.

LEDUM THYMIFOLIUM AND L. BUXIFOLIUM are of dense dwarf habit, and are on that account suitable for edgings to beds in the American grounds. They have pretty white flowers, and the buds are pink before expanding. Layers.

MENZIESIA POLIFOLIA.—Small leaves, white on the under side. Flowers white, tinged with purple. There are several varieties, the best being *alba*, white; *globose* or *erecta*, purplish; *atropurpurea*, purple; and *pumila*, purplish red. *Menziesia globularis* and *empetrifolia* are pretty Heath-like bushes. All flower from June to September. 1 to 2 feet. Layers and cuttings.

PERNETTYA MUCRONATA.—Leaves shining; dark green. Flowers white and drooping. May. 2 to 3 feet. Layers.

POLYGALA CHAMÆBUXUS.—A pretty evergreen. Flowers pale lemon, and sweet scented. April and May. Of trailing habit. Height, 6 inches. Moist, well-drained peat and grit. Layers and suckers.

RHODORA CANADENSIS.—Deciduous. The flowers appear before the leaves, being of a reddish purple and sweet scented. 2 to 4 feet. Layers. It flowers in April or May, and is a good plant for forcing.

VACCINIUM VITIS-IDEA.—Leaves shining. Flowers bell-shaped, pink in summer, succeeded by red berries in autumn. It does best in a rather moist situation, and where slightly shaded. 1 foot. Suckers.

VACCINIUM ARCTOSTAPHYLOS.—Deciduous, requiring a sheltered situation. Flowers reddish, in June, succeeded by red berries of large size. 6 feet. Layers.

VACCINIUM OVATUM.—Leaves, as the specific name implies, ovate, bright green. Flowers pink, in May, succeeded by numerous purplish red berries in autumn. Height, 2 feet. Layers.—G. ABBEY.

(To be continued.)

WHO IS AN AMATEUR?

My husband is very fond of gardening, and for amusement has put up three vineries. We keep no gardener, and my husband attends to all the gardening himself. Having saved more of Mrs. Pollock Pelargonium through the winter than he required for his own garden, he sold a few to people near our house, who could take them away, just to accommodate them, and to pay for coal for his Vines. Does that exclude him from exhibiting at our flower show as an amateur? Will you also say if selling a few flowers would exclude any one more than selling Potatoes?—S. O.

[The question is best answered by inquiring, Who is a professional gardener, and who is a nurseryman? A professional gardener is a man who for wages serves one or more employers in some department of gardening. A nurseryman lives wholly or chiefly by the sale of the produce of his nursery ground. Now, your husband, though he sells his surplus plants, fruits, and flowers, clearly does not come within either of these definitions. If he were to be so included, then hundreds of noblemen and gentlemen must be nurserymen, for they sell their surplus garden produce. Your husband is an amateur gardener beyond any just doubt.—Eds.]

DUC DE MALAKOFF STRAWBERRY.

I AM sorry to see (page 56), that Mr. Douglas has quite condemned *Duc de Malakoff*. Is it possible that Mr. Douglas has a spurious variety of this Strawberry? From the description given of it I feel doubtful, for here it is one of the earliest, coming in within a few days of *Black Prince*, either with forcing, or when ripening in the open garden.

I have discarded *Black Prince* for forcing, as *Duc de Malakoff* comes in nearly as early, and is sure in producing a crop.

In character it is not one of the largest kinds. It has a medium-sized fruit of the Pine shape, and fine in colour and flavour. The plant is not very strong in foliage, and is a prolific cropper. In fact, this variety is one of the best in cultivation in, I believe, any soil. In flavour and appearance it much surpasses *Eclipse*, and for packing is considered one of the very best to travel to a distance, a property which is deserving of notice, and which makes it the more valuable to the many gardeners whose Strawberries have to be sent to a distance, and to appear fresh when they arrive at their destination.

I have grown *Duc de Malakoff* three seasons for forcing, to come in during the last week in April. *Black Prince* put in at the same time will only come in two or three days before it; but then you may gather a dish of *Duc de Malakoff* first, as the size makes up for the small number of the fruit, and is more to your credit. You need not be afraid of its being

attacked by mildew, to which we all know Black Prince is so liable. I would willingly exchange a few runners with Mr. Douglas.—WILLIAM BIGGS, *Sandfield Park, Liverpool.*

A FEW SALAMANDER PLANTS.

SUBJECT as we occasionally are to long seasons of drought like the present, it is comforting to us florists to know that there are some flowers which seem to defy both dryness and heat, and to flourish with undiminished loveliness in spite of a burning sun and an almost total absence of rain; and I cannot forbear telling my floricultural friends of two plants which for the last four weeks have always cheered and comforted me as I have wandered amid the dead and dying beauties of my burnt and dried-up garden.

I allude to *CONVOLVULUS MAURITANICUS* and *CENTRANTHUS MACROSIPHON*. The former is a perennial far too little known. It is increased by cuttings, and requires protection in a frame or greenhouse during the winter. It grows most rapidly when planted out in spring, and if pegged out like a *Verbena* soon covers a large space of ground. From sunrise to noon, throughout the summer months, it is one sheet of lovely mauve flowers of an almost unique tint. I mean to have a large bed of it if spared till next year.

Centranthus macrosiphon is an old-fashioned and somewhat exploded annual; but its dwarf though luxuriant growth, its fresh green foliage, and dense bright heads of magenta-coloured flowers, and its brave defiance of sun and drought, render it a most desirable, and in seasons like this, an indispensable ornament in every flower garden.

Sollya heterophylla and *Abelia uniflora* have bloomed well with me out of doors this summer.—H. HARPER CREWE, *Drayton-Beauchamp Rectory, Tring.*

CUTTING DOWN AND TRIMMING EVERGREENS.

INQUIRIES having been made as to the best time for cutting evergreens of various kinds, a few notes on the subject may be useful to those about to operate on these ornamental features of a garden or landscape, and especially on large full-grown specimens which have not previously been subjected to much cutting-in. As this is the class most difficult to manage well, it will be necessary to consider the condition and nature of the plant before we commence too rashly to use the axe and saw.

Very little consideration will convince us that an evergreen of large size cannot be entirely cut down without inflicting on it great injury, and possibly the operation may kill it; but although a total deprivation of foliage may be fatal, the removal of one-half or even more of it may not be so: consequently, when a large Laurel or other shrub has so far outgrown itself as to be no longer ornamental, becoming naked at the bottom, or otherwise unsightly, partial cutting-down is essential to appearance, and when it can be so managed as to leave some of the lower branches well clothed with foliage, the energies of the plant soon repair the disaster. Perhaps of the shrubs which show most conspicuously the utility—nay, almost necessity of this plan, the *Arbutus* is as good an example as any. The part that was left may also be cut away in about two years afterwards. *Alaternus*, *Phillyrea*, *Laurustium*, and some other shrubs generally succeed well under this treatment, the common Laurel especially so, and the Portugal Laurel does as well when thus treated as in any other way, but it is a plant rather impatient of cutting-in, although in every other respect amongst the hardiest we have.

Perhaps the best time for cutting-in such evergreens may not be that adopted at this place (Linton Park), but as it answers very well, and is attended with some advantages, there seems to be no objection to it. The beginning of April is the season at which we usually do such work. However well the cutting may be accomplished, there cannot be any difference of opinion about the plant operated on looking badly for a time; and, as it is advisable to reduce that period to the shortest possible space, by not cutting the plants until shortly before they will continue to grow again they are not long in a naked condition. I do not, however, affirm that they are any better when left till April. For the reason already given, observe in all cases where possible to retain some branches with leaves on, even if such branches have to be bent to the ground to hide their

unsightliness. After the rest of the plant has grown for a year or so, these old branches may be cut off if necessary.

Laurel and other hedges of a formal and regular character ought to be cut with the knife, especially shrubs with large leaves, as the Laurel; but when this cannot be done the shears may be employed. In the latter case it is best to cut the common Laurel, and I believe most other shrubs of a similar description, early in June, just before the growth is completed, so that a second crop of short shoots may be formed. This takes off the appearance of close raw cutting, and hides the deformity caused by cut leaves. For many years we have been in the habit of adopting this plan, and it is rarely, indeed, that the second shoot does not ripen itself, and it is seldom more than 3 or 4 inches long. Any longer or unsightly shoots may be cut out with the knife before winter, so as to allow of the hedge, bank, or whatever is cut, looking uniform during the winter.

Choice evergreens against walls may be treated differently, as their flowering is of consequence as well as their appearance. The common Ivy when growing luxuriantly requires trimming; excepting in special cases, we have found a severe cutting-in about the end of July, so as not to show a single leaf, resulted in the production in a month or six weeks of new foliage, which remained good all winter. When the Ivy is not so robust it is better, perhaps, to cut it in at the end of March. There is then a greater certainty of its doing well afterwards; but if it grow vigorously it will have projected a long way from the wall by the end of summer, and some cutting-in with the knife may be necessary in autumn. For this reason I prefer summer cutting, as furnishing a more lengthened period of trimness.—J. ROBSON.

NOTES AND GLEANINGS.

THE gentleman elected to fill the place of Mr. Henry Cole, C.E., on his retirement from the COUNCIL OF THE ROYAL HORTICULTURAL SOCIETY in May last is D. Hingford D. Burr, Esq., of Aldermaston Court, Reading.

WORK FOR THE WEEK.

KITCHEN GARDEN.

DURING the continuance of heat and drought little can be done in this department, but advantage must be taken of the first good fall of rain to prick out into beds the *Cabbage* plants intended for spring use, that they may become stocky before their final planting. To those who would insure a constant succession of the choicer kinds of vegetables and salads, the next fortnight will be the most important in the whole year. *Endive* planting must now be proceeded with in earnest, for what is now planted will constitute the great bulk of the autumn and mid-winter salads. Let elevated beds of 4 feet in width, and possessing a bold curvature, be provided in an open and dry situation. Such beds should be a foot or more above the general level of the ground, and must be made very rich. They may be heaped over in the end of October, so as to be readily covered with mats when frost arrives. *Celery*, the main crop should now be planted out, taking care to water it frequently. Other crops of *Celery* must be earthed-up in due time, removing all suckers and tying-up the plants neatly. It is an excellent plan to give a good soaking of manure water the day previous to earthing-up. The slug defaces the stalks much. It is a good practice to give the plants a thorough liming previous to the first earthing. *Onions*, the remains of the autumn-sown *Onions* should be taken up as soon as possible. The same may be said of *Shallots* and *Garlic* as soon as the leaves decay. Spring-sown *Onions* may have their tops gently bent down with the head of a rake to cause the bulbs to swell better. The sowing of seed to stand the winter should proceed without delay upon cold stiff soils; on light soils and in warm situations it will do a fortnight hence. No sorts are better than the *Strasburgh* or large *White Spanish*. The main crops of winter *Coleworts* must be planted within a fortnight. Manure we, and plant a foot apart. *Winter Spinach* for the whole winter's supply should be sown now, or a week later according to the situation.

FRUIT GARDEN.

Vines will now require much attention where there is a prospect of ripening the fruit. The bunches should receive their final thinning, and, unless in the case of small sorts, no more than one bunch should be left on a shoot. Remove all super-

fluous wood in order to direct as much of the energies of the Vine as possible into the fruit. If the spur-system of pruning is adopted leave as many shoots besides those in fruit as will be wanted next season. Shorten bearing shoots one joint beyond the bunch, or to the joint of the fruit, provided the leaf is preserved and one joint or lateral allowed to remain. Pick out a few of the buds in the axils of the leaves towards the points of these shoots, that the buds at their base may be rendered more plump for the next season. If the long or succession-rod system is followed, no short shoots need be left that do not carry fruit, and these must be kept well shortened, so that by removing all useless growth and picking out the young buds in the axils of the leaves of such shoots, more strength and full exposure may be given to the long shoots intended for bearing next year. Leaving a lateral with a leaf or two attached has a tendency to strengthen the bud at its base, and prevents this bud bursting if the shoots should be rather prematurely shortened, but some gardeners object to leaving such laterals, considering that they render the buds three-cornered instead of plump and round. Grafts should now have their bandsages loosened and the shoots properly secured from wind.

FLOWER GARDEN.

Any time after the middle of this month those hardy annuals that stand our ordinary winters, and which flower from the middle of April to the middle or end of June, may be sown in very light soil on an east border in the reserve garden, or in any open spaces in the shrubberies. When the flower beds are dug over in February, these annuals could be transplanted in groups according to their colours or the fancy of the owner. At the same time the seeds of other annuals could be sown so as to have no blanks in the beds; even those beds filled with spring bulbs, such as the dwarf early Tulips, Hyacinths, Narcissuses, &c., should be planted or sown with these annuals between the rows of bulbs, and by the time the latter would begin to fade the annuals would be gay and continue so till the leaves of the bulbs were ripe. As soon as the bloom begins to fade the whole could be dug over, the bulbs taken away to be dried, and the beds planted immediately with strong, healthy, half-hardy plants intended for summer and autumn display.

GREENHOUSE AND CONSERVATORY.

The early spring cuttings of Pelargoniums are now good-sized plants ready to turn into the conservatory for the last successions. If the house is large four or five of the plants may be put into a large pot, and great bushes thus formed at once to fill up recesses or vacant corners. The leaves and flowers will soon turn to the light, and by turning the pots round twice a-week fine plants will be secured without a forest of sticks, which although sometimes necessary to show off plants at an exhibition, are most intolerable in a well-regulated conservatory. As the autumn advances the conservatory is again kept more or less close, and much less water is given to the plants; those from the stove now in flower require but very little water, and as soon as they are past their prime they should be returned to the stove. It is the misfortune of greenhouse plants out of doors that they too often are in vigorous growth at the time they are housed for the winter, and this is another reason out of many for growing the finer sorts in frames and pits, as their growth can be thus regulated according to their habits or the wishes of the grower.

STOVE.

After the middle of August, if the weather is dull, established stove plants should not be watered late in the afternoon; the drier the stove is kept at night during the autumn the better the plants will ripen their wood, and we all know that on the perfect maturity of each season's growth depend in a great measure the flowering and fruiting of exotic plants; therefore, allow the plants as much room as possible for the next three months. This cannot be too much insisted upon. An early viney where the leaves have all fallen would be a good place into which to remove some of the strongest specimens from the stove for six weeks or so. Here, with a dry atmosphere and plenty of air and light, they would ripen their wood perfectly, and the Vines would not be injured by the treatment.

PITS AND FRAMES.

Every encouragement should now be given to frame plants to grow to their utmost, the lights during most of the day admitting a portion of air, and towards the evening being taken off altogether to let the plants have the night dews, which are always heavy in the autumn, and make plants look green and

healthy. We can always stop the growth when we think fit by keeping the plants and frames drier, by having the lights off during the day and on at night, or reversing our present system. Is it not curious that plants should grow better in turf pits than in those made of bricks? I suppose bricks heated by the sun absorb too much of the moisture from the plants at night. Many of the more tender Heaths suffer much from wet autumns, and nurserymen turn these into pits or green-houses about this time. Pits are by far the best places for such plants, as the glass can be put off or on as circumstances may require. Chrysanthemums and Violets must be well attended to from this time. Give abundance of liquid manure to both, now that they are strong enough to make use of rich food.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

STILL no rain with us, except a few drops that scarcely refreshed the foliage; and in the extreme dryness of the soil and the parching heat, planting out vegetables of any kind is almost out of the question. What we have planted of Cauliflower, &c., has been protected by a 5-inch pot placed over each plant during the day, and after a few days lifted off at night.

This would not disturb us so much, as we trust rain must come, and then we might bring up our leeway, for after rains vegetation will make very rapid progress, as the ground is like a huge hotbed; but the difficulty will be to obtain good plants to fill it with, owing not so much to the heat and dryness as to the depredations of the fly, which seems to miss nothing that produces cruciform flowers. We have a border of Cauliflowers that otherwise would have produced well, as, owing to having been several times watered with house sewage the plants are strong, but there is scarcely a green leaf on them owing to the attacks of the fly. A fresh piece we planted out was out of sight in a couple of days—not a vestige left but the stumps at the roots, and that after using sprinklings of ashes and other deterrents. We have found no safety for the young plants after planting except covering with a pot, and in the seed beds nothing will save them except a covering of some sort during the day; and for this purpose, for want of a better, fresh spruce branches often act well, the fly having a great dislike to the aroma given off by the branches. We found that lots of young plants, as Cabbages, Stocks, Wallflowers, &c., would soon have been out of sight if we had not placed some old sashes over them, whitened them to moderate the heat, and given air back and front, putting on the sashes in the morning and taking them off in the evening, as the fly is the most active when the sun heat is the most powerful.

If the fly is as destructive elsewhere it will be next to impossible to keep the earliest sowing of Cabbages, unless protected with some material during the day. Mats would do very well, especially if made to smell unpleasantly; but old moveable sashes are very good, as, even with plenty of air back and front, the fly will scarcely ever go beneath the glass. What was, and would have continued to be, a fine border of autumn-grown Stocks, has for the present lost all its attractiveness, for most of the foliage is yellowish or as prettily perforated as the Lace Plant. If we have plenty of rainfall and a few dull days, we think they would break afresh, and be good again. All our neighbours among the cottage gardeners unite in saying that without some protection better than soot, ashes, or sawdust, it is of no use to sow their little beds of their favourite Cabbage, as the plants that are good to-day will be gone to-morrow. Contrary to our custom, we will sow them and Lettuces in places covered with an old frame and sashes.

Let us bear in mind the importance of trying to meet the difficulty. Were we a little short of supply just now it might be passed over, as, except where water and labour are abundant, such continuous drought and heat will tell their own tale; but when all this is gone, and the rains of autumn and the colds of winter have come and gone, there will be few excuses entertained for the want of the usual supply at the usual times. It is of little use discussing the propriety or the reasonableness of such expectations. We must act as if we well knew that the expectations will be entertained all the same, and if we are unsuccessful in one mode, we must try others. Not that these expectations are always reasonable. If they were, the world would not be exactly what it is. In such districts as this, where we have had none of the downpourings which have visited the metropolis, the effects of the drought will show themselves, and for a considerable time, do what we may to

lessen them. It will be a satisfaction, however, even if we partially fail, to feel that we did what we could. It is all a mistake, and something worse, to make the season an excuse for our own want of forethought or consideration. We may rest assured that the drought and heat will soon be forgotten by employers as a sufficient reason for obtaining but little from their gardens.

Whilst on this matter of expectations, we will just allude to another side of the matter, brought prominently before our notice by some half-a-dozen of writers complaining that whilst the employer gives orders for certain work to be done at certain times, and in a prescribed manner, if the results are not to his mind, he blames the gardener as the cause of the failure. Now, the matter here lies in a very small space. The master has the right to have everything done in his garden at the time and in the way he wishes. He may wish a tree to be planted with the branches in the ground, and the roots in the air, and the workman if wise will do the work as desired. If a gardener is employed it would be his duty quietly to say of that and many other such proposed schemes, that he did not think they would answer, but there his duty in the matter ends, and if he does as desired his responsibility likewise ends. This is just, however, the place where the grievances of our correspondents culminate. It would appear that in their several cases the employer is so much his own gardener that he takes on all chief occasions the responsibility of ordering not only operations, but the time and mode of performing them, taken as a consequence not only the responsibility and credit of success, but diverts the responsibility of failure on the incompetence of his gardener. Now, this is not fair. We can hardly expect every possessor of a garden to be as noble-minded as the great Duke of Bedford, who, when he would have a plantation of trees thinned against the opinion of his gardener, had a large placard put up, that every passer-by might see that the Duke and not the gardener was responsible for the result. The results proved that the Duke's opinion was the better and the sounder of the two; but if it had proved the reverse, the principle involved was the same—namely, that the responsibility of ordering must be connected with the responsibility of results. We cannot at present enter on all the grievances brought before us, but will just allude to two as more apposite than the others at present.

One tells us, "That he has for some time been a convert to the ideas on watering lately propounded, and would have liked to have used what little liquid he could command in greater quantities at a time, and then leave well alone, but that his employer will insist on having the beds slightly sprinkled every afternoon or evening, and then he is grumbled at because every succeeding hot day finds the plants looking more wretched than on the preceding day." Now, our own candid opinion is, that in such weather it is quite possible to sprinkle plants until they entirely disappear.

Another tells us that he could get no rest from his employers, but was forced to turn out his bedding plants in the month of April and the beginning of May, and now there is continual grumbling because the plants, from the first chill, have never overtaken the plants of a neighbour that were not turned out until the end of May. Now in such a season as this has proved, we would have liked as well if our plants had been out earlier, so as to have been better established before the hot weather set in; but even these, planted in the last days of May and the first days of June, have stood remarkably well, and in our changeable climate, wherever much is to be done north of London, we would not care about planting out tender subjects before from the 18th to the 25th of May, and Colocua and Iresine we would not trust until the middle of June. We have proved that somewhat late planting is generally associated with a quick healthy filling of the beds. We have bedded-out in the beginning of April, but unless under orders would never think of doing so again, and then would free ourselves from all responsibility as to the plants thriving. One night's sharp frost might kill the whole, or make the plants unsightly for most of the season; and it is only fair that those who insist on such work being done prematurely, as well as on the dribbling system of watering, should be responsible for failures as well as successes.

We turn from these random remarks about responsibility, to say that if this heat continue we fear much for autumn Peas. As yet we have them tolerably fair; but we begin to think the heat will be too much for the late ones, even if water can be given them—that, unlike natural watering, giving none of the shelter of the cloud and the humid atmosphere. We have often enough been told of the fine green Peas gathered in the

open air at Naples on Christmas-day; but it would be interesting to know how such vegetables are obtained in the warmest parts of Italy and the south of France in July in such seasons as this.

Nothing could have looked better than several long rows of Scarlet Runners; but though these were mulched over the roots we found that the spikes of bloom were, instead of setting the pods, dropping the blooms nearly as fast as they opened. Looking on these as one of our best assistants for getting through the summer and autumn, we had them well drenched with sewage after stirring the ground, and then covered along each row with about 1 foot deep of dry litter. This has stopped the dropping of the flowers considerably, and furnished hopes for a good succession of gatherings; but yet there is a want of rich juiciness in the pods in use, very different from what they appear in a moist season.

Lettuce has been very good, and we shall have plenty for a little longer, but during the last two or three weeks young plants refuse to grow, and even when we can give a little water they come on so slowly, owing to the heat and dry atmosphere, that, resolved to have young growth if no other, we have cut-over a lot of strong plants that were showing their flower stems, and as the roots were well established we shall have lots of young offsets from these cut-over stools, until the weather permits us to have crisp Lettuces in the usual way.

Most of the complaints of failures with Mushrooms, such as young firm heads refusing to grow, and others that are larger going off and being infested with larvae, are owing to the heat. The Mushroom does best when the temperature of the air is little above 60°, and then a cool moist atmosphere, whenever and however obtained, is one of the essentials to success. In one shed thatched with straw, open on one side, and shaded by large trees, we have not been troubled with these evils. The sprinkling of walls and pathways will do much to moderate a high temperature. Out of doors we have secured this low temperature and a humid atmosphere round the Mushrooms by sprinkling the bed with old hay not good enough for cattle, and keeping that hay frequently syringed with water.

FRUIT DEPARTMENT.

Apples and Pears, with not enough of rain drops to damp the foliage, have swelled freely of late, and in most cases the foliage is good. Raspberries have given us little more than the first good gatherings; the ground then became too dry to swell the succeeding crops, and the watering we could give could not benefit them. Red Gooseberries, which we used to keep late, are looking as if they needed to be picked, and even bushes in a border on the north side of a wall are looking distressed and want what we cannot give them. Orchard houses have needed an endless amount of watering to bring to maturity the heavy crops in pots and otherwise. We have used sawage at the roots for these trees, and against the wall freely, and with no injury, but our great want at present is clean water for syringing. We keep the surface of the ground wetter because we cannot throw much water on the foliage. In fact, water not quite clear does as much harm as good. Had we a good store even of water a little muddy, we would make a rough filter for ourselves by means of a barrel, but that at present is hardly worth doing until the supply is larger. Planted out Melons for a late crop, and thinned the wood of Fig trees to give a better chance to the second crop.

ORNAMENTAL DEPARTMENT.

Some of our best flower beds are rather disfigured by the attacks of the fly on nice edgings of variegated Arabis, white and yellow. We never had them injured by fly before. They will look dirty and dull until fresh leaves are formed. As yet we never had Brilliant scarlet Pelargonium better, and with just a little water once in ten days; but fine rows look as if they would suffer from a downpouring, and then some days would elapse before the flowering was as dense again, as, though healthy, the plants have made little growth for the last month. To what was said in recent numbers about florists' Pelargoniums, Cinerarias, Primulas, Balsams, Cockscombs, &c., we will merely add some remarks as to saving the seed of the best kinds of large-flowering herbaceous Calceolarias. An "AN OLD SUBSCRIBER" is anxious to keep his old plants, so as to secure the kinds, we advise him to give up all thoughts of saving his plants, which he has now in 8-inch pots. We would proceed thus:—Take these pots to the shady north side of a fence, cut down the plants a few inches from their bottom—that is, a little above the rim of the pot; clean the stumps and leaves left, take away the surface soil, put in as high as the rim of pot light rich sandy soil, as sandy loam and leaf

mould, plunge or part plunge the pots, give a good watering and merely sprinkle the surface frequently. Before long young shoots will come from the bottom, either as suckers or otherwise; take these off when 2 or 3 inches in length, pot separately in the smallest pots, shade, and otherwise encourage at first, shifting into larger pots in autumn and winter as the plants may require. You may thus have plants of any size before May, and that for their health and beauty would far surpass those obtained by any other treatment of the old plants.—R. F.

COVENT GARDEN MARKET.—AUGUST 5.

We are again obliged to have recourse to a foreign market for a supply of good Cos and Cabbage Lettuces, our own growth offered here being very poor indeed. Those imported are, on the contrary, remarkably good. With the exception of Apples, Pears, and Plums, very little fruit is offered. Filberts are good, and the crop is also good, but Cob Nuts are not so promising. We are now without any Cauliflower, a thing almost unknown in any former year.

FRUIT.

	s. d.	s. d.		s. d.	s. d.			
Apples ½ sieve	1	6	0	Melons..... each	3	0	6	0
Apricots doz.	2	0	4	Nectarines..... doz.	4	0	8	0
Cherries lb.	0	0	0	Oranges..... 100	12	0	0	0
Chestnuts..... bush.	0	0	0	Peaches.....doz.	6	0	12	0
Currants.....½ sieve	4	0	0	Pears (dessert) .. doz.	2	0	0	0
Black..... doz.	4	0	5	Pine Apples..... lb.	3	0	5	0
Green..... doz.	4	0	8	Plums..... ½ sieve	5	0	6	0
Filberts.....lb.	1	0	0	Quinces..... doz.	0	0	0	0
Cob..... lb.	0	9	1	Raspberries.....lb.	0	0	0	0
Gooseberries . . quart	0	0	0	Strawberries... per lb.	0	0	0	0
Grapes, Hothouse..lb.	2	0	5	Walnuts..... bush.	10	0	18	0
Lemons..... 100	8	0	12	do. per 100	1	0	2	6

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... doz.	3	0	to	6	0
Asparagus.....100	0	0	0	0	0
Beans, Kidney ½ sieve	4	0	5	0	0
Beet, Red..... doz.	2	0	8	0	0
Broccoli..... bundle	0	0	0	0	0
Bras. Sprouts ½ sieve	0	0	0	0	0
Cabbage..... doz.	1	0	2	0	0
Capsicums..... 100	3	0	0	0	0
Carrots..... bunch	0	6	1	0	0
Cauliflower..... doz.	0	0	0	0	0
Celery..... bundle	1	6	2	0	0
Cucumbers..... each	0	4	1	0	0
Endive..... doz.	2	0	0	0	0
Fennel..... bunch	0	3	0	0	0
Garlic..... lb.	0	8	0	0	0
Herbs..... bunch	0	3	0	0	0
Horsradish .. bundle	3	0	5	0	0
Leeks..... bunch	0	4	to	6	0
Lettuce..... per score	2	0	4	0	0
Mushrooms..... pottle	3	0	4	0	0
Must.& Cress, punnet	0	2	0	0	0
Onions per doz. bchs.	6	0	0	0	0
Parsley.....per sieve	3	0	4	0	0
Parsnips..... doz.	0	9	1	0	0
Peas.....per quart	0	9	1	6	0
Potatoes..... bushel	4	6	6	0	0
Kidney..... do.	4	4	7	0	0
Radishes doz. bunches	0	0	0	0	0
Rhubarb..... bundle	0	0	0	0	0
Sau-kale..... basket	0	0	0	0	0
Shallots..... lb.	0	8	0	0	0
Spinach..... bushel	0	0	0	0	0
Tomatoes..... per doz.	1	0	2	0	0
Turnips..... bunch	0	6	1	0	0

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

ANTIRRHINUM BLOOM (*Overdressed*).—The post-office punches effectually prevented our observing whether the flower was abnormal. It was quite smashed.

CARNATION SEEDLINGS (*W. B.*).—We have received the stamps. The flowers were too withered by the heat for a relative judgment to be formed.

LILIUM LANCEFOLIUM—FUCHSIA TRAINING (*W. B.*).—Lilium lancifolium is hardy, therefore ought not to be exhibited as either a stove or greenhouse plant. We quite agree with you that Fuchsias are most graceful when grown in a pyramidal form with a single stem, and the branches untrained. If we were to award prizes we would give them to specimens without sticks, though those with sticks were rather superior.

PANSIES (*F. J.*).—Your Pansies are of the average kind, but too faded to be identified. Take cuttings for plants to flower in the spring, the young plants produce the finest flowers.

EXUDATION ON GRAPES (*Diadem*).—The exudation and disturbed bloom are probably caused by the excessive heat of the house, and the air being too dry. More moisture both at the roots of the Vine and in the air would prevent it.

SAND—PEAT—SPHAGNUM (*Fred*).—We have examined the specimens supplied by Mr. W. Short, Horticultural Depot, Reigate, Surrey, and they are all good. As he supplies these either in large or small quantities, his depot is a great convenience.

PLANTING A GRAVE IN THE EAST INDIES (*J. W.*).—No one could advise you, the locality being "unknown." It may be near the snow in the Himalayas, or it may be in the torrid temperature of the Bengal plains. The acorns and Horse Chestnuts you mention certainly would not succeed.

PLANTING STRAWBERRIES (*A Young Gardener*).—Select an open situation away from the shade of trees or buildings, thoroughly trench the ground to the depth of 2 feet, working in a liberal dressing of manure, breaking any clods, and otherwise well mixing the soil and manure. The ground may be made firm by treading, particularly in your case, as from being newly trenched it will be open and light. The ground must not be trodden if the weather is wet, as doing so will only tend to render it a compact mass. Plant after the first rain, the earlier the better. The

advice as to not digging the beds at any time after planting is sound, good top-dressings of manure being given.

POT PEACHES AND FIGS FLAVOURLESS (*J. Pim*).—We cannot account for the fruit of Peach and Fig trees in pots having no flavour when ripe, unless they have been either over-watered or over-shaded. Orchard houses will do much, but not impossibilities. If the roof be covered with Vines, there will not be enough of direct sunlight to give flavour to the crops beneath. We should think if your Vines are fully exposed there will be no want of flavour in the ripening fruit.

PEACH TREE MILDEWED (*Probe*).—The Peach leaves (No. 1), are infested with mildew. Give a good syringing, and dust the leaves and the parts of the shoots infested with the white powder-like fungus with flowers of sulphur. The cause of mildew appearing is not known, but the fungus is destroyed by dusting with flowers of sulphur. Give more liberal supplies of water to the roots, occasionally a thorough syringing, and admit air freely.

PLUM TREE INFESTED WITH RED SPIDER (*Idem*).—The Plum leaves (No. 2), are attacked by red spider. Syringe the tree forcibly with a solution of 2 ozs. of soft-soap to the gallon of water, directing the water against the under sides of the leaves, wetting the tree thoroughly in every part. This should be done in the evening, and repeated within a week. The roots should have a thorough watering with water, or, better still, weak liquid manure, mulching the ground around the tree with half-rotten manure.

CUTTING-BACK MIGNONETTE (*Idem*).—You may cut back the shoots of Mignonette that have flowered, leaving space for the new shoots, and the plant will flower freely on the young shoots. It is a half-hardy perennial.

OREANDERS FLOWERING TWICE (*Spider*).—We cannot agree with you that your plant has flowered twice. We understood you to say that your plant had two shoots springing from the side of the flower spike, and that these had at their apex a prominence. You now say they were flower buds, therefore, the first flowers were borne by the wood of the previous year, and the succeeding flowers on the wood of the current year. This is not unusual, but the shoots so producing flowers have in the apex in the previous year embryo flower buds, and they elongate, and, of course, flower in the ensuing season. We have plants now in splendid bloom, both on shoots that have not grown at all this season, and on those that have, and on these plants there are many shoots of the current year that had not last year prominent apices, and these have not and will not flower this season, though the flowers exist now in the form of a prominent bud in the apex, but will grow a little next spring and bloom finely. It was to these buds that our remarks applied, whilst you applied them to buds in a forward state for development, and not as embryo flower buds.

RED SPIDER ON VINES (*Idem*).—You may have yellow leaves and not now have red spider, for the leaves once made yellow by red spider will not again become green. We presume you not only applied sulphur to the warmed vines, but gave a good syringing afterwards. The application being ineffectual it should be repeated, as this inveterate enemy is only to be overcome by persevering resistance. The guano remedy is an effectual one, and so are all the others, as we have proved by experience.

CROCUS SEED SOWING (*Idem*).—The seed of the Crocus may be sown from this time to October, the sooner the better, in a bed of rich, rather sandy soil, placing the seeds thinly on the fine surface, and covering them with about a quarter of an inch of fine soil. You will have bulbs by the following autumn. When the foliage decays take them up, and replant them the same day in lines 6 inches apart, and 3 inches from bulb to bulb in the lines, covering them about an inch deep with fine soil. When the foliage appears mulch between the rows with decayed leaves or short manure, and leave them in this bed until they flower, keeping them clear of weeds, and stirring the soil between the rows in autumn. Do not remove them again until they flower, then take them up and plant them where required.

CUCUMBER PLANTS INFESTED WITH MEALY BUG (*Apprentice*).—The only means that we know likely to keep the mealy bug under in your case will be to give the plants a few good syringings with water at a temperature of 120°. This, and hand-picking, will enable you to keep the bug in check until the plants have done bearing, and then give the house a fumigation with sulphur, and a thorough cleaning.

BITTER CUCUMBERS (*S. E. B.*).—The chief cause of bitterness in Cucumbers is their being grown slowly. To have them sweet they should be grown quickly and cut young. We would never send to table at this season a Cucumber of more than ten-days growth, and we do not care to have them of greater size than will be cut up at once. Large Cucumbers are no longer sought after, and yet a large Cucumber may be good, only cut it whilst young.

CUCUMBER CULTURE (*H. B.*).—You will never have good Cucumbers at such a temperature, 80° to 90° at night, and 100° during the day. In such weather, except by syringing the walls and shading, you cannot have a much lower temperature during the day; but with air the highest should, if possible, range from 80° to 90°. At night there need be no difficulty, as the thermometer out of doors is seldom above 70° at night, and from 65° to 70° will suit them better than from 80° to 90°.

PEACH TREES UNFRUITFUL (*An Amateur*).—Your trees are very vigorous. You could not do anything to promote their fruit-bearing in autumn or winter, but you may now do so by stopping the shoots for next year's bearing at 12 inches, and when they push laterals pinch out their points after they have made a leaf, and keep them closely pinched-in to one leaf as often as new growths are produced. The shoots should not be left closer on the branches than 9 inches or a foot apart, and the branches ought to be fully that distance from each other. The leading shoots or main branches should not be stopped but trained-in at their full length; any laterals appearing on them should be stopped at the first joint or leaf, and immediately above it.

BIGARREAU CHERRY NOT STONING (*Idem*).—After the fruit is set give a good watering with liquid manure, and mulch around the stem for a distance of 2 or 3 feet with 2 inches in depth of short manure, cow dung being best, continuing the waterings during dry periods until the fruit begins to ripen. The curling of the bark is peculiar to the tree.

COVENT GARDEN MEASURES (*S. T.*).—A Punnet for Mushrooms is 7 inches by 1 inch; Sau-kale punnets 8 inches in diameter at top, 7½ inches at bottom, and 2 inches deep; Radish punnets 8 inches in diameter at

top and 1 inch deep to hold six bands, or 9 inches by 1 inch to hold twelve bands; salading punnets, 5 inches by 2 inches. *A Half Sieve* contains 3½ imperial gallons, and averages 12½ inches in diameter and 6 inches in depth. *A Sieve* contains 7 imperial gallons. Diameter, 15 inches; depth, 8 inches. *A sieve of Peas* is equal to 1 bushel; *a sieve of Currants* to 20 quarts. *A Bushel Sieve*, 10½ imperial gallons. Diameter at top, 17½ inches; at bottom, 17 inches; depth, 11½ inches. *A Bushel Basket* ought when heaped to contain an imperial bushel. Diameter at top, 14 inches; at bottom, 10 inches; depth, 17 inches. Walnuts, Nuts, Apples, and Potatoes are sold by this measure. A bushel of the last-named cleaned weighs 56 lbs., but 4 lbs. additional if they are not washed. *A Pottle* is a long tapering basket that holds rather over a pint and a half. A pottle of Strawberries should hold half a gallon, but never holds more than 1 quart; a pottle of Mushrooms should weigh 1 lb. *A Hand* applies to bunches of Radishes, which contain from twelve to thirty or more, according to the season. *A Bundle* contains from six to twenty heads of Broccoli, Celery, &c.; Sea-kale, twelve to eighteen heads; Rhubarb, twenty to thirty stems according to size; and of Asparagus, from 100 to 125. *A Bunch* is applied to herbs, &c., and varies much in size according to season. A bunch of Turnips is twenty to twenty-five; of Carrots, thirty-six to forty; of Greens as many as can be tied together by the roots. Grapes are put up in 2-lb. and 4-lb. punnets; new Potatoes by the London grower in 2-lb. punnets. Apples and Pears are put up in bushels, sieves, or half-sieves. *A Hundredweight* of Kentish Filberts is 104 lbs. Weights are always 16 ozs. to the pound. Being often made of osier or deal shavings the measures vary triflingly in size.—(*Hogg's Year-book for 1868*.) Your other question shall be attended to in a week or two.

GOURDS (H. C.).—The cultivation of Gourds does not differ from that of the Vegetable Marrow. All they require is to be sown in heat, to be grown in pots, and planted out at the end of May in good rich soil over a slight hotbed, making choice of a warm situation, sheltered from winds. The varieties you name may be edible, but we have no experience of them in that way.

SOWING CARNATION SEED (Idem).—The present is not a good time for sowing Carnation seed. It is best sown in April. Seed sown now will hardly furnish plants sufficiently strong for blooming next year.

THRIPS ON CINERARIA LEAVES (A. S. A.).—At first we thought your Cineraria leaves were scorched, or rather scalded, by hot vapour, the result of not giving air early enough, but on closer inspection we found traces of where we think thrips had been, though no insects. In that case you must smoke and shade, as well as give air early.

VINE LEAVES SHADING GRAPES (Idem).—Never mind the Vine leaves shading the bunches, at least, cut away no large leaves, but if the shade is very dense thin out the laterals and some smaller leaves. The thickness of a leaf will benefit the branches rather than otherwise.

MUSHROOMS NOT SWELLING (J. R. Boyd).—The chief reason why the Mushrooms do not swell is the excessive heat. We do not think the watering over the hay would be so injurious. A light covering of hay, and that frequently just sprinkled with water, would be so far in their favour that the beds would be kept cooler. If you think the beds are rather wet remove all the hay covering, brush the bed lightly with a hair brush, and suspend a few inches above the bed a mat or cloth, and this and the walls, &c., sprinkle or rather dew with water to produce a colder atmosphere by evaporation. We think that then your pin-head Mushrooms will become larger and grow. Much heat for many things is as prejudicial as too much cold; indeed, we have had good Mushrooms from beds slightly frosted.

HEATING A SMALL PLANT STOVE (X. Y. L.).—We presume the fire-place is to be in your small house, and if not well sunk you may have a difficulty with back draught at times. The flue we should think quite sufficient for such a small house, and more especially if you confined your attention to Cactuses and other succulents. Your hot-water cistern would be useful if you also grow softwooded stove plants; but a small

house confined to succulents alone would be more unique and interesting. You do not say how the cistern is to be heated. A square iron stove, with a pan of water set on the top, and a pipe-chimney into the open air, would be the simplest mode of heating such a house for succulents.

SELECT ROSES (Devonensis).—“I have not cultivated Marie Bauman, Marie Lady, and Monsieur Noiman; but I mean to buy the first and third, and also François Trevoe. The last is much recommended to me. With regard to Madame Charles Wood, Olivier Delhomme, and Beauty of Waltham, I may say that Madame C. Wood is a fine large platituda; Olivier Delhomme did not grow well with me; and Beauty of Waltham was not so good as Lady Suffolk. As regards Le France, it is distinct and pretty. It has, however, a long limp neck and reflexed petals. It is a free and quick bloomer. I recommend in all respects Prince de Portia (or Porcia). Its colour is a fine vermilion red. The growth and foliage is good. Antoine Ducher is also a fine Rose, of strong growth, and with fine foliage. In the line of rose colour I think well of Mlle. Jeanne Marix, and the new Rose Madame Alice Dureau. They promise well, but I must see more of them before I can give them a certificate. I merely call attention to these last two Roses. I never saw better growth, health, and foliage than in Jeanne Marix.—W. F. RADCLIFFE.”

GRAPES MARKED (An Old Subscriber).—The berries are what gardeners call “rusted.” They usually consider it to be caused by handling the berries, or rubbing of the hand against them in the process of thinning. We do not think these are the causes, but exposure, especially when moist and in a high temperature, to sudden cold draughts of air.

TOBACCO GROWING (G. A.).—1, Removing the flowers will tend to increase the size of the leaf, but it is seldom if ever practised. 2, The round thick leaves are the best and strongest, but the others are good. 3, The best plan of drying is that you name, only we think it well to dry the leaves as your gardener does, then damp them, placing in layers in a box, and under pressure for a time until they warm, then take them out and shake them out to cool, placing them on shelves to dry, and when dry store them away in boxes or tubs. 4, The temperature is immaterial, only keep the tobacco dry. 5, Of the use of the flowers picked off we are not aware. 6, The growing of tobacco for fumigating purposes is lawful, only you must not grow more than a certain number of plants, and it may be given away the same as any other article.

WATER IMPREGNATED WITH IRON (D. R. C.).—The water although coming a distance will not be injuriously affected by the iron pipes. If it does dissolve any of the oxide of iron, exposure in the cistern will free it from the impurity. We use water from closed iron tanks, and have no bad results. Putting lime in the cistern is not desirable.

SALVIA ARGENTEA SEED SOWING (Idem).—The seed should be sown next March in a hotbed. By pricking out the seedlings when large enough to handle, and growing them in heat, you will have at the end of May plants suitable for planting out then. They should be well hardened-off prior to doing so.

LOAM BECOMING HARD (Idem).—There is nothing in tidal water that would injure the loam. The soil is deficient of sand, and is naturally too tenacious. You may improve it by adding sand and limy rubbish liberally.

NAME OF FRUIT (S. A.).—We cannot identify your Apple.

NAMES OF PLANTS (Joseph).—We cannot undertake to name the varieties of florists' flowers. They are too numerous and too nearly alike. (*A. R.*),—*Campanula hetericifolia*, *Hedysarum coronarium*. (*A. S. F.*),—*Ceratopetalum gummiferum*, *Æschynanthus speciosus*. (*Jane*),—*Lathyrus sylvestris* (narrow-leaved). (*A Cottage*, *Thirk*),—*Tanacetum vulgare* (Common Tansy). (*T. H. C. D.*),—*Eryngium alpinum*. (*Essex*),—*Pteris serrulata*. (*M. T. F.*),—1, *Rottinospira pisifera*; 2, *Lastrea Flix-mas*; 4, *Salaginella Martensii*. (*J. Murray*),—*Potentilla tormentilla*. (*H. Wright*),—*Dipsacus fullonum*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending August 4th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 29	29.684	29.638	67	43	69	67	S.	.00	Overcast; dull and cloudy; cloudy, fine at night.
Thurs.. 30	30.012	29.949	80	66	65	65	S.W.	.00	Clear and fine; very fine; cloudy, very dull.
Fri... 31	30.068	30.038	79	41	70	65	N.E.	.00	Fine; very fine; dark and cloudy at night.
Sat... 1	30.270	30.195	83	56	72	67	S.	.00	Very fine; clear and fine; densely clouded.
Sun... 2	30.106	30.056	85	59	71	67	N.E.	.00	Clear and fine; very fine, cold wind; cloudy.
Mon... 3	30.011	29.934	83	60	70	67	S.E.	.00	Very fine; clear and fine; very fine at night.
Tues... 4	29.977	29.878	87	55	72	67	S.E.	.00	Hazy; very fine, hot and dry; clear and fine at night.
Mean	30.018	29.949	80.57	54.43	69.85	66.43	..	0.03	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

GAME FOWLS FOR EXHIBITION.—No. 2.

GAME fowls that run too high in flesh on their walks when about to be exhibited should be taken up and penned for a week or two, and their diet reduced to one moderate meal of corn a-day, with a certain proportion of green food. This also accustoms them to penning before exhibition, as well as to handling, and renders them tamer and quieter. Care, however, should be taken that the two hens are not quarrelsome, also that the cock's sickle feathers do not get broken while in the pen.

Birds that are in proper condition and not too fleshy on

their walks, do not require any dieting, and need only be penned for a short time to accustom them to being so, to tame them a little, and to see that the hens agree well.

Just before putting the fowls up for exhibition some give them a “sherry or port sop,” pretty strong, with their last feed, or some toast steeped in strong ale, which is not a bad plan before sending them on a long journey to shows. Some give a proportion of hard peas with the feeds of corn for months before exhibiting them, and some always feed them in this way.

Game fowls on lonely country walks sometimes become too shy of people for exhibition, the hens being too timid and frightened; but Game cocks being of a bold disposition soon get over this. For this reason lonely walks are, perhaps, bad for exhibition birds, though otherwise good in almost all respects.

Feeding Game fowls too high is a great mistake, and they should forage for themselves as much as possible, but they should have one good meal of solid corn in the morning or middle of the day. In frosty, cold, or snowy weather they should have two or three good corn feeds daily. Young and growing chickens should, however, be always fully fed, though never wastefully overfed. Game fowls are economical feeders.—**NEWMARKET.**

POSTING LISTS OF PRIZES AWARDED.

"If money were as certain as your waiting,
'Twere sure enough."—*Shakespeare.*

The poultry shows are coming thick upon us. May I ask for a corner in your valuable paper just to state a practical grievance which I am constantly made to feel, but which I think ought not to exist? An instance will explain my meaning as well as a thousand words.

I sent on July 23rd two pens of fowls to Grantham. When I entered the birds I enclosed money for a catalogue with list of awards, and I requested as politely as I knew how, that the Secretary would kindly forward the same as early as possible. This is July 28th, and I have received no catalogue, my birds were returned safely, and in good time and condition, and for this I am thankful. The hampers contained no commendation ticket, and so I suppose I was not among the fortunate exhibitors; but surely it is not fair under the circumstances that I should be kept so long in suspense. The secretary of a show has, of course, too much to attend to on the day of exhibition to send off personally the catalogues which have been ordered and paid for; but it certainly does seem a simple thing to get a sharp intelligent boy who in one hour, and for sixpence, would fold, direct, and post all that were required. This might be done before the early post went out, and thus exhibitors living at a distance would know the next morning how they stood, and much chagrin and dissatisfaction would be avoided.—**P. P.**

DURHAM COUNTY POULTRY SHOW.

THE twenty-fifth annual Exhibition in connection with the Durham County Agricultural Society was held on the 31st ult., at the ancient borough of Hartlepool, under most favourable auspices, and has proved a highly successful Show. Subjoined is the list of prizes for poultry.

SPANISH.—First, T. Blackburn, Northallerton. Second, — Bearpark, Northallerton. *Chickens.*—First, — Bearpark. Second, R. Hawkins, Seaham.

DORRINGS.—First, J. White, Warlaby. Second, D. Rutter, East Rainton. *Chickens.*—First, J. White. Second, G. H. Procter, Durham.

COCHIN-CHINA.—First and Second, G. H. Procter. *Chickens.*—First and Second, G. H. Procter.

BRAMA POOTRA.—Prize, Mrs. A. M. Burdon, Castle Eden.

HAMBURGS (Silver-pencilled).—First, — Bearpark. Second, W. Lawrenson. *Chickens.*—First, — Bearpark. Second and Commended, J. White.

HAMBURGS (Gold-pencilled).—First, J. Webster, Whithy. Second, — Bearpark. *Chickens.*—First, J. Webster. Second, — Bearpark. Commended, T. Boddum, Hetton-le-Hole.

HAMBURGS (Black).—First, T. B. Burdon, West Hartlepool.

HAMBURGS (Gold-spangled).—First, — Bearpark. Second, W. Whitfield, Hetton-le-Hole. *Chickens.*—First, J. Bell, Thornton-le-Moor, Northallerton. Second, W. Whitfield.

HAMBURGS (Silver-spangled).—Prize, — Bearpark. *Chickens.*—First, Bearpark. Second, W. Mansfield.

GAME (Black-Reds).—First, T. Horne, Tow Law. Second, R. Just. *Chickens.*—First, T. Horne. Second, R. Hawkins, Seaham. Commended, T. Blackburn, Northallerton.

GAME (Any other variety).—First, R. Hawkins. Second, J. Wilson, Whitworth Woodhouse. Commended, R. Goldsborough, Hilton. *Chickens.*—First, W. Nunningdale. Second, T. Hearne. Commended, R. Goldsborough.

GAME BANTAM.—First, J. Gales, Kirby. Second, A. Baglass, Carvill. *Chickens.*—First, T. Horne, Tow Law; J. Wilson, Whitworth Woodhouse. Commended, W. Mansfield, Thirsk; A. English; W. Lawrenson.

BANTAM (Any other variety).—Second, R. Emerson, Stokesley. *Chickens.* First, A. Baglass. Second, F. Wilson, Hartlepool.

DUCKS (Rouen).—First, T. B. Burdon, West Hartlepool. Second, O. Trebbam, Hartlepool. *Ducklings.*—Second, P. Easton, Hart.

DUCKS (Aylesbury).—First, Mrs. A. M. Burdon, Castle Eden. Second, R. Just, Stainton. *Ducklings.*—First, Miss Smith, Stokesley. Second, J. Storey, Pictou.

ANY OTHER VARIETY.—First, Mrs. A. M. Burdon. Second, Rev. J. G. Milner, Bellerby.

BRIDLINGTON POULTRY SHOW.

THE annual Show of this Society took place on Wednesday, the 29th of July, and proved a decided success, the attendance of visitors being more numerous than at any previous Exhibition.

COCHIN-CHINA.—First, Miss E. Creyke, Bridlington. Second, O. A. Young, Driffield.

DORRINO.—First, G. Holmes, Driffield. Second, D. White, Driffield.

SPANISH.—First, G. Holmes. Second, H. Merkin, Driffield.

GAME.—First and Second, W. Charter.

POLANDS.—First, Mrs. Procter, Hull. Second, O. A. Young.

HAMBURGS (Gold-spangled).—First, G. Holmes. Second, J. Blanchard, Driffield.

HAMBURGS (Silver-spangled).—First, G. Featherstone, Tranby Park Lodge, Hessle. Second, G. Holmes.

HAMBURGS (Golden-pencilled).—First, G. Holmes. Second, A. Haze, Barnston.

HAMBURGS (Silver-pencilled).—First and Second, G. Holmes.

BANTAMS (Any variety).—First and Second, R. Robson, Hull.

BANTAMS (Distinct variety).—*Chickens.*—First, G. Holmes. Second, J. Blanchard.

SINGLE COCKS.

COCHIN-CHINA.—First, Miss E. Creyke. Second, W. Smith, Bridlington.

DORRINO.—First, J. O. Young. Second, W. Charter, Driffield.

SPANISH.—First, G. Holmes. Second, R. Wilson, Carnaby.

GAME.—First, O. A. Young. Second, J. Woodhouse, Bridlington.

BANTAM (Any variety).—First, R. Robson. Second, W. Charter.

GEESE.—First and Second, O. A. Young.

TURKEYS.—First, H. Merkin, Driffield. Second, Mrs. Pepper, North Frodingham. *Poult.*—First, Mrs. Pepper. Second, Mrs. Brumpton, Mount Pleasant, Muston.

DUCKS (Aylesbury).—First, O. A. Young. Second, J. Smith, Bridlington. *Ducklings.*—First, O. A. Young. Second, J. Smith.

DUCKS (Any variety).—First, O. A. Young. Second, G. Holmes.

GUINEA FOWL.—First, G. Holmes. Second, O. A. Young.

PIGEONS.—Croppers.—First, B. Key, Beverley. Second, W. Stark, Bridlington. *Tumblers.*—First, B. Key. Second, H. Payne, Cottingham.

Fantails.—First, H. Payne. Second, R. Smith, Bridlington. *Jacobins.*—First, B. Key. Second, H. Payne. *Any New or Distinct Variety.*—First, O. A. Young. Second, B. Key.

RABBITS (Any breed).—First, J. Tucker, Bridlington Quay. Second, W. Charter.

FANCY RABBIT.—Prize, W. S. Hornby, Clifton Garth, York.

The Judges for poultry were—Mr. S. Bellby, Beverley, and Mr. J. Falkner, Hunmanby.

GOOLE POULTRY SHOW.

THIS was held July 30th, in a large enclosure known as Lock Hill, whence there was a fine view far down the river and of the hills beyond. The site selected was excellent, for the cooling breeze from the river helped to modify the scorching heat, which otherwise would have been unbearable. The Committee, in addition, had taken the precaution of irrigating the whole of the ground on the day previous to that of the Show, so that it formed on the whole a not-at-all-disagreeable promenade.

Besides the show of Poultry and Pigeons, Rabbits and cage birds were also exhibited, but not having received a list of awards to the last two we are unable to state who were the prizetakers. The attendance of visitors was large, and it is hoped that the funds will in consequence be so much augmented that the Committee will be able to offer more tempting prizes at future meetings. The thanks of the exhibitors generally are due to the Honorary Secretaries, Messrs. Bromley and Sutton, for the great regularity and skill with which the arrangements were carried out.

Spanish, Dorkings, and Cochins were but poor, but *Game* were shown in decent trim, considering the season, and the cap pen of Mr. Julian was well worthy of its position. Excellent *Hamburgs* were shown by Messrs. Beldon, Jessop, and White. *Polish* were faultless, and the *Crève-Coeurs* were very fine.

Among single hens *Spanish* were first, and *Golden-spangled Hamburgs* second.

The single cocks were not good, and the chickens poor, except the first-prize *Spanish* of Messrs. Newhitt.

Game Bantams were but moderate, excepting the first-prize pen, which was perfect. *Geese* and *Turkeys* were good, and some extraordinary *Rouen Ducks* and *Guinea Fowls* were also shown.

Among *Pigeons*, the *Carriers, Pouters, and Tumblers* were very good, but the *Barbs* were poor. The *Jacobins* were all that could be desired, and an extra-second prize was awarded. The same may also be said of the *Trumpeters* and *Fantails*. An excellent pen of *Red Turbits* was first, and *Silvers* second. *Owls* and *Nuns* had each an entry, but the birds were very poor.

The following is a list of the awards for Poultry and Pigeons:—

SPANISH.—First, T. C. & E. Newhitt, Epworth. Second, J. Thresh, Bradford. Highly Commended, S. Robson, Brotherton.

DORRINGS.—First, H. Beldon, Bingley. Second, Dr. Horstfall, Carlton Grange.

COCHIN-CHINA.—First, H. Beldon. Second, J. L. Williams, Goole. Commended, W. Watson, Howden Dyke; Dr. Horstfall.

GAME (Black-breasted and other Reds).—First, F. Sales, Crowle. Second, E. Aykroyd, Bradford. Commended, W. Hawksworth, Goole.

GAME (Duckwings and any other variety).—First, H. M. Julian, Hull. Second and Commended, J. Rensson, Holme-on-Spalding-Moor.

GAME (Any variety).—Cup, H. M. Julian. Highly Commended, F. Sales.

HAMBURGH (Golden-spangled).—First, H. Beldon. Second, J. White, Whitley, Netherton, near Wakefield. Highly Commended, S. Smith, Northorham.

HAMBURGH (Silver-spangled).—Prize, H. Beldon.

HAMBURGH (Gold-pencilled).—First, J. R. Jessop, Hull. Second, H. Beldon. Highly Commended, S. Smith.

HAMBURGH (Silver-pencilled).—Prize, H. Beldon.

POLISH (Any variety).—First and Second, H. Beldon.

ANY OTHER PURE OR DISTINCT BREED NOT PREVIOUSLY CLASSED.—First and Second, H. Beldon (French and Brahma).

ANY VARIETY.—*Hens.*—First, J. Throsh. Second, T. C. & E. Newbitt Commended, J. Ellwood. *Cock.*—First, F. Sales. Second, R. Thornton, Gosla. *Chickens.*—First and Second, T. C. & E. Newbitt (Black Spanish and Golden-spangled Hamburgs). Highly Commended, J. Kennison, Holme-on-Spalding-Moor. Commended, J. Hirst.

GAME BANTAMS.—First, W. F. Eatwistle. Second, W. Clayton, Howden.

BANTAMS (Any variety except Game).—First, T. C. Harrison, Hull. Second, J. K. Jessop, Hull.

GAME BANTAMS.—*Cock.*—First, A. Braham, Pottornewton. Second, H. Beldon. Commended, W. F. Eatwistle; W. Clayton; J. Rogers, Gooles; S. Smelt, Beverley; T. Scott.

EXTRA.—Highly Commended, J. L. Williams (Cochins).

GENE.—Prize, J. White, Whiteley, Netherthorpe.

TURKEYS.—Prize, Dr. Horsfall, Carlton Grange.

DUCKS.—Prize, J. White. Highly Commended, T. C. Harrison. Commended, J. L. Williams; — Indie, Sand Hall.

GUINEA FOWLS.—First, T. C. Harrison. Second, C. Haycroft, Thorne.

PIGEONS.

CARRIERS.—First, J. Thompson, South. Second, J. Hawley. Highly Commended, S. Robson. Commended, H. Strickland, South.

CROPPERS.—First, S. Robson. Second, T. C. & E. Newbitt. Highly Commended, J. Hawley; S. Smelt. Commended, J. Hawley; J. Thompson.

TUMBLERS.—First, J. Hawley. Second, J. Thompson. Extra Second, C. Gravil, Thorne. Highly Commended, J. Hawley; T. C. & E. Newbitt, Commended, P. Cowling, Swinefleet.

BARBS.—First, J. Hawley. Second, J. Thompson.

JACOBS.—First, J. Hawley. Second, J. Thompson. Extra Second, T. C. & E. Newbitt. Highly Commended, J. Thompson.

TRUMPETERS.—First, S. Robson. Second, J. Hawley. Extra Second, T. C. & E. Newbitt. Highly Commended, J. Thompson; H. Strickland. Commended, J. Hawley; J. Thresh.

OWLS.—Prize, J. Thresh.

TURBITS.—First, J. Thompson. Second, J. Hawley. Highly Commended, T. C. & E. Newbitt.

FANTAILS.—First, T. C. & E. Newbitt. Second, J. Hawley; R. J. Bull. Highly Commended, J. Thompson; J. Hawley; T. C. & E. Newbitt.

NUNS.—Prize, J. Thompson.

The Judge was Mr. E. Hatton, Pudsey.

HASLINGDEN POULTRY SHOW.

At this Show, held July 30th, there was an increase over other years in every department, the entries being 270 more than any year before. The subscribers are also more, and the visitors were some two thousand more than usual. There were nine thousand people on the ground. The following is a list of the awards:—

COCHIN-CHINA.—First, W. A. Taylor, Manchester. Second, C. Sidgwick, Keighley. *Chickens.*—First and Second, W. A. Taylor. Commended, C. Sidgwick.

COCHIN-CHINA (Any other variety).—First, T. Stretch, Ormskirk (Partridge). Second, C. W. Brierley. *Chickens.*—Cup, J. A. Taylor, Manchester. Second, J. R. Kobbard, Writington, near Bristol.

BRADMAS (Dark).—Cup, E. Leech, Rochdale. Second, C. Turner, Chester. *Chickens.*—First, G. H. Roberts, Preston. Second, G. Dixon, jun., West strand, Whitehaven. Commended, W. Goulding, Sale, near Manchester.

BRADMAS (Light).—First, H. Lacey, Hebden Bridge. Second, H. Dowsett, Pleshey, Essex. *Chickens.*—First, J. Pares, Posiford, near Guildford. Second, D. Causser, Erdington, near Birmingham. Highly Commended, J. Pares.

DOBBINGS (Any colour).—Cup, J. White, Warlaby, Northallerton (Grey). Second, C. W. Brierley. *Chickens.*—First, D. Gellatly, Meikle, N.E. Second, Mrs. M. Seamus, Aylesbury. Commended, J. Stott, Bealey, near Rochdale; J. Pickles, jun., Earby, near Skipton.

SPANISH (Black).—Cup, H. Beldon, Goitcock, Biogley. Second, J. Newton, Silsden, near Leeds. *Chickens.*—First, H. Beldon. Second, J. Walker, Wolverhampton.

SINGLE GAME COCKS (Any colour).—First, C. W. Brierley. Second, J. Fletcher, Stonecough, near Manchester. Third, W. Julian, Hull. *Within four miles of Haslingden (Any colour).*—First, J. Bownes, Newchurch (Brown Red). Second, G. C. Furness, Accrington (Pile). Commended, W. Westwell, Baxendun (Brown Red).

GAME.—Cup red Second, J. Fletcher. Highly Commended, L. Biney, Manchester. *Chickens.*—First, J. Fletcher. Second, W. Bourne, Hoerly, near Stockport (Brown Red). Highly Commended, H. Mann, stand (Black Red).

HAMBURGERS (Golden-pencilled).—First, H. Beldon. Second, H. Pickles, jun. *Chickens.*—First, H. Beldon. Second, S. Smith, Northowram, Halifax. Highly Commended, J. Robinson, Fildisworth.

HAMBURGERS (Silver-pencilled).—First, C. Haworth, Holme, Haslingden. Second, H. Beldon. *Chickens.*—Cup, H. Beldon. Second, J. Robinson.

HAMBURGERS (Golden-spangled).—First, E. Brierley. Second, W. Driver, Keighley. *Chickens.*—First, W. Driver. Second, S. & R. Ashton, Mottram.

HAMBURGERS (Silver-spangled).—Cup, H. Beldon. Second, J. A. Taylor, Manchester. *Chickens.*—First, H. Beldon. Second, W. Parr, Patricroft.

HAMBURGERS (Black).—First, C. Sidgwick, Keighley. Second, J. Robinson. *Chickens.*—First, C. Sidgwick. Second, J. Robinson.

ANY OTHER VARIETY.—First, H. Beldon (Polands). Second, L. Biney (Buff Polish). Highly Commended, R. G. New, Rainhill (Sultans).

SELLING CLASS (Any variety).—First and Second, W. A. Taylor.

GAME BANTAMS.—*Cock.*—First, W. F. Eatwistle, Leeds. Second, T. W. Morris, Rochdale. Third, J. J. Cousins, Chapelallerton, near Leeds.

GAME BANTAMS.—Cup, J. R. Robinson, Sanderland. Second, G. Charzley, Preston.

BANTAMS (Any variety).—First, T. Burgess, Brighouse, Yorkshires (Pekins). Second and Highly Commended, T. C. Harrison, Hull.

TURKEYS.—First and Second, E. Leech.

GENE.—First, T. Statter, jun., Whitefield. Second, E. Leech.

DUCKS (Aylesbury).—First, E. Leech. Second, Mrs. M. Seamus, Aylesbury.

DUCKS (Rouen).—First, T. Houlker, Blackburn. Second, E. Leech.

DUCKS (Any other variety).—First, C. W. Brierley. Second, S. & R. Ashton, Roe Cross, Mottram, Cheeshire (Carolinas).

DUCKS (Selling Class).—First, T. Houlker. Second, E. Leech. Highly Commended, T. Wakefield.

PIGEONS.

CARRIERS.—First, J. Hawley, Biogley. Second, G. H. Roberts' Penwitham.

TUMBLERS.—First and Second, J. Hawley. Highly Commended, J. Fielding, jun., Rochdale; J. Bromley, Bolton.

BARBS.—First, G. H. Roberts. Second, W. Hargreaves, Bacup.

OWLS.—Cup and Second, J. Fielding, jun. Highly Commended, F. Graham, Birkenhead.

CROPPERS.—First, J. Hawley. Second, H. Yardley.

FANTAILS.—First, J. Hawley. Second, H. Yardley.

TURBITS.—First, T. Newell, Ashton-under-Lyne. Second, Jesse Thompson, Bingley.

DRACOONS.—First, B. Carlisle, Rishton. Second, F. Graham.

TRUMPETERS.—First, Jesse Thompson. Second, J. Hawley.

ANTWERPS.—First, H. Yardley. Second, J. Hawley.

ANY OTHER VARIETY.—First, Jesse Thompson (Red Jacobins). Second, T. Keayon, Accrington (Black Magpies).

DRIFFIELD POULTRY SHOW.

THIS Show, in connection with the Driffield Agricultural Society, took place on the 31st ult., when 226 pens of poultry were entered for competition. Notwithstanding the lateness of the season, and many of the birds showing symptoms of moulting, several excellent pens were shown, more particularly in the Game and Polish classes; in the latter Mrs. Procter took all the prizes.

DORKINGS.—First, W. Charter, Driffield. Second, G. A. Young, Driffield. *Chickens.*—Prize, J. Blanchard, Driffield. *Cock.*—Prize, Miss S. E. White, Driffield.

SPANISH.—First, G. Holmes, Driffield. Second, H. Merkin, Driffield. *Cock.*—Prize, G. Holmes.

GAME (Black-breasted and other Reds).—First and Second, W. Boyes, Beverley. *Cock.*—Prize, G. Carter, Ecdale.

GAME (Duckwing and other Greys).—First and Second, W. Boyes. *Cock.*—Prize, J. Laycup, Driffield.

GAME (Any other variety).—First, W. Charter. Second, G. Holmes. *Cock.*—Prize, R. Brown, Pickering.

GAME (Any variety).—*Chickens.*—Prize, W. Boyes.

COCHIN-CHINA.—First, W. Charter. Second, R. Loft, Woodmansey.

CHICKENS.—Prize, R. Loft. *Cock.*—Prize, R. Loft.

POLANDS.—First and Second, Emma Procter, Hull. *Cock.*—Prize, Emma Procter.

HAMBURGERS (Golden-spangled).—First and Second, T. Holmes. *Cock.*—Prize, T. Holmes.

HAMBURGERS (Silver-spangled).—First, C. Richardson, Cottingham. Second, — Holmes. *Cock.*—Prize, — Holmes.

HAMBURGERS (Golden-pencilled).—First, — Holmes. Second, Ann Robinson, North Frodingham. *Cock.*—Prize, W. Charter.

HAMBURGERS (Silver-pencilled).—First, — Holmes. Second, W. Charter. *Cock.*—Prize, — White.

ANY VARIETY.—*Chickens.*—Prize, — Holmes.

ANY OTHER PURE AND DISTINCT BREED NOT PREVIOUSLY CLASSED.—First, R. Loft. Second, A. Watts, Garton. *Cock.*—Prize, Mrs. Jordan, Elmswell.

FAIRYLAND.—First, R. Loft. Second, G. Robinson. *Cock.*—Prize, G. Robinson.

BANTAMS (Black and White).—Second, W. Charter. *Cock.*—Prize, J. Bryan, Beeford.

BANTAMS (Any other variety).—First, Mrs. Blanchard, Driffield. Second, T. Holmes. *Cock.*—Prize, W. Laycup.

GENE.—First, G. R. Young, Driffield. Second, R. Brown. *Goostings.*—Prize, J. Nesfield, Buckton, Bridlington.

TURKEYS.—First, Mury Morking, Driffield. Second, Ann Pepper. *Poult.*—Prize, B. Pepper.

DUCKS (Aylesbury).—First, M. Harrison, Warton. Second, O. A. Young. *Ducklings.*—Prize O. A. Young.

DUCKS.—First, G. R. Young. Second, Mrs. Jordan, Eastburn. *Ducklings.*—Prize, G. R. Young.

ANY OTHER VARIETY.—Prize, W. Charter. *Ducklings.*—Prize, Mrs. Jordan.

PIGEONS.—*Croppers.*—Prize, B. Key, Beverley. *Carriers.*—Prize, J. R. Brand, Driffield. *Trumpeters.*—Prize, J. Mar-hall, Driffield. *Jacobins.*—Prize, C. N. Lytho, Cottingham. *Tumblers.*—Prize, T. Harper, Driffield.

BARBS.—Prize, B. Key. *Nuns.*—Prize, J. Marshall. *Any other variety.*—Prize, G. Pickering.

RABBITS (Any breed).—First, W. Charter. Second, C. G. Pickering, Driffield.

JUDGES.—Mr. T. Challoner, Barlborough, and Mr. J. O. Jolly, Green Hammerton.

CANKER IN PIGEONS.

WITH regard to that part of "A FOREIGNER'S" article upon Pigeons relating to canker, I have found the plan of removing the whole of the growth at once by far the best, and immediately well rubbing over the part the dry powdered sulphate of copper, called by chemists "exsiccated." The bleeding that follows the removal of the exudation is immaterial; in fact, I think it advantageous, as it indicates the complete removal of the growth, and will readily stop after the sulphate has been applied, or if not, the perchloride of iron can be used as mentioned by me when writing about Canaries. If the disease has advanced into the throat and mouth, I should with a feather apply borax dissolved in glycerine, and this I am satisfied would readily cure it.

I confess I am dubious of the efficacy of pulling out the tail

feathers, for as a rule the bird will have been lowered quite enough by the few drops of blood lost at the mouth, and the copper, which with all care can hardly be prevented from entering the stomach.—W. S.

PIGEON-JUDGING.

IN Pigeon-judging "A FOREIGNER" says no dealer ought to judge, and in this I quite agree. If committees would ask for advice from any of the columbarian societies as to what fanciers or breeders are competent to judge, then we should profit by experience. Many gentlemen from all parts of the country would come forward as judges.

Again, take the way in which the Judges were appointed at the last Birmingham Show. At the eleventh hour, or shall I say as the two Judges were proceeding to their duties, another gentleman being of opinion that they had more work to perform than their time would allow of, asked them to go to the Committee, and say he would withdraw his entries, and help them to judge, if they would allow him to do so, which the Committee did. Is this fair? I think the fairest plan would be to have one judge from London, one from Lancashire, and the other a local gentleman, and let each take a certain number of classes, according to what variety of birds he has kept, and judge them on his own responsibility; then when an exhibitor asks the judge why he has passed over such and such birds, there would be no cause for the oft-heard remark, that "Mr. So-and-So was with me, he would not give way, and I was obliged to do so."

Now, with regard to the small number of the entries at some of the shows, the reason, in my opinion, is because dealers are allowed to exhibit with fanciers. What fancier has a chance with a dealer? Look at the last Bath and West of England Show; two of our largest dealers took seventeen out of twenty-eight prizes. Again, take the "Any other variety" class at the last Birmingham Show; one dealer exhibited no less than twelve pairs of recently-imported birds. Has any fancier a chance? In all columbarian societies there exists a rule to the effect that no dealer shall be admitted a member; could not a similar regulation be framed for the principal exhibitions? Why should the dealer and Pigeon-fancier be placed on equal terms in exhibiting, when the nurseryman and amateur flower-grower have separate classes? If a fancier go to a dealer and buy his best pair of birds to exhibit, he is compelled to give a good price for them. As soon as he is gone the dealer sets to work, and scours the country to obtain another pair as good, if not better, than that which he has just sold, and at the first show at which the fancier and dealer meet, the former is beaten with his own money. Allow me to quote Mr. Fulton (see page 415 of last volume)—"It is a well-known fact that many good fanciers and exhibitors have of late given up the idea of sending their birds for competition" owing to the reason I have just named; and is it not discouraging to exhibit when we are placed on equal terms?

Separate classes could not be formed at all shows, but I think it would be well to make a trial of doing so at one of the principal shows. The summer shows I always consider the dealers' harvest. Look at the columns of "our Journal," and see who are taking the prizes; they speak for themselves, though I admit that no ardent fancier would take his birds from their eggs or young to send to shows at this season.

To carry out such a rule as I propose, the question would arise, Who are dealers? Rather an awkward question to decide; still, if they will not come forward and acknowledge themselves dealers, it would become the duty of all columbarian societies to send up a list of names to the London Society; perhaps, better still, appoint an independent gentleman to decide. I think it is a question of the greatest importance to the fancy at the present time, and the period is not far distant for a great change to take place, for the fancy has the worst of it always.

It is the duty of every fancier now to join a columbarian society, and endeavour to amalgamate the whole of the societies in England and Scotland together, and form a centre in London. Their union would be strength, and our voices would be heard at every Pigeon show throughout the kingdom. I have not raised this subject as a raid against the dealers, but as a question of fairness to the fancier in showing.

Now let me add one word of praise for the Antwerps so ably defended by "A FOREIGNER." Why should they be discarded when they possess a property invaluable to a breeder of Toys

—namely, feeding? They will do anything required of them, and I would advise every fancier to try them. I have done so with the greatest success, and intend to double my stock by next season. At the same time, cannot we improve them? I most certainly say they do not deserve what they have received at the hands of "WILTSHIRE RECTOR," and the author of "Pigeons." What class pays so well at Birmingham? At the last Show there were twenty-two pens entered. In my opinion there ought to be two classes for them—namely, Dun and Dun Chequer, Blue and Blue Chequer. I should like to hear the opinions of Mr. Weir, Mr. Cottle, and Mr. Hewitt as to what an Antwerp should be; then, possibly, some exhibitors of them would be better satisfied than they are at present with the judging of that class, as there is no recognised standard to work to at the present time.—A YOUNG FANCIER.

DRIFFIELD AND HASLINGDEN SHOWS.—We are asked to state that Mr. Hewitt was not present as a Judge at the Haslingden and Driffield Poultry Shows, although under a previous engagement to officiate. He unexpectedly received a subpoena to give evidence on a trial at the same date.

BEE IRREGULARITIES.

FROM one hive I had, on the 19th of June, a first swarm, which was safely hived. The bees clustered about the entrance of the parent hive again on July 4th, as if about to swarm. The same occurred on the 5th, and at two o'clock in the afternoon the bees rose in the air as if swarming; but they alighted on the hive they had just left, and soon entered it again.

In the evening of the 6th, a "lifter" was placed under the hive, to give the bees more room. On the 7th all was quiet. On the 8th they again made an attempt at swarming, and alighted on exactly the same spot that the first swarm had chosen. No sooner had they alighted than they began to fly back to the hive. Indeed, there were two streams of bees crossing each other, the one going from the parent hive to the tree, the other returning from it to the parent hive. It seemed as if it were a race in which all should touch the goal and return immediately. It was all over in about five minutes. On the 9th they again swarmed, but this time they were in earnest; they alighted on a pea rod, and were safely hived. All this puzzles me, and may be of interest to some of your readers.—HENRY COLLIN, *Galway*.

[We cannot account for these erratic manœuvres. Can any of our correspondents explain them?]

THE BARON VON BERLEPSCH ON FOUL BROOD.

(Continued from page 87.)

MODE OF INFECTION.

THE disease may be communicated—

First, by feeding bees with honey taken from foul-broody hives.

Secondly, by inserting combs taken from such hives, especially those containing honey and pollen.

Thirdly, probably also by the miasma of the surrounding atmosphere.

Fourthly, by bees from healthy stocks robbing or attempting to rob the foul-breeding hive of its stores. This is especially apt to be the case if the robber bees have brood to rear at home.

Fifthly, by the bee-keeper himself, if after opening and examining a diseased hive he proceeds to open and operate on a healthy one without previously washing his hands.

Sixthly, by uniting the bees of a diseased stock with those of a healthy one when there is young brood in the hive of the latter, although the union can be safely effected where there is no brood. Even honey from foul-breeding stocks given to colonies which have no brood seldom does any harm, although it would otherwise certainly introduce the disease. It is usually considered that a queen from a foul-breeding stock introduced alone into a healthy colony will not communicate the disease. Spitzner says, however, that he infected a healthy colony by introducing such a queen into it. The same occurred to Dr. Asmuss in two cases, to Mr. Arnold in one; and in my own apiary in 1867, a colony, certainly healthy at the time, became diseased shortly after I had introduced into it an unattended queen taken from a foul-breeding stock. There seems to be no good conceivable reason why a queen should not

thus communicate the disease when it is well ascertained that it is frequently so communicated by workers.

Seventhly, by giving a swarm or transferring a colony into a hive previously occupied by a foul-breeding stock. Scalding, scouring, and other modes of purification do not always effectually disinfect such a hive, in which the disease may break out again, even after the lapse of years.

Eighthly, by locating a colony on the place or stand which has previously been occupied by a diseased stock. Instances are known where foul brood occurred under such circumstances, although the stand had remained unoccupied for more than a year.

Finally, Dzierzon informed me verbally that the disease may be communicated and disseminated even by the flowers and blossoms frequented by bees from foul-breeding stocks, as those from healthy colonies visiting the same flowers may carry the infection home. He stated that he knew of instances where foul brood was communicated to distant apiaries without a transfer thither of either bees or colonies. Waltzer says he has made similar observations; so likewise Hoffman-Brand. And it appears to be very probable, for at the Apiarian Convention at Dresden, a member of a Bee-keepers' Club related one evening that some thirty years ago foul brood became so thoroughly and rapidly disseminated from place to place throughout Saxony, that in a few years nine-tenths of the colonies there were totally destroyed, and bee culture ruined for a time.

MEANS OF PREVENTION.

1. Be cautious in purchasing honey for feeding, and use none for that purpose unless you are certain that it has been procured from healthy colonies. Never feed your bees with West Indian or Cuban honey, as it is a well-ascertained fact that foul brood has been caused by the use of such honey.

2. Be equally cautious in purchasing bees. Introduce none into your apiary that are not free from this disease. The existence of foul brood in a colony can easily be ascertained by the fetid odour diffused in the hive.

This is about all that the bee-keeper can do in the way of prevention. He cannot prevent his bees from carrying in impure or infectious honey, for they will gather it from any source to which they have access. Mr. Stoehr's bees resorted to a neighbouring confectioner's for honey which was there exposed in an open cask. Shortly afterwards foul brood made its appearance in his apiary, and finally ruined all his colonies.

TREATMENT OF FOUL-BREEDING STOCKS.

1. As we do not yet know how foul brood *originates*—that is, we are ignorant of the cause or causes which produce it, but merely know the fact that it is fatal to the larvæ, we can only hope to arrest and cure it by removing the queen, and *preventing the production of brood*—thus literally starving-out the disease by withholding that on which it feeds. One who knows something of the nature of the malady can only smile when he finds various prescriptions and medicines to be administered to the bees, recommended as infallible cures. Healthy bees introduced into an infected hive soon become diseased, and can we expect that bees already suffering from foul brood can be restored to health while remaining in a hive imbued with the virus, and immersed in an atmosphere surcharged with the infectious miasma, by administering a few drugs? If such remedies ever seem to be of service it must be in cases where the disease would have spontaneously disappeared, thus causing to be ascribed to some quack concoction what was really due to the vivific energies of nature. A colony suffering from foul brood of the first or malignant grade is absolutely incurable. All that can be done is to remove and melt-up the combs, and use the bees for starting an artificial colony, or to strengthen a weak one, after having kept them confined in a well-ventilated hive on a low diet for forty-eight hours; for though the queen be removed from such a colony, and the bees cleanse the cells of all the offensive matter, the disease will certainly reappear, and usually with aggravated virulence, whenever the queen is reintroduced and breeding resumed. The honey, the pollen, the combs, nay, the hive itself, retain the infectious matter. Nothing short of entire renovation will avail aught.

I must, therefore, treat with disfavour all attempts to cure a colony infected with foul brood of the first grade; at least, by no process whatever was it curable in Thuringia when it had once broken out. Even the expelled bees, long kept on "starvation diet," and then placed in a new clean hive, soon became as badly diseased as before. During the summers of 1865 and

1866, being requested to aid bee-keeping friends, I made four attempts to save their bees, experimenting with due circumspection and care, yet without any successful results whatever; and my unhesitating advice now is, to subject every colony so diseased to the brimstone process when all the bees have returned at eve, and thus arrest the spread of the evil, which may otherwise soon extend to every colony in the apiary. In 1864, I communicated to the "Bee Journal," an account of the utter ruin of an apiary of seventy-seven splendid colonies, caused by the introduction of foul brood. Dzierzon, too, seems to have lost all regard for curative processes, for in his latest work he says, "The better course is to make short work of it; turn the contents of the hives into money as best we may, and there-with purchase healthy stocks."

2. In like manner I would advise resorting to the brimstone-pit whenever putrid cells are observed in a hive, for we cannot say whether this is not the beginning of a rapidly-spreading, devastating, and incurable disease. But if when first discovered a considerable number of hives are already infected, though none extensively damaged, it will be better to watch matters patiently awhile, for in such case we may regard it as most likely to be curable foul brood, or of the second grade.

3. Foul brood of the second grade can be more easily arrested and removed, though not without considerable damage. If the queen be removed, the workers will have cleansed the cells of all infectious matter long before the young queen begins to lay. The cure will be the more effectual if the combs be removed as soon as the brood has emerged from the cells, and a new hive finally given to the colony. As queen cells are among the first to become putrid, all that may have been built in the queenless hive should be destroyed in about a week, and a sealed one inserted from a healthy stock.

4. Examine all the hives thoroughly in the autumn, at the latest in October, when all the brood has matured, and remove any comb that contained or still contains foul brood in any of the cells.

5. Foul brood of the second grade not unfrequently disappears spontaneously; but I would advise no one to rely on that, rather proceed as suggested under the two preceding heads. I have known two instances where the bee-keepers remained unconcerned, doing nothing, and in the following summer nearly all their colonies were ruined by foul brood in its most malignant form.

6. The hives should be well scalded, and then fumigated with brimstone. It is also advisable to burn up any propolis they may contain, by means of a blazing wisp of straw, before scalding the hives. After scalding and before fumigating them, they should be washed with a strong solution of chloride of lime. If the disease was foul brood of the second grade only, hives thus treated may be immediately used again; but if the foul brood was of the malignant type, it will be safest to set them aside for two or three years. The stands on which foul-breeding hives have stood should also be washed with the solution of chloride of lime, and had better be left unoccupied at least one year.

7. As I have no knowledge whatever of the third grade of foul brood, I can only advise treating it like that of the second grade where it is supposed to exist.

8. It has been suggested that colonies infected with foul brood should not be forthwith condemned to the brimstone-pit, but be removed to a distance from the apiary for further observation and treatment. I should not recommend this, unless some isolated spot were available, within a radius of three or four miles of which no other bees were kept; for it would be morally wrong, though, perhaps, not legal felony, thus to carry death and destruction within the range of your neighbours' bees.—A. VON BARKLEPSCH.

(To be continued.)

THE BEE MOTH.

This insect is justly regarded as one of the worst enemies of the honey bee, as its depredations involve the destruction of combs, brood, and stores. Happy the bee-keeper who knows how to exclude it from his hives or arrest and prevent its devastations.

The scientific name of this pest is *Tinea mellonella*. There are said to be three kinds of it, one of which has been called *Tinea cereana*; but it seems probable that two of these are mere sexual varieties. That of medium size is regarded as the most destructive. The smaller kind is often seen at dusk in summer evenings, hovering about in front of the hives, seeking

entrance. The bees evidently become excited on noticing its approach, and angrily resist it. When successful in effecting an entrance, these moths deposit their eggs in the droppings and refuse matter on the bottom board, if any be found there; and from it the larvæ, when hatched, derive their nourishment. The larger kind does not usually make its way into the hive till after the smaller kind has effectually secured possession and made extensive progress in the work of devastation. The colour of the medium kind is grey. The egg greatly resembles that of the queen bee. The full-grown moth may often be seen sitting quietly on a hive, near its entrance, or on some projecting ledge or corner. It frequently deposits its eggs in cracks or crevices through which the heat and odour of the hive escape.

As soon as the larvæ are hatched, they endeavour to crawl into the hive through some opening or cranny, however narrow; and if successful, at once take post in and live on the oil and particles of wax they may chance to find on the bottom. They grow very rapidly, mount the combs as soon as they can reach them, and enter the cells. Arrived there, they speedily construct their galleries, tunnelling passages along the common base of the cells, and extending their devastating course towards the centre of the comb, in quest of cells containing pollen. These appear to be their favourite resort, whence they advance reveling in the delights of havoc and destruction. Nor do those portions of comb which contain brood escape attack. The defenceless larvæ perish when the side walls of the cells are broken down or undermined; and the ruin of the colony is sure to follow quickly, if the bee-keeper do not come to the rescue. Even though a worker occasionally lays open the gallery, the passage is too narrow to permit her to enter and dislodge the insidious foe, which, moreover, quickly retires to a safe distance.

Since only feeble stocks are overpowered by the worm, or such as, not being very populous, are at the time engaged in rearing a queen, and are consequently daily growing weaker, it occasionally happens that the bees are literally crowded out and constrained to abandon their mansion. The inexperienced and inexperienced bee-keeper, seeing numbers of workers constantly massed at the entrance, fancies he has a strong and growing colony, till suddenly, on some fine afternoon, the bees come tumbling out helter-skelter, and hastily take French leave of their astonished owner. If such absconding colony was well supplied with comb, a strange spectacle of universal ruin will present itself when the hive is opened. A mixed multitude of larger and smaller cream-coloured worms with brownish heads, will be seen hastily wriggling into their hiding place—a dark, web-strang pile of mingled excreta and crumbling comb. Hosts of fluttering moths, too, hover like harpies on dusky wing, and a nauseous odour exhales from the filmy and cocoon-spangled mass. All this is disheartening; but if the dismayed bee-keeper would have his good humour restored, and himself put in the mood of paying more heedful attention to what may thenceforward be going on in his hives, let him carry the non-moth-proof box or basket to his henyard, and present its contents as a *bonne bouche*, or tit-bit, to his Shanghaes and Brahma Pootras, and he will see such an eager rush and scramble and hasty gobbling-up of the multitudinous host that worked him harm, as well may mollify his temper, and restore his equanimity—so far as a hearty laugh can thereto contribute.

Then for prevention.—1, Watch your hives closely, especially those that have swarmed, or what are rearing queens. 2, Frequently cleanse the bottom boards of your feeble stocks, and inspect the combs. 3, See whether there are any black droppings under the combs, or whether the bees are carrying such out. If so, search for and remove the worm.

For preservation of combs.—1, Suspend them singly in a high and airy chamber. 2, Insert them at times for cleaning in the hives of your stronger colonies. 3, Keep them in an air-tight box, and fumigate them every two or three weeks with fumes of burning sulphur.

In elevated mountainous districts, moths are not apt to be troublesome, but in lower level and warm districts they will, without great care, be found a numerous and intrusive pest.—(Bee Journal.)

OUR LETTER BOX.

ADDRESS (A *Cheshire Subscriber*).—We do not know it.

FOWLS PLUCKING EACH OTHER (G. W.).—We are sorry to say we can show you a pen of Spanish just as you describe your own to be. If we were always on the spot we believe we could prevent it by keeping them well supplied with a variety of green food. There is, however, at this

time of year a tendency in all cooped fowls to pick feathers. The only remedy we have ever found is a large supply of green food, especially lettuce, and fresh-dog mowl.

GROUND OATS FOR POULTRY (E. M. E. A.).—Your Hertfordshire millers do not understand ground oats as they are made in Sussex, and your poultry man has never seen them. All the celebrated Sussex fowls are fed on them. When they are ground with properly dressed stones, the whole of the corn, skin and all, is reduced to a fine powder, and mixes as easily and as perfectly as wheat flour. We have tried ordinary oat-bridging, and when slacked with water the result has been such as we should expect if we mixed chaff and sawdust. Nothing is taken from the oat in Sussex, but everything is reduced to powder. This is the great merit. The present price in Sussex is about 18s. per sack, but it is rising. Good harley meal is far better food for chickens than "toppings." Oat theory is, the better and heavier the corn the cheaper it is for feeding.

POINTS OF BRAHMA POOTRAS (Subscriber).—In both breeds pea combs are much more considered than single ones. The Light Brahmas should have tails and thighs black, the hackles striped black and white, all the rest white, except in the cock some markings on the saddle. The Dark pullet should be pencilled all over, save the hackles, which should be black and white-striped. The cock should have a light back and saddle, a broad barred black and white wing, black tail and thighs, accurately spotted breast; white spots on a black ground. Some have quite black breasts, but as a rule the spotted are preferred.

DUCKS OVERHEATED SUFFERING FROM DIARRHŒA AND CRAMP (Notice).—You have entirely overfed your Ducks, and spoiled them with kindness. What can you mean by keeping them warm at night? Our difficulty has been to keep them cool. If they are shut in where there is wood, stone, or brick flooring, that causes the cramp. By dint of meat-feeding you have made your ducklings internally fat. That is of itself an unnatural state, and their vitiated appetites will accept nothing but stimulating food—grasses, worms, and insects. Discontinue everything of the sort. Let them roost on the ground, feed on oatmeal, put in water with sods of growing grass, do not let them out in the morning till the grass is dry, and let them rough it as soon as the diarrhœa and cramp have disappeared.

BRAHMA POOTRAS WITH TWISTED WINGS (W. B. S.).—The weight of your chickens is satisfactory. We are well acquainted with the twisted wing, and although in many cases we have seen it less developed as they grow older, we have never known it moulted out nor entirely cured by any process or operation. It is perceptible when they are very young. It is hereditary, and chickens showing it should be immediately got rid of by death or otherwise.

UNITING SECOND SWARMS (A *Stoke Bee-keeper*).—It would probably be well to unite the two second swarms weakened by robbers, by driving, and this had better be done as soon as breeding is over.

WAX MOTH (J. Gale, A'von).—They are the cocoons and larvae of *Tinea mellonella*, the wax moth *par excellence*. This pest, which is fortunately not common in this country, is more plentiful on the Continent, whilst in America, where it is known as "the miller," its ravages are so extensive that they at one time threatened to put a stop to bee-keeping altogether until checked by the almost universal adoption of movable-comb-hives. See an article in the preceding page.

NUTT'S COLLATERAL HIVE (Devonia).—The best mode of securing the slides or dividers is to make them a little wider than the boxes themselves, and let their edges fit into saw cuts in the back of three-quarter mouldings or plasters fixed to the "partition," but projecting so as to overlap and conceal the junctions of the three compartments.

YOUNG CANARIES DYING (Subscriber).—Your experience is that of many a fancier, who time after time sees some of his most promising young birds drop off one by one from no apparent cause, except a gradual wasting away. This disease, by whatever name it may be called, is, probably, the result of over-indulgence in the generous diet which is given to young birds just beginning to feed themselves, including indigestion and general disarrangement of the bowels. When any young bird begins to mope, feeding by fits and starts, and then very greedily, sits for a length of time with its head under its wing, with ruffled plumage—blow the down from its breast, and, indeed, health, it will be much shrunken; the lower part of the body, too, will appear more or less swollen. Various remedies are prescribed in the Country pharmacopœia, but cures have been effected by administering a mild purgative in the shape of a few drops of olive oil, feeding on linseed and maw seed, with water-creases for green food; but when this disordered state of the system is allowed to make much headway, it is very difficult to ward off the attack. I purchased a small coffee mill this season, in which I grind the common Canary seed, and I find that by presenting wholesome diet to the birds in this shape, they are able to feed themselves much sooner than in any other way, without the risk of inducing the complaints resulting from surfeiting with rich food.—W. A. BLAKSTON.

CANARIES (W. D. Prosser).—We cannot tell all the shows you can exhibit at. If you write to the secretaries they will inform you.

PARROTS (C. M.).—We do not know of a better book upon Parrots than the one of Sir W. Jardine's "Naturalist's Library," published by Smith and Co., Cornhill. Grey Parrots are usually the best for talking, and they should be obtained about twelve months old. The birds can be purchased of any respectable dealer in birds.

POULTRY MARKET.—AUGUST 5.

It is impossible to give any quotation that can be depended upon. Much poultry arrives in a putrid state, and realises nothing; but a few choice and fresh samples make good prices.

	s	d	s	d	s	d	s	d
Large Fowls.....	4	0	4	6	Pheasants.....	0	0	0
Smaller do.....	3	6	4	0	Partridges.....	0	0	0
Chickens.....	2	0	2	6	Guinea Fowls.....	0	0	0
Geese.....	5	0	6	0	Hares.....	0	0	0
Ducklings.....	2	0	2	6	Rabbits.....	1	4	1
Pigeons.....	0	8	0	9	Wild do.....	0	8	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	AUGUST 13—19, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. e.	
13	TH	Taunton Deane Horticultural Show.	74.2	50.0	62.1	19	44 af 4	24 af 7	14 af 3	25	4 83	226	
14	F		72.7	50.4	61.5	17	45 4	22 7	24 af 0	19 4	4 23	227	
15	S		72.8	49.9	61.3	16	47 4	20 7	18 1	18 5	4 10	228	
16	SUN	10 SUNDAY AFTER TRINITY.	73.0	51.0	62.0	20	48 4	18 7	24 2	8 6	28	3 58	229
17	M		72.9	49.8	61.3	22	50 4	16 7	38 3	52 6	29	3 46	230
18	Tu	Royal Horticultural Society, Fruit, Floral, and General Meeting.	70.2	50.4	61.8	15	51 4	14 7	58 4	27 7	1	3 33	231
19	W		73.1	46.8	63.9	19	53 4	12 7	21 6	53 7	1	3 10	232

From observations taken near London during the last forty-one years, the average day temperature of the week is 72.7°; and its night temperature 50.0°. The greatest heat was 92°, on the 15th and 18th, 1842; and the lowest cold 36°, on the 18th, 1866. The greatest fall of rain was 1.14 inch.

STRAWBERRY RAMBLES IN ENGLAND.



ON the 19th of June I left this on a visit to old England, with a view to see once more my kind friends in that hospitable country, and at the same time to renew acquaintance with my pet the Strawberry, so successfully grown there.

With us in France the Strawberry season has been the shortest on record, not lasting beyond three weeks, and in consequence of the extraordinary drought and intense heat (no rain having fallen here ever since the end of April, whilst waterings, however copious, had no effect beyond keeping the plants alive), the greater part of the berries were roasted by the tropical sun, without attaining their proper size.

On my arrival in London I hurried off to Kidderminster, upon the invitation of my esteemed friend Dr. Roden. Strawberries there appeared to be in a very advanced state, and many seedlings of his own either past their best or just in proper condition to be seen, which was naturally a matter of great interest to me. There, likewise, the drought and heat were very troublesome, and threatened to annihilate the fine prospect of a fair crop; still the earlier kinds were very fine, and foremost of these was Dr. Roden's wonderful seedling *Early Prolific*, I dare to say the noblest-looking plant of the whole collection, and altogether worthy of the high character which was attributed to it in the columns of this Journal. The plants, forty in number, all last year's runners, were in beautiful health, and literally covered with fruit, though many of the largest berries had already been gathered. This sort will be invaluable as a very early one, nothing in the same way having as yet been raised to approach it. The beauty of the plants and their numerous clusters of fruit, all of the finest shape and quality, were well worth a long journey.

Then comes *Duke of Edinburgh*, a noble and very large kind, of roundish shape, with quite prominent seeds, and a glossy neck. This succeeds *Early Prolific*, and, I am inclined to believe, will be much later in an ordinary season. The same may be said of *Sultan*, a magnificent Strawberry of the largest size, red throughout, and of exceedingly rich flavour.

Dr. Roden has many other promising seedlings which he will be able to speak of next year. All the older kinds which he grows in perfection, such as *Carolina superba*, *British Queen*, *Cockscomb*, *President*, *La Constante*, *Rifleman*, *Alice Nicholson*, and many others were in very fine condition, and had large crops. I fear, however, that, owing to the unfavourable weather, my friend will not have had the satisfaction he was entitled to after so much care and labour that he bestows on his fruit garden during his leisure hours.

Whilst at Kidderminster we went on a visit to W. Lea, Esq., at Droitwich, another keen and successful fruit-amateur, who gave us a regular Strawberry feast, composed of beautiful dishes of the finest kinds, such as *Sir Joseph*

Paxton, *Frogmore Late Pine*, *Dr. Hogg*, *Mr. Radclyffe*, and others, all great favourites, and of these the finest specimens.

During a visit to the Royal Gardens at Frogmore I met with the kindest reception, as usual, from Mr. John Powell; but here, as everywhere else, and in spite of the greatest facilities at hand as regards water, Strawberries were suffering, and by no means so large and handsome as one is accustomed to see here. On the day of my visit the sorts still in bearing were *Frogmore Late Pine*, *Cockscomb*, and *John Powell*, the latter evidently a very useful sort, inasmuch as it seemed to stand the drought better than most others.

Leaving London again, I directed my steps to *Eaglescliffe*, near *Yarm*, in *Yorkshire*, where the widow of my late friend, *Mr. Nicholson*, successfully assisted by an intelligent gardener, continues the special culture of the Strawberry, always a favourite occupation of her regretted husband. I was much pleased after an interval of six years to find that the usual order and tidiness prevailed, and but for the effects of the long-continued drought an enormous crop of Strawberries would be gathered. I noticed several promising seedlings, one of which seems to deserve particular attention, and which is intended to be called *William James Nicholson*. This is a very large, handsome, late kind, of beautiful appearance, and of the richest flavour, quite distinct from any we already possess.

From the north I proceeded westward, on a visit to my friend the *Rev. Dalston Clements*, at *Warleggon Rectory*, in *Cornwall*, the gardens of which are famous for the large specimens of *Rhododendrons*, such as are not often to be found. Here, owing to the peculiar climate of the country and the neighbourhood of the sea, although the heat was likewise very intense, vegetation did not look so dried up as elsewhere, and my eyes were gladdened by verdure.

Mrs. Clements has always taken a great interest in raising Strawberries from seed, and we are indebted to her for, among others, *Gweniver*, *Sabreur*, and *Her Majesty*, all noble fruits, and quite distinct. As a matter of course, in *Cornwall* Strawberries were things of the past; still *Mrs. Clements* managed to surprise me with a fine basketful of *Her Majesty* on the day of my arrival.

Before concluding, I cannot but name a man to whom we fragarians owe a great deal of gratitude—I mean *Mr. Samuel Bradley*, late gardener to *Lady Norton*, at *Elton Manor*, near *Nottingham*, the raiser of *Oscar*, *Sir Joseph Paxton*, and *Dr. Hogg*, three of the most valuable Strawberries ever raised. I shall here particularly allude to *Sir Joseph Paxton*, one of the greatest achievements in Strawberry culture, and for which, according to my opinion, the British lovers of this fruit ought to grant a national award. With *Sir Joseph Paxton* in our gardens, it will henceforth be no longer permitted to grow *Black Prince*, *Keens' Seedling*, and similar varieties of the past.

On my way home I called upon the *Messrs. Rivers*, at *Sawbridgeworth*, and I must confess that my most sanguine expectations were surpassed. I know it is useless to say anything in praise of *Messrs. Rivers'* establishment, and

I have alluded to it merely to observe that my visit will number amongst the most interesting I made during my happy sojourn in England.—FERDINAND GLOEDE, *Beauvais, France.*

SELECT ZONAL, FANCY, AND FRENCH PELARGONIUMS, AND THEIR PROPAGATION.

Would you give me the names of eighteen distinct Zonal and Variegated Zonal Pelargoniums for a greenhouse 12 feet long and 8 feet wide? The house being so small, I wish to have in it the best selection I can, and to have each plant as distinct as possible.

I also wish for the names of six or eight of the best distinct Fancy and French Pelargoniums, together with directions as to the time and mode of propagating them by cuttings.—J. L.

[We here publish "J. L.'s" letter and Mr. Wills's answer, because the conditions to which that answer applies being known, it will be useful to many readers who desire similar information.—EDS.]

ZONAL PELARGONIUMS.—The following will be found to possess first-rate qualities, and are quite distinct:—

Lord Derby.—Fine orange scarlet, a large, round, flat flower. The best in commerce.

Beauté de Suresnes.—Bright rose; large, handsome flowers, of fine form and substance.

The Bamer (Wills).—The largest-flowered Zonal Pelargonium in cultivation, fine scarlet; good habit, and large truss.

Wills's Magenta Queen.—Splendid, new in colour; good for bedding or greenhouses.

The Clipper.—Dazzling scarlet; large and well-formed flower.

Queen of Roses.—Very bright rose colour, of fine form.

Beauty.—White, with rose centre; good habit, and very free.

To the above the following double varieties should be added. No collection can be complete without them:—

Madame Lemoine.—Neat dwarf habit; flowers borne in large trusses, very double, and of a beautiful peach colour. It flowers quite as freely as Tom Thumb. This is undoubtedly a great acquisition, and will be one of the plants most sought after for conservatory decoration for several years to come.

Triomphe de Thumcsnil.—Rosy violet carmine, remarkably large trues of compact double flowers; habit good and very free-flowering.

Triumph.—Fine scarlet flowers, double; habit rather vigorous.

The new double Tom Thumb, *Madame Rose Charmeux*, is also fine, and may be included in the above list.

VARIEGATED PELARGONIUMS.—The following are sure to give satisfaction:—

Florence (Wills).—A splendid Golden Variegated Zonal, having a broad dark zone fringed with crimson and dark maroon.

Lizzie (Wills).—Bright yellow margin with a broad zone of maroon, barred with crimson; a very fine improvement on Mrs. Pollock. Habit stout and vigorous.

Lucy Grieve.—One of the most beautiful; finely-figured with a brilliant surface zone of lake-tinted crimson upon an under bronze zone.

Sophia Dumaresque.—A beautiful variety with robust constitution, habit vigorous and freely branching; the golden margin distinctly defined by a brilliant flame-tinted scarlet zone.

Miss Burdett Coutts.—A beautiful Silver Tricolor with a good habit, the best in this section.

The following three Bronze and Gold varieties must certainly be called variegated, and should be included in every collection—viz., *Beauty of Ribblesdale*, *Beauty of Calderdale*, and *Arthur H. Wills*.

FANCY AND FRENCH PELARGONIUMS.—The following eight are best:—

Charles Turner, scarlet, with pure white centre, orange scarlet upper petals, with shaded maroon blotch, very fine.

Empress Eugénie.—Pure white with rose blotch, flower large. A most beautiful variety.

John Hoyle.—Large flower, light centre; orange red, richly marked with dark red, top petals rich velvety maroon.

Perfection.—A light flower, pretty form; pale violet pink, white eye, with maroon blotch and neat rose margin.

Pescatorei.—Bright salmon, light centre, with deep crimson spots, very fine and free.

Empress.—New large fringed-flowered, in the way of Dr. André; flowers beautiful clear white with a very large crimson

blotch on the upper petals. One of the finest Pelargoniums in cultivation.

The next two are Fancies, and very distinct and pretty.

Duchess of Buccleuch.—Delicate lilac, with white throat and edges, fine form and habit.

Effie Deans.—Bright crimson, painted white centre, very pretty.

The present is a very good time to propagate the Fancy and French Pelargoniums if the wood is ripe. The best mode is to prick the cuttings out in the open ground, or if there are any spare hand-glasses these may be placed over the cuttings. Any ordinary garden soil will answer for them, and as soon as the cuttings have struck they should at once be taken up, potted singly in small 60-pots, placed in a frame, and kept close for a few days. They will then soon commence rooting very freely. They should be kept in pots of this size till the end of December, when they should be shaken out, potted again in pots of the same size, and as the roots reach the sides of the pots the plants should be shifted into larger ones. During this time abundance of air must be given on all favourable occasions; and as the plants make their growth, and when the shoots have four or five fully developed leaves, the point of each shoot should be pinched out in order to keep the plants compact and stocky. If it is desirable to have the plants in flower early, they must not be stopped nor potted after the first week in February, but should have a little weak manure water given them once or twice a-week. This will cause them to throw up strong flower trusses, and large and bright-coloured flowers.

The spring, when the wood is young and green, is the best and surest time to strike cuttings. Cuttings struck in the spring also make the cleanest and best plants, especially if they are required for specimen plants, or for flowering late in the autumn months. If intended for the latter purpose the growth should be encouraged, and just the same attention paid to them as recommended above for the winter and spring treatment of the autumn-struck cuttings.—J. WILLS.

SHRUBS TRANSPLANTED LATE IN THE SEASON.

Those who planted large numbers of shrubs late in the spring are likely to have much cause to complain of the season, as their losses are serious; whilst of the shrubs which do succeed the growth is so indifferent that the season may be considered as lost to them. A dry spring and hot summer, however favourable to many plants, are not so to newly planted shrubs; and as watering is at best but a poor substitute for showery weather, and cannot always be practised, the appearance of most subjects planted late in spring is far from good, especially that of evergreens. These have seldom had the advantage of a good night dew since planting time. In some cases, however, they do not look amiss, and a few days ago some were pointed out to me which had stood the trial tolerably well, but care and attention had been bestowed on them. No great amount of watering had been afforded, but one or two good soakings had been given at the roots, and the ground was thickly covered with moss, which was retained in its place by pebbles thinly scattered over it, otherwise the birds disturb such coverings very much. In addition, the foliage of the plants had been often wetted over both morning and evening, using no more water than just sufficient to accomplish the purpose. With this treatment most of the shrubs looked moderately well, although many of them were large, and their growth was progressing, which is better than when the plant makes no advance till late in the autumn, and then not in time for the growth to be ripened before winter, as is too often the case when it is retarded at the proper time.

To quote examples of failures in the present year arising from planting late in spring would not be fair, as the season has been an exceptional one; but there are some shrubs which evidently like to be planted earlier, say in midwinter, or even in unfavourable weather, rather than late in spring. The *Rhododendron* is one, for although it may be safely removed at most times, it does not succeed so well as at other times if planted too late in spring. I believe the losses with it have this year been as great as with most shrubs. That early in autumn is the best time for planting many shrubs is generally admitted, but that numbers of our most useful shrubs may be safely transplanted in April is also a fact established by many examples, and the experience of the past season is not sufficient to disprove it. Where shrubs or trees are transplanted in such

dry weather, and only supplied with a minimum of rain and dew, their success may be doubtful; but even in cases like these, when care in watering and shading their roots has been accorded, as in the example mentioned above, the loss has not been so great—indeed the plants present a fair appearance. As the operation of transplanting is a purely artificial one, artificial means must be adopted for a time to give the plant a fair start. In such cases, therefore, judicious watering may be of service.—J. ROBSON.

MR. PEARSON'S NURSERIES, CHILWELL.

HERE are to be seen orchard houses worthy of the name; orchard houses at once grand, commodious, substantial, simple, and useful: orchard house trees—Peaches, Nectarines, Apricots, &c., in pots and planted out in the borders, young trees and old trees (some are in their "teens"), all growing in the greatest luxuriance and laden, yea, heavily laden, with really handsome and delicious fruit. Never was I more delighted than I was with my visit to this fine nursery. We have most of us read Mr. Pearson's treatise and writings on orchard houses. Well and ably written as they are, however, they convey but a poor idea of the really magnificent results achieved at Chilwell. I would advise any who are at all sceptical about the practicability of orchard-house culture, to go and see Mr. Pearson's, and to go at once. The Peaches and other fruits are now ripe and ripening; seeing is believing, and if any one after seeing do not believe in orchard houses, then I pity him.

As orchard houses are becoming more and more popular every year, and are now forming an important feature in the horticulture of the country, I think we ought all to tender our hearty thanks to the able leaders and staunch advocates of this system, Messrs. Rivers, Pearson, and Wilson, who by excellent examples of cultivation in their own grounds, and their able writings and instructions through the horticultural press, have done so much to explode antiquated prejudices, and diffuse genuine information amongst us.

That orchard houses will be more and more wanted now that their construction and the cultivation of the trees are becoming so well understood, is certain; also, that the finest, and best, and cheapest, taking lasting qualities into consideration, that have yet been erected in this country are those of Mr. Pearson, is equally a fact which no one can gainsay who has ever seen them. They were, I was informed, erected by Mr. Foster, of Beeston. The largest house is 100 feet long by 30 feet wide. It is filled with beautiful healthy trees—Peaches, Nectarines, and Apricots chiefly. Some are planted out, and some are in pots, but all are doing equally well. There are numbers of houses, however, and all are full—full yet not crowded, a thing which is too often done, and nothing can be worse than this overcrowding of fruit trees. There is also another feature in these houses to which I wish to direct attention. In some places there is a practice (indeed many places get the credit of "making-up a house" of fine fruiting plants culled from all the others, which is shown to visitors as successful in every way. Now, this is just a mild way of deceiving the public. Mr. Pearson adopts none of these false tactics, all the trees are left in the houses whether bearing fruit or not, to be seen by all, and everyone can judge for himself of the true and actual results.

In one of Mr. Pearson's oldest houses are some really remarkable Peach trees, that have been planted out fifteen or sixteen years. They are grown as standards, the stems some 4 feet in height; the heads are enormous, and in such health! loaded with scores of fine large fruit—indeed, finer could not be desired. I tried, but failed to count the number on one of these trees. These are orchard-house trees in reality. The soil in which they are planted is a rather light yellow loam; the border, Mr. Pearson stated, was never stirred or forked up, only well watered when watering was necessary. This solidifying of the soil about the roots of Peach trees is an important matter; the soil cannot well be made too firm. Mr. Pearson does not adopt a very close system of pinching the shoots; they are allowed to grow rather freely, and are stopped when about 6 or 8 inches in length. That this is the correct system the results themselves best affirm.

In the culture of Apricots Mr. Pearson is especially successful. The variety which he grows most extensively is called the Peach Apricot (or Gros Pêche), an old sort, the stock of which has been kept true in this nursery for many years. The Moorpark is a seedling raised from this sort, and although

larger and a recognised favourite, is in Mr. Pearson's opinion inferior to the old one in flavour and general good qualities. The Peach Apricot ripens better; it ripens all round alike, and is just one ball of melting syrup. It may have been observed that in the Moorpark there is very frequently a portion of the back of the fruit quite hard and fleshy, while the other is rotten ripe. Mr. Pearson works the Peach Apricot on the Brussels stock, which, no doubt, has something to do with the superior melting qualities of the fruit, the Muscote Plum being the stock most commonly used. However or whatever may be the cause, I have never tasted Apricots, excepting from some open standard trees in a garden at Noisiel, near Paris, at all comparable in melting lusciousness to those Peach Apricots grown in pots in Mr. Pearson's orchard houses. I counted the crop on several of the trees (they are but small trees—standards in 10-inch pots), and found an average of about thirty fruit per plant, and all quite first-rate.

Grapes are not grown to such a great extent. There are, however, some very remarkable examples of high cultivation. In one of the houses there are some half a dozen Vines trained to the rafters over the tops of the Peach trees; one of these, a Muscat Hamburg, is very fine. There are about twenty bunches on the Vines; some of them will weigh quite 4 lbs. I should think; the average weight of the whole will exceed 3 lbs.—i.e., 60 lbs. to the Vine. The berries are large, even-sized, jet black, with a perfect bloom, and not a symptom of shanking amongst them. What a noble Grape this is, grown in this way! For flavour it is well known to be unrivalled, yet how very seldom is it to be seen in presentable condition! The Muscat Hamburg is of a somewhat weakly constitution, and has been proved by Mr. Thomson, of Dalkeith, and others, to be much improved by being grafted on the Black Hamburg; yet here Mr. Pearson has it finer than it has ever been seen anywhere, not grafted, but growing on its own roots. It is planted in an outside border, if border it can be called, for anything—any material I mean—more wretched can scarcely be conceived for a Vine to grow in. Yet it does grow, and that in splendid style; and in allowing it to grow as Mr. Pearson does, I believe lies the whole secret of his success. It is but a common-sense practice, yet how very seldom is it followed! Bearing in mind that the leaves are of equal importance to the roots themselves, that through them all the colouring, sweetening, and other matters which go to the formation of the fruit have to pass, Mr. Pearson tries to get as much healthy foliage as possible without overcrowding. The bearing shoots are first stopped at two eyes beyond the bunch until that is fairly set; then the laterals are encouraged to grow, and as great a development of healthy foliage obtained from them as possible. These Vines, to our trim rule-of-thumb gardeners, have a rather untidy appearance; but that is more than counterbalanced by the splendid fruit obtained. I believe that if more attention were paid to the cultivation of leaves, there would be far fewer complaints of bad borders. In the same house there is grafted on the Sarbelle Frontignan another Muscat Hamburg, which is very inferior. It is scarcely recognisable, so much is it altered; the berries are much smaller, which is evidently inherited from the stock. Buckland Sweetwater looked well here, bearing some beautiful finely-grown bunches weighing from 3 to 4 lbs. each.

Mr. Pearson has some curious and interesting crosses from the Strawberry Grape, a variety almost worthless in itself for eating, although some profess to like it. It is, however, possessed of a strong perfume, resembling that of ripe Strawberries. To communicate this perfume to some of our fine Grapes is a desideratum, and Mr. Pearson has succeeded so far. One, a black Grape, is certainly scented; another, a white one, is of the same peculiar taste as the Strawberry. They require much further trial, however. I shall be curious to watch the result.

One of the largest houses, 100 feet by 30 feet, contains some hundreds—thousands, perhaps—of the finest young Vines for fruiting in pots which I have ever met with. They are a sight worth seeing, well-grown, plump, full-eyed, round canes, many of them as thick as one's fingers. Canes like these cannot but bear fruit. It has often struck me as something wonderful where all the thousands of Vines go to that are raised by the various nurserymen every year. Very few do I ever see that are purchased in the many gardens I visit every year; yet they are bought, and that greedily, the supply of good canes being scarcely equal to the demand.

I observed in one house a number of the Muscat Hamburg grafted on the Black Hamburg in pots. Fine plants they are.

too, just fit for planting. As this fine Grape is known to succeed so well on the Hamburgh stock, it is an excellent idea of Mr. Pearson's to prepare them in this way.

It is not alone for fruit culture that these nurseries are famed. In the ranks of the most popular flowers of the period, the Zonal Pelargoniums, in which competition is more keen than in any other line, Mr. Pearson comes well to the front as one of the most successful cross-breeders. I have only to point to his William Underwood, which when it left Mr. Pearson's hands some years ago, if it had been exhibited in London would have created quite a furor. Lord Derby, the best of its class, is not such a vast improvement on it; yet now we have Chilwell Beauty, a fine Nosegay, most excellent for early pot cultivation; Bayard, a free-blooming, crimson scarlet Nosegay with a fine large truss; and Pearl, a fine creamy white variegated kind. These have all received first-class certificates, but here is a lot not yet out which, if I am not mistaken, will make their mark when they do come. All Mr. Pearson's plants are planted out in the open borders, not drawn up under glass, and there are some thousands of them.

In the tricolor class, Duke of Wellington is one of the very "firiest" of colours imaginable, more so than any exhibited at the great tricolor Show. Mrs. Reynolds Hole, selected and named by Mr. Hole as first-rate, is certainly very beautiful, the colours bright and vivid, the markings distinct. It has the whitest outline to the leaf of any, and with a peculiar bluish shade over the whole plant. Nankeen is another peculiarly distinct sort. I scarce know what colour to call it. It has a sort of buff shade in the distance, and will be very telling. Lady Adeliza Norman is another fine tricolor variety. Of the Nosegays, Septimus Thornhill will be a fine acquisition; likewise William Hill and Thomas Speed, besides many others which it would be impossible to notice here.

Lastly I must not omit a few words on the Long Gun Cucumbers. Mr. Pearson cultivates this variety exclusively, and in quantity, principally for the seed. No other variety is suffered to be near it, so that all the seed thus saved can be depended on as pure and true. It is an old and well-known sort to which Mr. Pearson's name has become attached simply through the exceeding purity of his stock. Like all good Cucumbers it seeds but sparsely, and in consequence is rather scarce. It is an excellent variety; a free bearer, the fruit growing from 18 to 24 inches in length, slightly spiny, and handsome. Mr. Pearson cultivates it in a low span-roofed house, trained to a trellis overhead. It is a fine sight to see a house of Cucumbers like Mr. Pearson's, with the scores of club-like fruit hanging from the roof.—ARCHAMBAUD.

NEW ROSES.

Will "D." or some other of your contributors or correspondents, tell us which are the best Roses of 1867—I mean 1867 according to the Royal Horticultural Society's rule? An article on these describing their form, colour, and growth would, I am sure, be heartily welcomed by many a rosarian, who, not being able to attend the shows and judge for himself, is yet anxious to secure anything that is really new and good.

Will "D." also say whether he still thinks highly of Miss Ingram? I do not like to state what I have always thought of this Rose, as I yet hope I shall prove to be mistaken.

I see Mr. Radclyffe says he has not grown Marie Baumann. He has then missed one of the very best of the Hybrid Perpetuals, not excepting Charles Lefebvre and Alfred Colomb. It will please him greatly. My friend Mr. Cant and his clever foreman Nevard tell me Mlle. Jeanne Marix is really first-rate. Mlle. Rady, too, Mr. Radclyffe may depend on as good. I have also heard François Treyve highly spoken of, and indeed saw it in really good form at Mr. W. Paul's in July last. Felix Genero was very much praised by Mr. W. Paul and his Rose foreman.

I am sadly plagued this season by white mildew. The man who could give us a recipe for curing, or, better still, preventing this pest, would deserve, and doubtless get, something more solid than thanks from every true—ROSARIAN.

DUC DE MALAKOFF STRAWBERRY.

I HAVE forgotten what Mr. Douglas said of the Duc de Malakoff, but I am inclined to think from the description given by Mr. Biggs that he has not the true sort. The late Mr.

Nicholson sent this Strawberry with others to me some years ago. It is a very large round Strawberry, much like Ajax that came with it. It has wide-spread bold crowns, and very large, coarse foliage. Its flavour is juicy and vinous, and very good for so large a Strawberry. Ambrosia is also like it, but Duc de Malakoff is much better than either of the kinds like it. Mrs. Nicholson and Mr. Rivers have the true sort.—W. F. RADCLYFFE.

DELL'S BEET AS AN ORNAMENTAL PLANT.

I LATELY spent a few very pleasant hours in the gardens at Blenheim with Mr. Albert Moor, who is there laying a good foundation for the future. "In eight years' time," to use Mr. Moor's own words, "he hoped to succeed in completing arrangements as he had moulded them in his own mind." Truly it will be a long and an arduous work, but such is the tone of our Oxfordshire gardeners. When I was at Nuneham Mr. Stewart pointed out to me the improvements which he had already succeeded in carrying out there, and said it would take him ten more years to achieve the objects he had in view, and then "he feared his age would have so increased," as not to allow him to continue to enjoy the results of his enterprise and handiwork. I hope and think differently, seeing that Mr. Stewart has not yet a grey hair on his head. But to my subject.

I think I never saw anything of such striking effect as the planting of the ribbon borders which skirt the walks in the kitchen gardens at Blenheim, and which effect is chiefly attributable to Dell's Beet. These borders are a mile in length, and the view of them is quite unobstructed. They are thus planted:—Tom Thumb Scarlet Pelargonium, Dell's Beet, Mangles' Variegated Pelargonium, Brillante de Vaise Verbena, and Lobelia speciosa (blue). Certainly Dell's Beet partakes of all the good qualities ascribed by Mr. D. Thomson (see vol. xiv., page 385), to Barrett's Crimson Beet; and, unless my eyes for once deceived me, I thought the bronze tinge on the leaves of Dell's Beet exceeded anything I ever saw in any Beet—even too much so, it occurred to me when I passed it in the twilight. I feel it is very rash in me to set up my own in opposition to Mr. Thomson's judgment, but as I saw it Dell's Beet really did not lack the bronzy lustre of Barrett's. I quite agree with Mr. Thomson that wherever these handsome-foiled Beets are planted they produce a good effect. More particularly are they adapted for places of great extent. What a relief they are in many senses of the word! They are easy of cultivation, no incumbrance to houses, and if they are not of quite so dark a crimson in their flesh as some kinds when used for culinary purposes, still they appear of a very respectable hue at table, and are of good flavour, which is of more consequence to many than colour without it. Again, flanking one of the geometrical designs near the Palace, Dell's Beet shows finely in a ribbon, with my especial favourite Ostorn's Brilliant Pelargonium on its right and left.—UPWARDS AND ONWARDS.

P.S.—At page 74, for "equally objectionable from the same defect are Old Betty and Early Ten-week," read "similar in cultivation I conclude to be Old Betty and Early Ten-week," &c.

THE MUSCAT HAMBURGH GRAPE.

I WISH some of your readers, who think I have always over-estimated this Grape, would come and see mine. One bunch was cut to exhibit at a flower show, and there are nineteen bunches on the Vine now, weighing in all about 60 lbs. The berries are regular in size, and there is no sign of shanking.

This Vine is growing in as poor a border as it is possible to find anywhere—indeed, it could hardly be worse, unless it were in a wet undrained situation. It was made of strong soil without a bit of turf, soil almost strong enough to make bricks, and mixed with Derbyshire lime and a little manure. The soil is so unfit for the growth of Vines, that it takes two or three years for them to get into healthy growth, and I believe the roots have to find their way into the common soil of the garden before the Vines can make strong wood. In such a case one would expect plenty of shanked berries; and there were so many at one time that I intended to remove the Vines and make a fresh border. By encouraging more foliage the Vines have attained their present healthy condition.

The shoots are stopped one leaf above the fruit, and every time they grow are allowed to make two leaves, so that there are six or eight above the bunches on every shoot, and to this circumstance the healthy condition of the Vines may be attributed.

When the Muscat Hamburg was in bloom it was dusted with a large camel-hair brush, and the berries set like Black Hamburgs.

When we know how to treat it, this fine Grape is just as easy to grow as the commonest variety, and is, I think, quite the finest flavoured Grape in cultivation.

It will ripen with less heat even than the Black Hamburg. In my large orchard house, where no heat is employed, the Muscat Hamburg is colouring, whilst the Black Hamburg is still green.—J. R. PEARSON, *Chilwell*.

ROSES AND OTHER THINGS MERITORIOUS AT OKEFORD FITZPAINE AND SALISBURY.

I do not put these two places together simply because I visited them both in one day, but because I consider their owners may be very fairly taken as types of the amateur and public grower, and that therefore I might expect to see how they had fared during this terribly trying season. Mr. Radclyffe is well known for his scientific treatment of the Rose; and Mr. Keynes has left his mark in most of our public exhibitions this year, as he has, indeed, always done of late years; while naturally one would expect to see a different state of things, inasmuch as the private grower can always give more attention, time, and thought to his few hundreds than the grower for sale to his tens of thousands. Yet there is one point which I have conclusively settled in my own mind after seeing them, and that is, that for general use the *Briar is doomed*. Mr. Radclyffe has not one; and in Mr. Keynes's quarters of the stocks planted in autumn for budding this season, it was melancholy to see how many gaps there were, owing to the *Briar's* never having started at all, and yet I believe Mr. Keynes has suffered far less than some have done. We all remember what havoc the severe winters made with the *Briars*; and now, as it will neither stand severe cold nor extreme drought, and the *Manetti* will do both, it is time to think seriously of discarding it. Exhibitors will not do so, I believe, for the maiden blooms from a *Briar* are superior to those from *Manetti*; but for the general grower this will not be a matter for consideration, as almost anything can be done with the *Manetti* stock.

Mr. Radclyffe has been, we know, a strong and consistent upholder of the *Manetti* against all opponents, and not unnaturally appeals to his own experience in confirmation of the soundness of his views. All Rose-growers know what a terrible season for mildew this has been, and what incessant care it has required. Now on all Mr. Radclyffe's Roses there is no mildew, or very little to be seen. There is not an aphid, I truly believe, in his garden; and this is how he has managed:—He has cut off and cut out every piece of affected growth as soon as ever it appeared. He has washed his trees, has put a large quantity of good well-rotted stable dung round each plant, and has given each Rose tree a gallon of water every second day. It is manifest that he must have had a fine growth to be able to do all this; and so he has—shoots 6 and 7 feet long, foliage large and glossy, and heaps of young shoots all ready for a start if they can get a good rain, so that in September there will be such a bloom as few will be able to show. The first bloom was magnificent, I hear on all sides, and I can readily believe it; and with the care taken it would be indeed a sad piece of ingratitude on the part of the Roses if they did not make a good return.

But as the Roses are well managed, so also are the Strawberries and fruit trees. Of the former Mr. Radclyffe has this year taken up most of his large beds and made fresh plantations. These were already made, and notwithstanding the excessively dry weather, were doing well; but then, such care as they had—such preparation of the soil, manuring, &c.! It is useless with us in our climate to leave anything to Nature—we cannot do it; and skill and liberality in the use of means must make up for those general climatic influences which other people possess.

With regard to kinds, Dr. Hogg, Mr. Radclyffe, Eliza, Cockcomb, Lucas, and Royal Hautbois were, I think, the favourites, and deservedly so. Dr. Hogg and Mr. Radclyffe approach one another very closely, both of British Queen race, the former inclining to the heart shape, the latter to the cockcomb shape. They are both delicious Strawberries, hardy, and good bearers, and no Strawberry grower will consider his garden complete without them. Rivers's Eliza is an old but most useful sort, a seedling apparently from Myatt's Eliza, but more hardy, and a very abundant cropper. It hardly ever fails in the most

untoward season. Lucas is another favourite of Mr. Radclyffe. It is a seedling of M. De Jonghe's, of Brussels; the foliage is large and handsome; fruit fine, and of good flavour. Cockcomb is a large, and, as its name implies, flat-shaped fruit, but rich in flavour. Some of those grown in Mr. Radclyffe's garden measured 10 or 12 inches round. There are some people who imagine that if a Strawberry be large it must be deficient in flavour. With some kinds this is the case, but, on the other hand, some of our largest fruits are also some of our highest-flavoured ones. Of Perpetual Pine, of which much has been said, neither Mr. Radclyffe, nor, I believe, Mr. Rivers, has any very great opinion. Royal Hautbois is a rich and highly flavoured fruit, prolific, and well worth cultivating. These, with some Alpines, would form a good selection for any garden, while from my own experience I would recommend for the borders of kitchen gardens, and, indeed, for any place where quantity is desired, Trollope's Victoria. Nothing fills a basket sooner; and although too soft for market purposes, I do not think its flavour at all bad.

Since my last visit Mr. Radclyffe has added another wall to his garden, and his fruit trees presented that appearance of health and vigour which characterises all his produce. Here again, manure, watering, and syringing, are brought into great request; while that without which fruit-growing in the open air in England is, I am sure, a lottery—protection, is carefully used. It was this that was one of the secrets of his great success with the three famous trees at Rushton, and I don't not ere long he will have as fine a wall of fruit as can be anywhere seen. The value of protection is abundantly seen in the case of two espalier Pear trees in the garden, both Marie Louise. One was protected, the other not; one had five Pears on it, the other a hundred. The protection was of the simplest kind: a sort of crate was made of rough wood, and over this a sheet was thrown at night and taken off in the day. Surely, where such a difference can be made by so slight a method, we may well wonder that it is not more generally adopted. Mr. Radclyffe's answer to a lady who said she could not grow Roses in her soil, "Give them plenty to eat and drink, and they will grow anywhere," is the clue to his success. He possesses no advantages of soil or situation, but he feeds everything well and works hard. I never saw until here in any perfection the deciduous Cypress. There is a fine tree here, and what lovely foliage it has! Why is it not more grown?

I had intended to have said something more of Mr. Keynes's Roses, but reserve that for another time.—D., *Deal*.

HOW TO DISPOSE OF FRUIT?

You and your interesting correspondents often tell us how to produce fruit, and it is to be hoped that many amateurs and others profit largely by your good advice; but I expect there are many besides myself who more than supply their own wants, and would be glad if they could make their gardens pay for some of the labour expended upon them. Possibly like myself they look at the prices of fruit given in your paper, which somebody is supposed to pay at Covent Garden, but if they fondly imagine that they can get any such prices for their fruit, they are sorely mistaken. From about one-half to a third of the price quoted is generally all I have been able to obtain, and the worst of it is, there is the greatest uncertainty about getting this within any reasonable time. Those who live in the country, and at some distance from town, cannot send up their fruit by private hand, or take it themselves to market; they are obliged, therefore, in most cases, to trust to a salesman, and I should like to know how others are satisfied with this process. I will just state how I have fared. I was recommended to a Mr. —, as a most respectable man, and to him, therefore, I have confided my forced Peaches and Nectarines.

To make sure of the fruit travelling safely, I went to the expense of some nice boxes with false bottoms, but these I cannot get returned; of course, all the packing material, silver paper, &c., disappears; and worst of all, I never can get an acknowledgment that the boxes have been received, so that to this day I do not know whether some thieves on the railway, or some *bonâ fide* purchasers have eaten my fruit. I have written several times to remonstrate, but I get no answer, so I really think it right to warn others of this way of doing business, and I should be very thankful if you, or any of your correspondents, would tell me the best way to dispose of fruit. I have often thought that instead of giving large profits to salesmen and

others, those who have large gardens might just as well supply some of our large charitable institutions, such as hospitals, &c., at a very cheap rate. As it now is, everyone must be aware that a vast deal is wasted, which many poor creatures would be most thankful to have; and really if there is no better way of getting rid of one's fruit than that which I have unfortunately hit upon, it takes off the edge of one's delight in growing it not a little.—HENRY NICHOLLS, M.A., F.R.H.S.

[We must leave the salesmen in Covent Garden Market to defend themselves; but we can give our testimony that at least 50 per cent. ought to be deducted from the retail prices on account of loss by decay, non-sale, &c. Messrs. Webber, fruiterers, Central Avenue, Covent Garden Market, could give information on the subject.—Ens.]

VINE MILDEW.

POSSIBLY the best means to resist the ever-present, invisible, and multitudinous sporules gaining entrance to the plants either by the spongioles of the roots or by the stomates of the leaves, is to preserve a just equilibrium of moisture and temperature between the roots and leaves—that is to say, to keep the Vines in the best possible degree of health. Their susceptibility to injury from an attack of mildew may thus be supposed to be reduced to a minimum. But this state, even, is not always a perfect security against the invasions of mildew. Some localities appear to be peculiarly favourable to mildew. A gardener writes me:—"I have lived in England, Ireland, and Scotland, but here alone am I called on to wage war against the insidious enemy. My opinion, then, is that it is atmospheric, and that some localities are more congenial to its spreading than others." My own experience is the same.

For twenty years I have lived under Vines, but here alone has the mildew made its unwelcome appearance. The Vines which are, or were, attacked are in sound health, bearing fine crops of Grapes, and carrying an expanse of fine leathery foliage which, though never syringed, seems proof against the attacks of insects of any kind. The border is sheltered from winter rains by shutters. The Vines are subjected to no forcing, but are allowed to start naturally. Giving air and maintaining the proper temperature in the house, are carefully attended to. The ventilators are open all night, securing a constant circulation of air, which is increased with an increasing and reduced by a declining sun, closing at 80° or 85° early in the afternoon. This applies to the period after the Grapes had set, and when struck by the mildew. A genial moisture is kept up by sprinkling the paths, &c.; but anything like stagnation is avoided by letting the house become quite dry at least once during the day. The minimum night temperature is 60°. The young growth is kept duly pinched-in, not taken out by a barrowload at a time.

Such is briefly the treatment which the Vines received up to the time they were attacked. I purposely give it, in order that anything which may be favourable to the spread of mildew may be pointed out for the benefit of myself and others who are interested in this subject. Not only every bunch, but I may say almost every berry became, as it were, mysteriously infested with the parasite.

Of the several remedies applied, the old application of sulphur was the most effectual. Morning by morning, and week after week, were the berries carefully scanned and each fresh outbreak duly dusted. This, with a high, dry, and equable temperature, gave a check to the spread of the mildew. But this arid atmosphere was prejudicial to the well-being of the Vines; the Grapes refused to swell, or the leaves to expand, except in a very stubborn manner. An increase of moisture or a reduction of temperature accelerated the growth of the mildew. Excessive transpiration was undoubtedly telling injuriously on the Vines, and as I could not use atmospheric moisture as a compensation, I resolved to give moisture in extra quantity to the roots. The border was forthwith thoroughly watered with guano water, 2 ozs. to the gallon, at a temperature of 100°. The effect was striking and beneficial. The watering was repeated, this time with the addition of 1 or 2 ozs. of salt to the gallon. The beneficial effects of this application were still more apparent. The Grapes commenced swelling, and the mildew appeared to gradually die away.

Whether there was anything in the fertilisers which destroyed the vitality of the mildew, or that the more rapid growth of the Vines (and the consequent increased thickness of the cuticle of the berries affording a greater resisting

medium to the penetration of the fungus), produced these results, is to me an open question. Possibly both theories are applicable. Salt is a direct enemy to fungi, while Grapes which are far advanced in swelling when attacked by the mildew, are not susceptible of such great injury as when overtaken in a younger state. Vines under the same roof and growing in the same border, but on which the Grapes were near the colouring point when attacked, have given little trouble in comparison with the later ones, but notwithstanding the ordeal the latter have undergone, they are making a good show, and the berries are colouring and ripening well. Neither is the crop disfigured to the extent of a single bunch being unfit for table, but the berries are not so large as they otherwise would have been had they received no check.—J. W.

PLANTS IN FLOWER DURING JULY.

July 3. <i>Sedum dentatum</i>	July 13. <i>Campanula persicifolia</i>
<i>Rudbeckia laciniata</i>	" 16. <i>Petunia hirsuta</i>
<i>Dianthus caucasicus</i>	<i>Echinops sphaerocephalus</i>
<i>Linaria dalmatica</i>	<i>ritro</i>
<i>Coronilla elegans</i>	<i>ruthenica</i>
" 10. <i>Apocynum venetum</i>	<i>Helenium autumnale</i>
<i>Astilbe rivularis</i>	<i>Lychnis chalcedonica</i>
<i>Dracocephalum grandiflorum</i>	<i>Lythrum salicaria</i>
<i>Cytisus capitatus</i>	<i>Rudbeckia laciniata</i>
<i>Typha latifolia</i>	<i>Inula oculus-Christi</i>
<i>Epilobium angustifolium album</i>	<i>Phytolacca arborescens</i>
<i>Linaria montespalana alba</i>	<i>Polygonum amplexicaule</i>
<i>Spiraea salicifolia pubescens</i>	" 20. <i>Spiraea lobata rosea ulmaria variegata</i>
<i>Potentilla fruticosa pubescens</i>	<i>Centrocarpha gracilis</i>
<i>Rneselliana</i>	<i>Sedum Ewerii reflexum glaucum</i>
" 13. <i>Clematis vitalba</i>	" 25. <i>Iris variegata</i>
<i>Salvia Forskohlii</i>	<i>Francoa appendiculata</i>
<i>Symphytum tauricum bulbatum</i>	<i>Eryngium amethystinum</i>
<i>Lycium barbarum</i>	<i>Lotus corniculatus plenus</i>
<i>Linum Lewinii</i>	<i>Erigeron caucasicum</i>
<i>Sedum papulifolium kamtschaticum pallens</i>	<i>Circea alpina</i>
<i>sexangulare</i>	<i>Epimedium macranthum</i>
<i>Aconitum barbatum cammarum speciosum pauciculatum septentrionale</i>	<i>Aster alpinus albus</i>
<i>Centauria calcephala</i>	<i>Phlox anaveleena</i>
<i>Campanula bononiensis carpatica alba</i>	" 28. <i>Sedum hybridum anacamperosa</i>
	<i>Eryngium alpinum</i>
	<i>Empthalmum cordifolium salicifolium</i>
	<i>Sanguinaria canadensis</i>
	<i>Larkspur</i>
	" 30. <i>Cousinia hyatrix</i>
	<i>Gentiana acaelepiades</i>

—M. H., *Acklam Hall, Middlesborough-on-Tees.*

ORNAMENTAL AND FLOWERING SHRUBS.

(Continued from page 96.)

RHODODENDRONS being the finest of flowering shrubs deserve more than a passing notice, more especially as there are gardens in which they are not so generally planted as they ought to be. Some persons do not plant them owing to their soil being unsuitable, and this is a wise course to adopt, for of all plants there is none which looks worse than a Rhododendron in bad condition, and unless they are well grown it is far better not to employ them but plant other shrubs. There are, however, very few soils and situations that will not grow Rhododendrons well, and on these exceptions I shall remark hereafter.

Rhododendrons are generally divided into sections, and to this arrangement I propose to adhere.

Section I.—This consists of the hardy, late-flowering, hybrid scarlet, crimson, pink, rose, white, and other coloured Rhododendrons of English or continental origin. The varieties are very numerous: I will, therefore, notice only a few of the best of those flowering from the middle of May to the end of June, and which are hardy, good in foliage, and free in growth.

Alarm, centre white, edged with pale scarlet, very fine habit and foliage; Angiola, ruby; Archimedeia, bright crimson rose, very fine; Atrosanguineum, blood red, splendid; Barclayanum, reddish rose, large truss, good; Baron Cuvier, lilac, chocolate blotch, showy sort; Blanche superbe, waxy white, green eye, perhaps the best white, a ladies' Rhododendron for colour and loveliness; Blandyanum, deep reddish crimson, truss fine; Blandyanum superbum, light crimson, very bright, very free blooming, and of dwarf compact habit; Blatium, rosy lilac, finely spotted; Brayannum, rosy scarlet, centre paler, fine; foliage splendid; Brilliant, crimson scarlet, free bloomer, and of dwarf habit; Bylsianum, white, margin crimson; Californicum, rose (this is the hardiest Rhododendron I have met with, standing wind well, which is more than can be said of many sorts); Candidissimum, whitish and pale pink, spotted with yellow, showy and large; Chancellor, purplish lilac, finely spotted, large, perhaps the largest of this section; Chloe, crimson lake, and Comet, scarlet, both remarkably fine;

Concessum, rosy pink, centre paler; Currieannam, rosy lilac, centre paler, truss large; Dorkinsii, puce, very free bloomer; Duke of Cambridge, bright light crimson scarlet, centre paler, truss large, a showy sort; Duke of Norfolk, bright reddish rose, fine; Faust, pale lilac, splendidly blotched; Gem, pale rose, deep-coloured towards the margin, showy; Galnare, blush, of fine form; Hogarth, rosy crimson, fine; Ingrami, blush, blotched with lemon colour, fine; John Waterer, crimson, splendid, free blooming, but the habit needs improvement; Lady Dorothy Nevill, purple, spotted with black, very fine; Lefevreannam, purplish crimson; Leviathan, blush or purplish white, deeper at the margin, large and good; Leopardi, lilac, covered with chocolate spots; Lord John Russell, rose, splendidly spotted; Londinense, crimson purple, form good; Maculatum grandiflorum, purplish rose, large; Maculatum purpureum, purplish rose, much and finely spotted; Metaphor, rose, form and truss fine; Ne Plus Ultra, rosy purple; Papilionaceum, pale lilac, changing to white, good; Reedianum, cherry red; Schiller, light purple, shaded dark spots, showy; Towardi, rosy lilac, an old sort, for shape unsurpassed; Vesuvius, crimson scarlet, with a few black spots, truss large; Victoria, plum, free blooming and fine; Victoria (Pince's), claret, very fine; and William Downing, dark puce, blotched, very fine.

In addition, I would mention as desirable, though I have not sufficient experience of them to warrant my placing them in the foregoing list—Bride, white; Duc de Brabant, yellowish white, spotted with red, semi-double; Lady Lopes, waxy rose, dark spots; Lord Clyde, deep crimson; Lucy Neal, claret, spotted; Madame Miolan Carvalho, white; Neilsonii, rosy lake; Ochroleucum, centre lemon, shading off to straw, brown spots; Prince of Wales, rose, shaded purple, black spots; Princess of Wales, magenta edge, white centre, primrose flake on upper petals; Sir Thomas Acland, shaded rose; Standish's Perfection, white, shaded with pinkish lilac, blotch greenish yellow; Sydney Herbert, bright crimson, with a blotch of black spots.

Section II.—This consists of the early-flowering hybrid Rhododendrons. They flower early—in April and the beginning of May—and on that account are liable to injury from frost. In sheltered situations, however, they succeed very well, especially when protected from the north and east winds by trees at such a distance as not to overhang the Rhododendrons. In such situations they seldom fail to flower finely. They are the best of all Rhododendrons for forcing, and it is surprising they are not more extensively used for conservatory decoration, as they only require a sheltered situation in winter, and need but a slight amount of heat to bring them into bloom. Indeed, if merely placed in a cool house and allowed to come forward naturally, I know of no plant that will afford such a gorgeous display with so little trouble, whilst for forming groups in the flower garden, to be succeeded by bedding plants, they are unequalled. Of these Rhododendrons I would recommend the following:—

Altaclareuse, scarlet; Altaclareuse coccineum, scarlet, but richer in colour; Barbatum, deep rose; Broughtonianum, rosy red, splendid truss and foliage; Campanulatum, creamy white; Campanulatum hybridum, white; Cartoni, scarlet, spotted with black; Canesicium album (Cunningham's Dwarf White); Canesicium punctatum, creamy white, spotted with brown; Lady Duckworth, pink, very fine; Louis Philippe, scarlet; Mars, vivid scarlet; Mariar, shaded pink with dark spots, very fine, of dwarf compact habit, and a very blooming sort; Nobleanum vars., scarlet, rose, and other shades of colour, all dwarf, early, and free bloomers; Nobleanum superbum, scarlet, being the best in colour and of dwarf habit; Perspicuum, white, large; Rosamond, rose, dwarf, free blooming; Russellianum, crimson scarlet; Russellianum superbum, deep scarlet, large truss; Smithii coccineum, bright scarlet; Stamfordianum, rosy scarlet, showy; Vivid, rose; and Wellsianum, scarlet, fine.

Section III.—Catawbiense varieties. These are the hardiest of Rhododendrons, having fine foliage, good trusses of bloom, of good form and substance. They flower in May or later, according to season.

The best are Album elegans, waxy white; Album grandiflorum, blush white, green spots, fine; Azarenm, bluish lilac; Carulescens, bluish purple, large, and very fine; Eminent, rosy lilac, good; Everestianum, pale lilac, finely fringed and spotted; Fastosum flore-pleno, double-flowered, lilac, splendid truss; Giganteum, light rose, fine; Glennyanum, bluish white, of dwarf habit; Grandiflorum, deep rose, very fine; Purpureum elegans, Purpureum grandiflorum, both good purples; Roseum elegans, rose, fine; Roseum magnificum, rose, large; Roseum pictum, rose, spotted, fine; Splendens, rose, good; Standishii, rosy purple, spotted; and Superbum, deep rose, very fine.

Rhododendron catawbiense, from which the above varieties have sprung, is vastly superior to R. ponticum, and its colour is a bright light rose. It succeeds tolerably well under the shade of trees, and is excellent for planting in shrubberies, withstanding drought better than most Rhododendrons.

Section IV.—Varieties of Rhododendron ponticum. These have fine dark foliage, and are very hardy. The species thrives fairly under the shade of trees, and on that account is extensively employed for cover. In town gardens I consider them indispensable; they ought to take the place of the common Laurel, and be made the principal evergreen, just as the Laurel is in country gardens.

The varieties are Album, white, good; Atro-purpureum, dark purple; Aucubafolium, flowers lilac, leaves finely blotched with yellow, not unlike the old Aucuba, and it thrives in smoky town gardens much better than the Aucuba, and ought to supersede it; Blandum,

blush, foliage very fine; Guttatum, white, finely spotted; Hyaciathiflorum, lilac, double-flowered; Malmaculatum, white, prettily spotted, very fine; Nivaticum, white, green blotch, habit close and good; Lowii, white, spotted, large; Punctatum, lilac, spotted; Roseum, rosy lilac; Silver-striped, flowers lilac, leaves striped, not so fine as Aucubafolium in the variegation, yet distinctly striped; Vervaceum, lilac, double.

Section V.—The very late-flowering Rhododendrons. These are not particularly desirable except for their late flowering. Maximam, white, shaded with pink; Maximum album, white with green spots; Maximum purpureum, purplish; Wellianum, pink, fine truss, foliage and habit good, the best of this section, which is deserving of extension.

Section VI.—Dwarf Rhododendrons. These are desirable for small clumps and narrow borders, and for edgings to clumps of the large-growing kinds. They are likewise pretty for rockwork, on which they thrive well if moisture is afforded them in summer.

Rhododendron amonum, rose, does well under trees, especially under those with stems of some height, so as to admit light; R. azaleoides odoratum, white, shaded with purple, sweet-scented, fine for pots for conservatories on account of its fragrance, and its bloom being good for cutting; R. chamæistus, very dwarf (6 inches), flowers pink, an alpine succeeding in limestone soil; R. ciliatum, white, faintly shaded with rose colour, sweet-scented; R. daphnoides, rose-coloured, fine; R. danicum, purple, early flowering; R. ferrugineum, rose, dwarf, an alpine succeeding on rockwork; R. gemmiferum, shaded crimson, white centre, a gem in every way, fine for pots; R. fragrans, rose; R. Govenianum, light purple, sweet-scented; Hammondi, purplish rose; R. hirsutum, rose, similar in habit to R. ferrugineum (the variegated form of R. hirsutum is pretty; both are alpine, succeeding on rockwork, in peat and grit on sunny slopes, and in fissures when kept moist); R. myrtifolium, rose; R. myrtifolium hybridum, pale rose; R. ovatum, deep rose; R. teaculum, lilac; R. Tortonianum, pale purple; and R. Wilsonianum, rose. For the base of rockwork and the open borders, where there is a dry subsoil or well-drained soil, the dwarf Rhododendrons do well, and are very pretty.

Rhododendrons and all American plants are seen to most advantage in groups. In large gardens a group of each of the best kinds may be planted, whilst in smaller ones a clump of the best sorts of each section may be planted together, and will be found far more effective than a large number of the varieties forming the various sections mixed in one group. They do not flower together, the foliage is different, but the varieties in six groups may be harmoniously arranged.

Clumps have the best appearance when on grass or surrounded by it; single specimens are not good, excepting as standards, which are always fine objects in places sheltered from wind. All the varieties, however, do not form bushy, close, handsome heads. A few of those forming handsome heads are Atroroginicum, Barclayanum, Blandyanum, Blattenm, Bryanum, Congestum roseum, Erectum, Lady Dorothy Nevill, Lefevreannam, and Saddlefordianum, rose, finely marked; Everestianum, and Grandiflorum. Standards should have clean, straight stems, from 4 to 5 feet in height. Half standards in my opinion are not handsome, being simply leggy dwarfs.—G. ABBEY.

(To be continued.)

GIANTS OF THE VEGETABLE WORLD.

WITHIN a day's journey of the metropolis of Victoria, there grow the loftiest trees of Australia, and, perhaps, of the world. In the back gullies of Dandenong on the Black Spur, and near the sources of the La Trobe river, as well as in some of the remoter valleys of the upper Yarra, a kind of Eucalyptus, botanically known as *E. amygdalina* (Almond-leaved Gum Tree), attains such a marvellous height, as to rival at least in this respect, the Wellingtonia Pines of California. The stems rise as straight as masts, but with a height far exceeding the masts of any naval structure. The height of the loftiest ranges from 400 to 500 feet. A fallen tree on the Black Spur measured 480 feet in length. Another in Dandenong showed a height of 295 feet to the first branch, the height then extended 70 feet further in ramifications to the broken top branch, which here still measured 3 feet across. A still larger tree at Berwick, measured 81 feet in circumference, at a distance of 4 feet from the ground. The stems, with exception of the base, are beautifully smooth, and of an ashy colour. The wood is excellent for shingles, and splits with facility. Like many other Encalypti, this huge species grows with celerity, far more so than the Californian Wellingtonia, and the minute seeds germinate with the utmost facility. *Eucalyptus amygdalina* is restricted to Victoria, New South Wales, and Tasmania.—(The Builder.)

[We have often heard of the remarkable size attained by some of the native trees in Australia, as well as in Tasmania, but we are not certain we ever heard of a height of 500 feet being reached. We hope, however, some of our readers in the colony of Victoria will be good enough to forward us any information they can on these vegetable wonders, as well as on

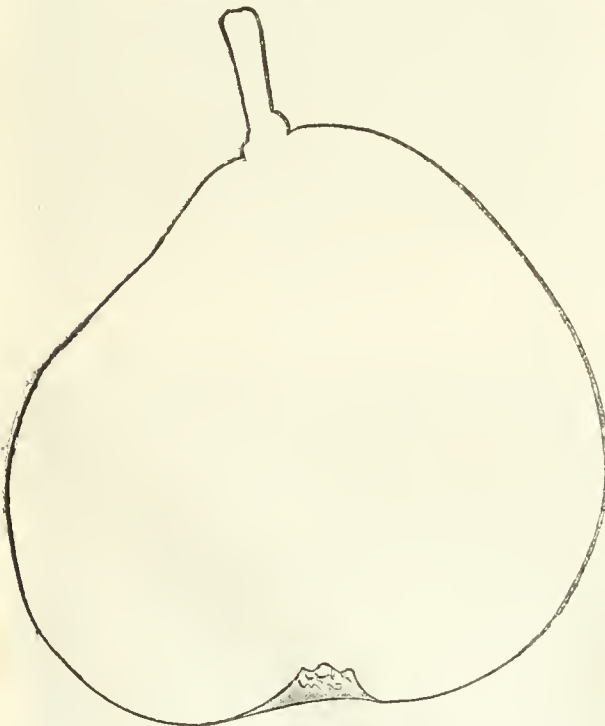
other subjects connected with that remarkable land; and if the measurements just given prove correct, what will our consins on the other side of the Atlantic say to their much and deservedly-extolled Wellingtonia being obliged to take second place in the list of vegetable giants? If this should be the case it will in no way diminish the value we place on the Mammoth Tree of the far west, which makes its home amongst us, and grows with all the vigour of an indigenous tree. The Australian Eucalyptusee are, however, another class, and we have no hope of their withstanding our winters excepting in a few sheltered places, as at Plymouth, and other parts of Devon and Cornwall, where we are told some have withstood several winters with impunity.—Eds.]

NEW ROSE LA FRANCE.

THE first two or three blooms of this variety were indifferent and thin, doubtless owing to the severe trial Roses and all plants have had to endure this season, but I have just now cut a perfect flower, and a very beautiful one it is. La France may be described as a large and full Rose, the outer petals slightly but gracefully recurved, silvery white, tinged with pale pink, and having a deeper centre. The whole flower is almost spheroidal. The petals are of good substance, well coloured throughout, thus indicating endurance; it is also powerfully fragrant. Other blooms will shortly be expanded, which will, doubtless, fully verify the above. The plant grows vigorously, and is freely remontant; it bids fair, therefore, to be one of the best Roses of the year.—ADOLPHUS H. KENT.

PEARS.

14. AMIRAL.—Fruit large, a little uneven in its outline. Skin very much covered with rough ashy grey russet, exhibiting here



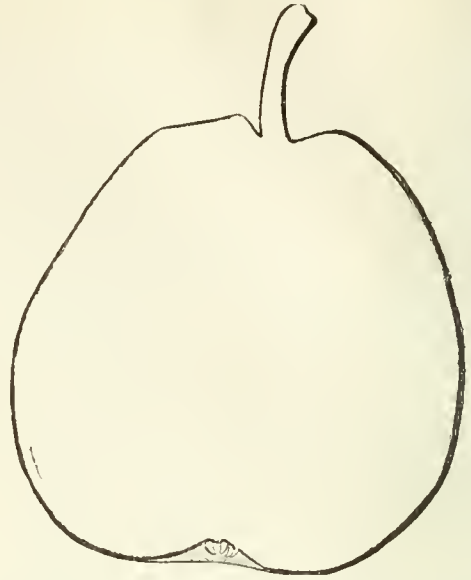
Amiral.

and there small patches and mottles of the yellowish green ground colour. Eye small and open, with short horny segments set in a slight depression. Stalk three-quarters of an inch long, slender, brown, and woody, fleshy at the insertion. Flesh tender, buttery, juicy and very melting, sweet and sugary, with a fine anise aroma.

A very fine Pear which ripens in the last week of September, and then bleets very rapidly.

This is Amiral of the old pomologists, and is quite distinct from Arbre Courbé, which is sometimes made synonymous.

15. ANANAS.—Fruit medium size. Excellent for deasert late in September, but does not continue good long.



Ananas.

The Passe Colmar is sometimes called by this name, but is an entirely different variety, and so is that called by the Belgian pomologists the Beurré Ananas.

A NEW PEACH.

WE have just received from Mr. Pearson, of Chilwell, a seedling yellow-fleshed Peach, ripened in one of his orchard houses, which is deserving of notice. Yellow-fleshed Peaches, which are so greatly esteemed in America, have not found much favour in this country. They are much inferior as a rule to the white-fleshed sorts, yet there is something very pleasing and warm-looking about them quite in contrast to the others. Mr. Pearson's seedling is one of the best we have tasted, of large size, the flesh deep orange yellow, very melting, juicy, and pleasantly flavoured, and the fruit is exceedingly handsome in appearance. It is a variety of decided merit.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

PLEROMA MACRANTHEM (Large-flowered Pleroma). *Nat. ord.*, Melastomaceae. *Lim.*, Decandria Monogynia.—Very fine both in flower and foliage. Native of St. Catherine, Brazil. Flowers purple.—(*Bot. Mag.*, t. 5721.)

PRIONIUM PALMITA (South African Palmita). *Nat. ord.*, Junceaceae. *Lim.*, Hexandria Monogynia.—Native of rivers in South Africa.—(*Ibid.*, t. 5722.)

NANODES MEDUSÆ (Medusa's-head Orchid). *Nat. ord.*, Orchidaceae. *Lim.*, Gynandria Monandria.—Native of Ecuador. Introduced by Messrs. Backhouse, of York. Flowers green, lip dull reddish purple.—(*Ibid.*, t. 5723.)

MONIZIA EDULIS (Eatable Monizia, Cenoula da Rocha, or Rock Carrot). *Nat. ord.*, Umbelliferae. *Lim.*, Pentandria Digynia.—Native of the Great Desert, one of the Madeiran Islands. Although the root is eatable when boiled, it is only equal to a bad stringy Parsnip.—(*Ibid.*, t. 5724.)

ONCIDIUM MARSHALLIANUM (Mr. Marshall's Oncidium). *Nat. ord.*, Orchidaceae. *Lim.*, Gynandria Monandria.—Native place not stated. Introduced by Messrs. Low & Co., of Clapton. Flowers yellow and crimson.—(*Ibid.*, t. 5725.)

IRESINE LINDENI.—“Of the several species of the Amaranthaceous order which furnish highly-coloured leaves for flower-garden decoration, the plant we now figure promises to be one of the most useful. Its habit is dwarf and freely branched, producing an abundance of twiggy shoots, which are clothed

with lance-shaped leaves of moderate size, and of a deep blood-red colour, the midrib appearing as a broad purplish band. This colouring, M. Van Houtte observes, is varied as the foliage is moved by the wind, so that the plant presents different shades of violet, purple, and deep rose, a deep red hue predominating. It is said to grow from about 1½ foot to 2 feet high, and the leaves, as will be seen by our figure, have this great advantage over those of *Iresine Herbstii*, irrespective of their better colour, that they present a clean, flat, even surface, instead of one which is so concave as to appear distorted.

"*Iresino Lindenii* has been quite recently introduced from Ecuador by M. Linden, by whom it was exhibited for the first time at the great Ghent Show in April last. It has subsequently passed into the hands of M. Van Houtte, of Ghent, by whom it is now being distributed."—(*Florist and Pomologist*, 3 s. i., 169.)

PALMS.

MANY species of this genus are the best possible for in-door decoration, and in a small state particularly so. No plants are more easily grown, and none are more tenacious of life than the Palm, enduring alike dust, and cold and heat from open windows and gas-heated air. Who will not say that a small Palm of any species, with the top of the pot covered with *Lycopodium denticulatum*, is anything but an ugly object in a lady's boudoir, or anywhere else? Where one plant is grown for this purpose in Britain, a thousand are grown on the Continent, and why? because foreigners appreciate their beauty and gracefulness, and a great demand is at once raised. Nurserymen alive to their own interest build houses expressly for their culture, import seed, and raise them by the thousand, and in three years they are sold to the plant-loving community of Paris for 5, 20, or 30 francs each, as the case may be. Belgium supplies large quantities, and even sends them to the Paris market. Such species as *Corypha australis*, *Oreodoxa sanchona*, *Latania borbonica*, *Areca rubra*, and many others, are sold to those wishing to grow on their own plants, in a small state, at from 8 to 20 francs the dozen. Who, then, would be without a Palm in their houses when they can be got so cheaply?

We have all been in the habit of looking to the botanic garden at home for a sight of a Palm, but nowadays our enterprising nurserymen are bringing Palms within the reach of everybody, and in some private gardens they may be counted by the dozen, and still the wish is for more. What looks neater than a few dwarf Palms dotted through a vinery or Peach house? They give at once a furnished and elegant appearance to the houses; and they get at the same time ample room to develop their handsome persistent leaves. No more attention is paid them than three or four waterings a-week with warm water, and a slight addition of soil in a larger pot every other year. This, with a sponging once a-month with rain water, maintains them in health and vigour, in a small state for a number of years. Sandy peaty soil is the best for Palms, lightened and enriched with very old leaf soil, and all warm and dry previous to use. A loamy cold soil, and applied in large quantities, is a sure way of having weak yellowish leaves, instead of dark-green leathery ones.

A common practice with many on receiving a Palm from the nursery is to pot it immediately in a larger pot, and to give it altogether a different soil to what it has been accustomed to, before even studying its proper wants, or the time of year it came to hand. May is the best month to apply additional food to Palms; and July and August the best months to get them from any distance.

The French and Belgian gardeners adopt the following mode of culture. The houses are low, flat-roofed lean-to's, 12 feet wide or so. The first 3 feet from the front forms a table, the next 3 feet the pathway, and then a bed of tan or leaves, 6 feet wide, wherein are plunged the young Palms. From the moment the young seedlings are transferred from the seed-pan to a 3-inch pot they are kept plunged in a tan bed, in order not so much to supply them with heat, as to keep the soil moist and healthy without water till the roots are in activity. Moistening the leaves with warm water twice a-day is sufficient for them for months. While in a young state they require more heat than when older. Sorts such as those already indicated, with *Seuferthia elegans* and *robusta*, *Phoenix dactylifera* and *reclinata*, *Caryota Cumingii* and *excelsa*, several *Chamærops*, *Thrinax parviflora*, *Zalacca Wagneri*, *Cocos coronata*, *Caryota socolifera*, and many others, will thrive and look robust in any house kept a little close and moist. Although

in French nurseries they are accommodated with tan beds, it is not absolutely necessary when they are four or five years old, and the pots well filled with roots. The front 3-foot shelf is generally filled with *Dracænas* and *Pandanuses*, and, altogether, the house has a very fine appearance.—H. K. (in *The Gardener*.)

THE POTATO DISEASE.

IN the year 1847 I was drawn into a paper controversy on the Potato disease, that year being the third in which it had made its appearance. The theory I advanced was founded on some experiments I had made, and which this season has verified—namely, that the disease cannot exist in "a dry and high" atmosphere. In ordinary seasons in this district (North Devon), the disease has usually shown itself from the first to the middle of July, but up to this time (August 10th), it is neither to be seen nor heard of.

Those who have watched the many peculiarities of this disease will, no doubt, be on the alert to see what effect this unusually dry and hot summer may have upon the constitution of the Potato. Possibly a couple of such summers following one another would tend to stamp-out the disease.

For the last ten days complaints are very common in this neighbourhood that the tubers in the ground are shooting. Where this is found to be the case with early and second early kinds, they should be lifted at once.—A. McKELVIE, Torrington.

NOTES AND GLEANINGS.

WE understand that the bulb-growers of Holland have intimated their intention of offering prizes, open to all growers, for distinct kinds of HYACINTHS at the First Spring or Hyacinth Show of the Royal Horticultural Society in 1869. The prizes intended to be offered amount to £45 3s.

WORK FOR THE WEEK.

KITCHEN GARDEN.

WHILE the hot weather lasts but little can be done in this department, except keeping the ground clean and trenching it as crops are cleared off. *Cauliflowers*, make arrangements to sow seed thinly about the middle of the month and again in the first week in September. The former sowing will supply a few early heads, but they will require a considerable amount of protection. The September sowing is chiefly to be depended upon. Plant out a good breadth of the June and July sowings. They will be more thought of, if they can be protected during the winter, than Broccoli of any kind. *Carrots*, sow a small bed now and at the end of the month for drawing young in winter and spring. *Lettuces*, sow now and at the end of the month for winter and early spring supply. For this purpose the Brown Dutch and Hardy Hammersmith are the best Cabbage Lettuces. The Black-seeded White and the different varieties of the Brown Bath are the best Cos varieties. Continue to plant out successional crops. *Mushrooms*, collect horse droppings and cow dung for beds in sheds or houses. Where there is a deficiency of shed or house room, and there is a scarcity of materials for a large bed in winter, it will be a good plan to make a slight bed or two in a sheltered place now. For this purpose nothing is preferable to the half-reduced dung from an old lining. If the bed be built in the ridge form, from 2 to 3 feet in width at the bottom, carried to the same height, firmly beaten together, and defended from heavy rains, it may be spawned, earthed, and in bearing before a larger bed could be safely covered-in. *Spinach*, Winter Spinach is always sown at the same time as Cauliflowers for spring planting. *Onions*, *Savoys*, *Red Cabbages*, and two or three other sorts are, or used to be, sown also at the same time.

FRUIT GARDEN.

The bunches of out-door Grapes may be protected in half globes of glass, which may be obtained at any glass-blowing establishment, and any spare lights from frames or Peach houses might now be profitably fixed against favourite Vines or Peach trees. Where wasps or flies are troublesome the fruit may be defended with gauze or thin bunting; but where much attention to ripening the wood is necessary, nothing is better than covering each fruit very thinly with cotton wadding.

FLOWER GARDEN.

Flower gardening in the autumn may appear an easy matter,

the plants having all filled their allotted places; but in a large flower garden containing a great variety of plants more delicate work is now required than at any other time in the year. Take a bed of Petunias, for example. As soon as the plants begin to run over the sides of the bed a man must begin to cut all the leading shoots just inside the edges of the bed. In three days more the same work must be repeated, and in three weeks the sides of the bed form a regular bank 5 or 6 inches high, while the plants in the middle of the bed are from a foot to 18 inches high, with a surface as even as any part of the surrounding grass, yet no one can see that a shoot has ever been touched. The bed is kept nearly at that level throughout the season by close pruning, and beating down by rain is almost impossible. Now, how different is this from the old system of cutting the sides of the bed with shears and allowing the strongest plants to tower here and there all over the bed, the first heavy rain, perhaps, levelling them to the ground. Managed properly, the Petunias make the best of rows for circular beds or along a walk.

GREENHOUSE AND CONSERVATORY.

To do proper justice to forced Hyacinths expected to bloom at Christmas, they ought to be potted not later than the middle of August. They may be flowered as early as Christmas if potted as late as the end of September or beginning of October; but this is too much for the bulbs, the flowers are not so fine as from early potting, and it takes two seasons' good nursing to bring the bulbs round again, so that they will make their appearance among the early spring bulbs in the beds and borders of the flower garden. They manage differently in Holland, where they know the nature of the Hyacinth much better than we do. There, from time out of mind, the first crop of forcing Hyacinths is potted about the first week in August. They provide against exciting the foliage till the pots are full of roots, by a thick covering of tan, leaf mould, or something of the kind. In about six weeks the pots are full of roots, they are then taken to cold frames and kept close to the glass, with plenty of air, and the natural warmth of the latter part of September and the whole of October, is sufficient to bring up the foliage and flower-buds very gradually, with the least possible injury to the bulbs. Indeed, as compared with our practice, the bulbs can hardly be said to be forced at all, and after one season's nursing the same bulbs are fit to be again forced, or exported in the usual course of business. It is now high time that the Narcissuses which were taken up last June, to make room for other plants, were now planted where they are to flower next April and May, and as they do not push up till after the present crops are over, or are killed by the frost, they will be no eyesore in that respect. Meantime, their roots will push deeply into the soil, and be better able to supply the requisite nourishment at the proper time than if left out of the ground till October. Narcissuses that are left in the ground from year to year are now making fresh roots actively, though no signs of vegetation are apparent in the bulbs. This shows plainly enough that we should not put off planting them till the time of planting Tulips. One of the best autumn plants for the conservatory is *Lisianthus Russellianus*. It does best when treated as a stove biennial and sown about this time. The varieties of *Thunbergia alata* sown last February are now, and will be for a long time, very beautiful trained on trelliswork. *Vinca rosea* and *alba* make admirable plants for the conservatory in autumn. *Allamanda cathartica* in a pot is also well suited for this purpose, but being of a succulent nature it should not be kept here late in autumn, but should be removed to the coolest part of the stove. All these plants require now less air and water, and the house to be kept somewhat drier. No two greenhouses are managed anywhere alike in summer. Where Vines are on the rafters, the house should now be kept more close to ripen the fruit early before the time of housing the plants for winter; and where plants in flower are the chief study, a drier atmosphere, more air, and attention to cleanliness are requisites to be attended to.

STOVE.

There is a large number of stove plants that might now be propagated from, and the old plants thrown away after they have done flowering between this and Christmas; such, for instance, as *Clerodendrons*, *Justicias*, *Roellas*, *Vincas*, &c. Young plants of these might easily be nursed through the winter in 60-sized pots, and as soon as they begin to grow freely in spring they may be shifted into pots a size larger, and when the roots are fairly through the fresh soil they will be in a condition to stand the one-shift or any other system. This

would give more room to woody plants in winter, and the younger the plants of softwooded species are the better they always flower. If any of these are too small to form fine specimens singly, propagate more of them, and plant half a dozen of them in a pot at the final shifting.

PITS AND FRAMES.

If Acacias intended for forcing next January are huddled together in some out-of-the-way corner, they will not flower well next spring. Other useful plants would now be better along with them in the open sun. If your plants of *Coronilla glauca* are planted out in a border to make them fine specimens, the sooner you take them up and pot them the better, as they go on making young wood till overtaken by frost, without ripening wood for producing bloom. If they are full-grown specimens cramped in pots, give them plenty of water, and expose them to the sun in the open air.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

At length on the 6th we had a few showers, and early in the morning of the 7th we had the best rain for an hour that we have had for nearly four months, with slighter droppings during the forenoon, all of which, though not penetrating deeply enough to reach the roots of established plants, did much to benefit those which were newly planted, washed the foliage, refreshed the earth, and gave an agreeable coolness, which to vegetables and animals was a pleasant relief from the arid heat which oppressed everything, and seemed like a heavy load resting on our spirits and our actions. For our own part we were just on the point of the dilemma we were in four years ago, when the only chance we had of preserving many pot plants was to cover them up in a wood until better days should come.

Owing to a lull in our laundry work our house sewage had failed us, and we had not more than an inch of water above part of the mud in the only pond of water left us, and that we were pumping and using as if every pailful were as valuable as gold dust. Our deep well has long been confined to domestic purposes, and when the rain-water tanks failed it had to be used for the laundry and stable yard. This water is very hard originally; but when it all collects in the sewage tank at a considerable distance, what from the soda, the soap, and the fatty matter, &c., it has never injured any plants out of doors to which it has been applied; and of course after such a rain as that on the 7th, much would find its way from the gratings of yards, &c., that would make the sewage all the more soft and pleasant to plants. We have for want of better used it freely to our fruit trees in pots, and without any apparent injury, and if we could have obtained enough we would have used it to our bush and pyramid fruit trees in the open air. All these were mulched early in the season, but we would have liked to have given them six pailful of water each, and then the fruit would have been larger. For months neither from rain nor dew has the foliage been thoroughly damped, and yet our established trees it looks well; but we have a good idea of the reason why under such circumstances the foliage is so healthy, and that is simply because in self-defence the roots have gone deeper in search of moisture than we would wish them to do; and we see in the recurrence of such seasons the necessity of lifting and replanting, or the cutting of the lower roots, all of which work might be avoided could we only entice the roots to remain near the surface.

But for the burning heat and the depredations of the fly on all the Cabbage tribe, established vegetables would have suffered comparatively little from the drought, as their roots, like those of trees, were induced to go deeper. It is succession crops with roots near the surface that have chiefly suffered.

In such seasons as this the mode of *conveying water* becomes a matter of importance. A barrel-drain takes all the superfluous water from the mansion here. It has been built of soft bricks and mortar, and as the drain is a good way from the surface, farther than the loss of water in a dry season the drain answers its purpose well enough, as besides the loss of the fluid from passing through the bricks and joints, no other prejudicial effects result. Owing to the slimy matter that in time will collect in all drains at the bottom, we lose little of such water in ordinary circumstances; but we have always noticed that after a flooding rain we never get water from that main drain in proportion to the rainfall, as after the water rises to a certain height in the drain so much escapes through

the bricks and joints into the earth. For securing as much as possible of the water when necessary, it would be economical in the end to use hard bricks and cement joints, or large, hard-burned, glazed earthenware pipes with cement joints. For clean water we would recommend large metal, and, better still, glass pipes; but unless the pipes were large we would not recommend iron pipes for sewage, as when of small size they soon become furled and closed up wherever dish-washings and soap water form a chief part of the sewage.

In taking rain water from sheds and glass houses to a considerable distance to tanks, &c., nothing is better for carrying the water underground than iron pipes cemented at the joints, provided the pipes are deep enough to be beyond the reach of frost. Next, we prefer hard-burned, strong, glazed earthenware pipes, with Portland or Roman cement joints. Contrary to our wish, we had a portion of such connecting piping below the ground done with common earthenware drain pipes and cement joints, but we know we lose a good deal of water by them, as they become softer and more porous when laid in the ground. These little matters become of considerable importance when every gallon of water has its value. From a similar amount of hard surface, as slate or glass, there is a great difference in a heavy shower in the quantity of water that at once reaches the tank when conveyed by such earthenware pipes, as contrasted with iron or those that are hard and glazed.

Tiles in proportion to their thickness, if not glazed, are bad roofing when the rainfall is to be depended on. We have known cottages roofed with tiles, the water falling on which was conducted to tanks in order to serve for water supply, and unless in a very fast or continued rain hardly any water would reach the tank, whilst from a similar roof of slated tiles the tank would be nearly full. In drizzling rains soft tiles will absorb the rain nearly as fast as it falls.

Our turned-up ground in the kitchen garden has not been wetted enough for general purposes, but we have sown a piece of Turnips, well soaking with the rain water the opened drills before sowing. We also sowed a piece of Spinach in the same way. We hope these sowings will do, as the weather promises to be much cooler. We cannot say much for our success, though adopting the same mode previously, and covering carefully, leaving dry soil on the surface, and even sprinkling with a little litter to break the force of the sun's rays. The air was so arid that in spite of everything it would suck up the moisture, and what green leaves appeared were pounced upon by myriads of the fly. We will follow with main crops of Spinach, watering the rows before sowing, and will sow more than usual, in case Winter Greens should not be so large and plentiful as in the generality of seasons. We will also make our first sowing of Onions, and will sow more in a fortnight, as these Onions when established are nearly as independent of a hot summer as a crop of Wheat sown in autumn. Spring-sown Onions will not be of the usual size this season in our district. We will water Coleworts with manure water as soon as we can, and give a good position to more young plants for winter and early spring supply. A fine lot of these may be obtained by planting in rows a foot apart, and about 9 inches from each other in the row.

We can only say what we should like to do with our main plantations of Cabbages planted last autumn, and which, in spite of the drought and heat, have furnished repeated cuttings, and that all the more from the larger lower leaves falling off, and almost covering the ground, and thus so far arresting radiation and evaporation. We would fork over the ground, give a good soaking of sewage, and then cover the ground with a mulching of half-rotten dung. Thus treated, we would have good gatherings until the spring Cabbages came in; and in this district green vegetables will have their value during the coming winter. Thus treated, old Cabbage stumps will yield a supply as juicy and succulent as the best young Coleworts. As previously stated, we have sown Lettuces, Endive, and the Cabbage tribe under old sashes, as we very nearly lost them all in the open air. Since the rain on Friday the dreaded jumping fly has become more scarce.

FRUIT DEPARTMENT.

Wasps, as usual, have appeared in strength in August. Until the beginning of the month we scarcely saw a single specimen all the season. They were very small and thin at first. On close investigation we never found so many nests, especially in the pleasure ground, and the cracking of the turf gave them great facilities for burrowing, and this, combined with the hardness of the ground, made it more difficult to dig them out and

destroy the nests. In most cases, when we did so, we buried a bottle with enticing liquid in it, leaving only the rim of the mouth above ground. From some such bottles we have since plugging them taken a pint of wasps, and in others that had become dry they had actually commenced forming cells for a fresh habitation.

One of our young men tried a simple mode, that would be very useful where it would not be convenient to dig out the nests, which, however, well done, always leaves some wasps at liberty, and these when deprived of a home are apt to be more predatory than ever. The top of a hand-light was firmly placed on the ground over the nest after dark, a plate with burning sulphur was quickly shoved inside the glass next day, and very shortly the myriads that filled the glass had finished their existence. This repeated several times would destroy the most prolific community of wasps.

As yet wasps have done little harm in the garden, but have just begun to taste the ripest Peaches and Nectarines in the orchard house, but even there to a trifling extent. We were forced to let them and armies of large flies have more than their share last year, and we resolved to keep them under this season. Our front ventilators are of wood, and we covered all the openings with netted gauze, through which a fly of any size could not pass. We had a little more trouble with the top ventilators of glass, that are merely hung by a screw on each side, as a pivot, and which for such a purpose answers well enough. To leave the ventilators when open we should have to make a sort of bag of netted muslin for each ventilator, which would take up a great deal more material, and occupy time to do it. We therefore unscrewed and took out all the ventilators, and then covered the spaces with the gauze, using a piece of common twine drawn tightly over the gauze, and keeping it tight with a few tin tacks. The gauze lets plenty of air through, and therefore all air-giving is now avoided.

There will be plenty of heat to ripen Peaches, Nectarines, Plums, &c., as soon as we want them. Our only drawback is as respects the Vines in one house. Less air would have enabled us to have ripened them earlier in the autumn; but when the Peaches, &c., are all gathered we can replace at least a portion of the ventilators. This is the penalty we must pay at times for having so many things in one house. But for keeping the Peaches back instead of forwarding them, the same treatment would have suited both crops. Now the Grapes will receive a little check to do what is desirable with the Peaches. The second crop of Figs would have come on all the sooner in a closer, warmer atmosphere at night. Before the rain of Friday, which put a good many gallons in our tanks, we began seriously to think that we should have to place a foot of litter over all the pot plants in these houses, and cover the ground in the later house to keep moisture in. This would not have contrasted well with the heavily-loaded trees, and we are glad that for the present we shall not be under any such necessity.

All trees in pots from which the mulching had disappeared were fresh mulched, and those who have never tried it would be surprised to find how much this mulching saves watering, whilst the water that reaches the roots is more fertilising. Some people pretend to laugh at all surface-mulching and manuring. "Put the manure in the ground," say they, "if you wish to see fine luxuriant results." One man told us not long ago, "Why, you are as stupid as some of your farmers, who cart out their manure on their land and allow the air to take away its best properties for weeks, plough it in when as dry as fresh-made hay, and then expect a fine crop of succulent large-sized Turnips." Well, let them laugh who win. If we wanted fine Turnips and huge Cabbages we would turn in the well-made moist manure as soon as possible, and grudge every ounce the air took away; but if we wanted masses of bloom and plenty of fruit rather than over-luxuriant shoots and foliage, then we would have our manurings near the surface, even if the atmosphere should rob us of a little of its fertilising influences.

In the open air took a few hours to free our dwarf trees of laterals and superfluous shoots, being rather behind in this work. All spurs and shoots to bear next season should have all the sun possible now. A gentleman complains that his Peach trees grow vigorously, but he obtains little fruit, and no wonder; his trees now are like a thicket, the summer shoots luxuriant and weak, all standing out in bold relief from the wall; and he drags in our authority for his practice by telling us he read something to the effect that Fig trees did better when allowed to grow somewhat naturally than when close-trained to the wall; and if this was the case with Fig trees.

why would it not answer with the Peach? Now, Fig trees will do admirably when not too closely trained, and we are indebted for the idea to that clever gardener Mr. Tillyard; but the system would be ruin to Peach trees. The season is yet before our correspondent, but let him not lose an hour in cutting out all very luxuriant shoots, removing also all the weaker ones, and laying in close to the wall all the middle-sized shoots about the thickness of a quill, and as closely together as will cover the wall with shoots at from 4 to 5 inches apart, and if these are ripened by the autumn in his climate we will guarantee he will have plenty of fruit buds, and flowers and fruit too next season. If these shoots exceed 18 inches in length he may nip the point out of each if the trees are vigorous. If the trees are old, until he brings them round to fruitfulness, it will be well not to stop until he sees triple buds on the shoot to cut back to. It will be as well, after the thinning of the shoots, to defer stopping those left for a week or two, as doing both operations at once would be too great a check to the energies of the tree.

ORNAMENTAL DEPARTMENT.

Our walks, though clean, were becoming rough from the long drought, and therefore, on the afternoon of Friday, we had them swept to fill up the cracks, and well rolled before the moisture had evaporated. A few weeds that showed were pulled out in sweeping. We dislike walks which will try the feet of those using thin-soled boots, but for two months ours were rough, and we could not help it; now they will be tolerably comfortable for some time. How few men there are who can sweep a walk, so as to leave all uniform and not a mark or a trail of the broom behind them. This can only be done by sweeping right on, and using no side or back strokes. It is quite a treat to see some men clip edgings and sweep walks, whilst others, with excellent intentions, can never avoid leaving marks behind them. Just as in watering, some men seem to know all about watering as if by instinct, in-doors or out of doors, others will never water a plant properly, except by chance more than judgment. With them it is of no use detailing plain signs. The very simplicity of some things seems to act as a deterrent to right practice. In this simple matter we have found men who could scarcely read, far more to be trusted with the watering pot than other really clever intelligent men; yet all general intelligence ought to make a man more conversant and attentive to simple matters.

In consequence of using sulphur, as lately described, Lobelias are looking up after the depredations of the rabbits, and with that exception and the Calceolarias, far from being so fine as they were a month ago, the flower garden would, in spite of the dryness, look well if the lawn were only green, and there is a greenish tinge stealing over it since the rain of yesterday. We have had it knifed several times, to cut down plantains and other weeds, and let the sun dry them up out of sight. A figure of this knife appeared in a previous volume, and recently Mr. Galward, of Hitchin, an energetic ironmonger and machinist, has had it over as a pattern, as he thinks it will not only be useful for lawns, but also for farmers for cutting charlock and all other weeds that appear above the corn early in the season. We know that even with our long handle it answers well for quickly going over a field, and with the least possible trouble to the workman.

We have machined round the beds where there was anything to cut. With another shower or two we think we shall be all right for the autumn. With the little water at our disposal, we have used it exactly as described previously.—R. F.

COVENT GARDEN MARKET.—AUGUST 12.

OUR quotations remain much the same as last week, and there is little or no alteration worth notice in the general features of the market, the chief supplies, both home-grown and foreign, being Apples, Pears, and Plums. The last cargo of West Indian Pines has arrived in very bad condition.

FRUIT.		s.	d.	s.	d.	FRUIT.		s.	d.	s.	d.
Apples	..... ½ sieve	1	6	0	0	Melons	..... each	2	0	5	0
Apricots	..... doz.	2	0	4	0	Nectarines	..... doz.	4	0	8	0
Cherries	..... lb.	0	0	0	0	Oranges	..... 100	12	0	0	0
Chestnuts	..... bush.	0	0	0	0	Peaches	..... doz.	6	0	12	0
Currants	..... ½ sieve	4	0	0	0	Pears (dessert)	..... doz.	2	0	0	0
Black	..... do.	4	0	5	0	Pine Apples	..... lb.	3	0	5	0
Figs	..... doz.	3	0	5	0	Plums	..... ½ sieve	5	0	6	0
Filberts	..... lb.	1	0	0	0	Quinces	..... doz.	0	0	0	0
Cobs	..... lb.	0	9	1	0	Raspberries	..... lb.	0	0	0	0
Gooseberries	..... quart	0	0	0	0	Strawberries	..... per lb.	0	0	0	0
Grapes, Hothouse	..... lb.	2	0	5	0	Walnuts	..... bush.	10	0	16	0
Lemons	..... 100	8	0	12	0	do.	..... per 100	1	0	2	6

VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.
Artichokes	..... doz.	3	0	6	0	Leeks	..... bunch	0	4	0	6
Asparagus	..... 100	0	0	0	0	Lettuce	..... per score	2	0	4	0
Beans, Kidney	..... ½ sieve	4	0	5	0	Mushrooms	..... pottle	3	0	4	0
Beet, Red	..... doz.	2	0	8	0	Mustd. & Cress	..... punnet	0	2	0	0
Broccoli	..... bundle	0	0	0	0	Onions	per doz. bush.	6	0	0	0
Brus. Sprouts	..... ½ sieve	0	0	0	0	Parsley	..... per sieve	3	0	4	0
Cabbage	..... doz.	1	0	2	0	Parsnips	..... doz.	0	9	1	0
Capsicums	..... 100	3	0	0	0	Peas	..... per quart	0	1	6	0
Carrots	..... bunch	0	6	1	0	Potatoes	..... bushel	4	6	6	0
Cauliflower	..... doz.	0	0	0	0	Kidney	..... do.	4	0	7	0
Celery	..... bundle	1	6	2	0	Radishes	doz. bunches	0	0	0	0
Cucumbers	..... each	0	4	1	0	Rhubarb	..... bundle	0	0	0	0
Endive	..... doz.	2	0	0	0	Sea-kale	..... basket	0	0	0	0
Fennel	..... bunch	0	3	0	0	Shallots	..... lb.	0	8	0	0
Garlic	..... lb.	0	8	0	0	Spinach	..... bushel	0	0	0	0
Herbs	..... bunch	0	3	0	0	Tomatoes	..... per doz.	1	0	2	0
Horseradish	..... bundle	3	0	5	0	Turnips	..... bunch	0	6	1	0

TO CORRESPONDENTS.

•• We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

BOOKS (S. Morgan).—If you send your address and eleven postage stamps you can have, free by post, from our office, Nos. 353, 354, and 355, New Series, which contain the information you desire. We know of no English handbook published on the subject of late years. (E. T. Norwich).—The "Cottage Gardener's Dictionary," a new edition of which has just been published, furnishes all the information you require as to the native countries, &c., of the plants, and much more besides, together with directions for the culture of each genus, and of the most important species, but there is no work giving the culture of each separately. You can have the work named free by post from our office for 7s.

SEEDLING GLOXINIA (J. Dawson).—It is pretty—all Gloxinias are; but there are many like it. Much depends on the habit of the plant, and of this we know nothing.

LILUM ATRATUM (Mrs. K.).—Your plant, nearly 8 feet high, with twenty blooms crowning its single stem, is very fine. We do not remember to have seen quite so many on a single stem.

HANUM (G. S.).—We have inquired respecting the seeds mentioned by Mr. Wanklyn (vol. x., p. 126), but find that the papers relating to them have been mislaid. It is stated that they were not Melon seeds, but we are promised further information respecting them shortly. The Gooseberries were deliciously flavoured.

MIGNONETTE FOR WINTER FLOWERING (A Novice).—Mignonette for blooming in winter should be sown at once in pots filled with good light soil, putting a few seeds in the centre of each pot. When the plants appear they may be singled out to three in each pot. When the roots fill the pots the plants should be shifted into the next size, and so on, until they are in 6-inch pots. They should be kept on a shelf near the glass in the greenhouse. A light fibrous loam with a free admixture of sand, and good drainage, are essential. Be careful not to overwater in winter, nor to give any water until it is required.

STOCKS FOR SPRING FLOWERING (Idem).—Seed of the Intermediates may now be sown, but no time should be lost. The seed should be sown in good light soil in the open ground, and when fit to handle potted-off singly in small pots, and wintered in a cold frame, protection being given from frost.

SEEDLING ARBOR-VITÆ MANAGEMENT (A Subscriber).—The seedlings having been raised under glass, it would be well to keep them during the winter in a cool airy house or cold pit, affording them abundance of air, but protection from severe frost. In spring we would plant them out in the open ground, after well hardening them off.

HOLLYHOCKS (An Old Subscriber).—An article will shortly appear on the subject.

KEEPING SWEETWATER GRAPE (J. H. Watford).—Your Grapes will keep best on the Vine. There is no mode of prolonging the keeping period, except preserving a cool and dry atmosphere.

DESTROYING WORMS IN POTS (—).—The worms in the pots may be destroyed by stopping-up the holes in the pots with corks, and watering with lime water until it stands on the surface. The lime water may remain for an hour, then on removing the cork it will pass off. The lime water may be made by pouring thirty gallons of water over 10 lbs. of fresh lime. Stir well up and allow the whole to stand two or three days, then employ the clear liquor. Placing a little soot over the corks would have prevented the worms entering through the holes in the pots, but we should not advise such a proceeding for Ferns. Probably there were worms in the soil when it was used. See that the drainage of the pots is good.

WATERING PEACH TREES (C. E. S.).—Your tree has upon it too many fruit by half. You will not improve the tree much by allowing the fruit to remain until it is fit for a tart, as it will be nearly ripe by the time this

appears. To have eased the tree the fruit should have been removed when the stoning was complete. The syringing may be continued until the Peaches begin to ripen, and a good watering should then be given, and watering must be continued until the fruit is ripe, then syringe for a few days, but discontinue doing so by the middle of September. The watering may cease when the fruit is ripe.

PROTECTING PEACHES FROM WASPS (New Forest).—We have not found anything equal to the old plan of trapping them in soda-water bottles about half filled with beer sweetened with treacle. A number of these bottles suspended from the wall by a string tied round the neck, will keep the wasps from the fruit, and the destruction of the nests is the best of all remedies. You are quite right as to covering the trees with hexagon netting; it does no harm to some degree the flavour of the fruit.

COMPOST FOR FUCHSIAS AND PELARGONIUMS (A Lover of Flowers).—A compost of two-thirds loam from rotted turves, and one-third old cow dung and leaf mould in equal quantities, with a free admixture of sharp sand, will grow them well. The plants now in small pots should be potted as soon as they reach the sides of the pots, and before they become closely matted. The Pelargoniums should be repotted up to December, and then shifted into their blooming pots if for an early bloom; but if intended for flowering in June the final shift may be given in February. The shoots should be stopped and tied out, so as to produce good specimens. The Fuchsias should be potted and kept slowly growing over the winter, and be stopped frequently as required to secure good habit.

SELECT FUCHSIAS (Idem).—Queen of Whites, Diadem, Laurient Palmarts, Hercules, Sunshine, War Eagle, Elegantissima, Rose of Denmark, Enoch Arden, Banks's Beauty, Catherine Parr, Conquest, and Blanchette.

SELECT PELARGONIUMS (Idem).—Shew Varieties—Belle of the Ball, Charles Turner, William Hoyle, Selina, Mary Hoyle, Elegans, Lady of Quality, Marian, Lord Canoin, Conqueror, Beauty of Reading, and Golden Hue. Fancy—Clytie, Eleanor, Silver Mantle, Undine, Lady Towers, Eulalie, Godfrey Turner, Roi des Fantaisies, The Rover, Mrs. Turner, First Favourite, and Delicatus. French and English Spotted—Calyse, Egare, Gustave Malet, Rubens, Margaret, Madame Charles Keteleer, Victoria Pingard, Numa, General Fleury, Celine Malet, Duchesse de Moray, and Berénice.

PELARGONIUMS AND FUCHSIAS UNHEALTHY (R. A. S.).—Your pump water with which the drains communicate would have done no harm to the plants if exposed for some hours in a tub before using it. The want of water is, we presume, what has injured your plants on stands out of doors. If the drought continue, we would advise taking them from the stands and plunging the pots in earth and shading.

HEATING A SMALL HOUSE WITHIN A CONSERVATORY (S. J. B.).—There is no objection whatever to the small house which you propose erecting for Ferns, &c., inside the lofty one, only we would advise you to have a span-roof, if a foot or two higher, instead of the flat one, as the latter will be more apt to shower down condensed moisture on the plants. The lamp will do for extra heat if the products of combustion go off. Are there no other modes of securing additional heat? How is the house heated now, the large one?

FLUE-HEATED PIT FOR BEDDING PLANTS (H. T.).—As a means of lessening damp in winter it will be well to have the bottom of your pit on the level, or rather a little above the level of the surrounding ground. It will be most convenient to have sliding frame sashes. A good pit for lights, 7 feet by 4, would be to have the back wall $3\frac{1}{2}$ feet in height, and the front wall from 20 to 24 inches high. The above size would be good for sashes. In such a pit we would like the flue round the wall instead of along the centre of the pit, as that would interfere with your setting the plants. A small flue, say 5 inches clear inside, would be sufficient. We would say in addition, that if you wished your pit to be used for many purposes, and for taller plants than would stand in the above, you might have the outside heights the same, but you could sink the pit from 18 to 24 inches—say 20 inches, and then at 24 inches from the sunk level, leave a ledge of bricks inside the walls, and on these ledges, back and front, you could have boards laid across, so as to permit of shorter plants standing on them, and when the boards were removed the pit would do for taller plants. For general bedding plants, however, it will be best that the ground should not be sunk at all. The walls will form one side of the flue. We have had the flue formed in the wall, but then there was heat lost outside.

MANURES FOR ROSES (W. H. M.).—"If you have decayed manure I advise you to put it to the depth of 2 inches over the roots. All my Roses were so served some time ago; the operation was costly, but it was absolutely necessary to prevent the surface roots from being burnt up. This, with a gallon of water to each Rose (1700) every other day, has preserved my Roses. Mildew, and red fungus, and black blight have been prevalent, but the foliage of my Roses is quite clean. I began early in the year cutting out with scissors every sign of fungus, which spreads rapidly. As regards salt, 4 cwt. on an acre would be a dressing. Three cwt. of guano would be a good dressing. Nitrate of soda at the rate of 3 cwt. per acre is better than salt, it produces healthy foliage. The best time to put on guano, salt, and nitrate of soda is during stormy weather in winter or spring. When guano (sifted) is put on it should be mixed with three or four times its quantity of sifted coal ashes. If sown by itself the person should take up small handfuls and sow it thickly. A clod-kipper has no idea of its power. It is the cheapest of all manures. If you have no decayed manure, perhaps you have wood ashes; these are a good manure and attract and retain moisture. I gave my Roses some guano water some time back, at the rate of one handful of Peruvian guano to three gallons of water. You had better put it on in like manner during dry weather.—W. F. RADCLIFFE."

ROSES AND THEIR MERITS (Devoniensis).—"You are quite right in supposing that I am 'always ready and willing to benefit the public by my experience in the cultivation of the Rose—that most beautiful flower.' Duchesse de Caylus here is one of the Manetti, and grows well and blooms abundantly. It is a first-class Rose of medium size. Briar Roses here bear no relation to Manetti Roses, except the Tea-scented Noisettes, which do well on the Briar, also on the Manetti stock, and on their own roots. I would not accept one hundred Hybrid Perpetuals on a Briar if they were offered to me. I am persuaded that the days of the Briar are over 'D., Deal' in his last letter says the same. Still it is useful for unctuous places, where the plant is watered by capillary attraction, and also for such sorts as do not flourish on a Manetti stock, or such as are too delicate to do well near the ground. This summer one nurseryman

has lost 27,000 Briars out of 40,000; another, I hear, has lost 20 per cent. I am not quite sure it was not 80 per cent. If I saw my Roses, about 1700 ground plants, in full health, and now blooming in their second series, I am persuaded that they would soon discard their poor Briar Roses. It is impossible to conceive or describe the grandeur of the first series here, and in a little time they will be nearly as good, and will go on till frost stops them; but observe, they have had no fungi cut out, and have been mulched, watered, and had the ground around them moved with Parkes's fork. Unless people will take these pains, which so well repay, the sooner they give up Roses the better. With regard to Mrs. George Paul and Monsieur Holi, I saw them lately in a garden where they had had no water, and the flowers were bad. Charles Verdier is a full and fine Rose, and blooms freely here; but I saw a line of it last week in another place, where from want of water all the blooms appeared to have stood still. I bought four of them, and brought them home; and I shall buy twelve more, as it is a very good Rose, and of a light colour. I also bought at the same time all the plants of Monsieur Noman, seven plants of Abel Grand, which I thought good, ten of Merveille d'Anjou, twelve of Reine du Midi, twelve of Madame Girault, besides a few others in smaller quantities for trial. Thirty-seven of them were in dormant bud, budded six weeks before; the others were plants. I cut those in dormant bud down to near the point of union at once, and expect to bloom the greater part of them this season. Last year I planted a large number—now splendid plants—on the 7th of August. This year I have planted on the 6th of August the above fifty-three plants. Most of my satirical visitors ask, as soon as they come, 'Where are the plants of the 7th of August?' expecting to find them dead. I may observe, in passing, that August, September, and October, if you are near the nursery and take care of the plants for a few days, are the best times to plant Manetti Roses; but I do not advise inexperienced or inattentive persons to do so. Any time from November till May, when the ground is open, will do for planting Manetti Roses. I see one writer talks of the 'munch-vaulted' Manetti Rose! It is utterly impossible to overvalue it. With regard to Thorin, a robust grower on the Manetti, it has not yet been quite full. It is, however, a fine Rose, and promises well. I shall know more of it before the year is out. I have seven strong plants of it. With regard to Miss Ingram, it is growing very freely, and has narrow but hard fungus-resisting leaves. In respect to the habit of Roses and general excellence, I know of none superior to Charles Lefebvre and Jules Margottin among Hybrid Perpetual kinds; nor any superior for habit and general excellence in any family to Gloire de Dijon, Triomphe de Rennes, and Céline Forestier. When my plants are stronger, I shall be able to add glorious Maréchal Niel, which is by far the best of the yellow Roses. The Briar suits it well. I have some on Manetti, growing finely and beginning to bloom. I believe I have now answered all the queries of 'DEVONIENSIS.' W. F. RADCLIFFE."

INFLUENCE OF CHARCOAL IN HEIGHTENING THE COLOUR OF ROSES (G. H. M.).—"I wrote to an old friend, a distinguished chemist, for an opinion. He replies—'There is no doubt of the favourable influence of charcoal on the vigour, and, therefore, on the colour of all flowers; so marvellous is the power it possesses of condensing atmospheric gases in its pores.' Nitrate of soda or saltpetre tend to produce good green foliage.—W. F. RADCLIFFE."

A READER OF THE JOURNAL.—There can be no question that what you enclosed is an advertisement of a medicine. We know nothing of it.

MOULE'S EARTH CLOSETS (A. Page).—Apply at 29, Bedford Street, Covent Garden, London, W.C.

OBTAINING BOTTOM HEAT FOR FORWARDING AND PROPAGATING (Amateur).—As you have two vineries and a greenhouse, the simplest plan, in a small way, for propagating would be to have to your greenhouse a small box covered with glass, and an iron or tin box below it 2 inches deep, which you could fill with hot water, and empty when cold as desired. A good second mode—if you had a fire nearly constantly in one furnace—would be to place a small holler over the furnace, or a bent pipe of iron in the furnace, and take the two ends into a small tank in one of the houses, over which you would have your propagating place. You could do all your work more easily than in a pit out of doors. A third mode has been carried out several times successfully. In a greenhouse heated by a flue, the flue entered at one end, and went round at least a part of the house; but as heat was only wanted at times, the flue as constructed would not do for bottom heat. At the end where the flue entered, a close damper was inserted in the flue 6 feet from the end, and the flue turned up itself there, and communicated with the chimney, without going round the house. On the flue, partly double at the end, stones, &c., were placed, and then sand, covered with a box and light, and this place could be heated without much heating the rest of the greenhouse. In cold weather the damper was pulled partly out, and the rest of the house heated. For the purposes you want, we have no faith in either a garden frame or a pigeon-holed brick pit heated by dung linings. You can only manage such a pit in winter by having simple command of dung, and the means of preventing any steam or vapour from the dung finding its way into your pit. In such a case, we would either have a solid bottom, with a chamber below, or a solid wall and no pigeon holes. We think a brick pit heated by hot water or flues would suit you best. We need not say anything about heating, bottom and top, by hot water, as that is so often adverted to. As you seem to have flues for your other houses, there is no inappreciable objection to have flues for this also. Suppose, then, we had a pit from 5 to 6 feet in width, from $3\frac{1}{2}$ to 4 feet high at back, and from 2 to $2\frac{1}{2}$ feet in front, we would run a flue and return it, say 5 or 6 inches inside measure, building it above the level of the floor. Then as to the bed, the best would be one bottomed with slate, going from back to front, 3 inches above the top of the flue. If three-fourths of the width formed a bed, and one-fourth of the slate were left exposed, the latter in general would be enough for top heat. Various other modes, as covering with slate, could be resorted to, but far enough above the flues to be safe. The most economical plan of all, would be to fill the places between the flues, and flues and wall, as roughly and openly as possible with stones, bricks, &c., making them almost as open as a chamber, raising them to a height of 2 inches over the flues, next adding small washed gravel, and then some inches of sand or ashes for plugging in. By inserting some small upright pipes in the stones, you may pour water down among them without touching the flue, and if these pipes are supplied with wooden plugs, you can let heat into the air of the pit when you like. With all our love for hot water, we would wish nothing better than such a flue-heated

pit for general purposes. On the subject of your other query, we shall have some remarks next week.

NAMES OF PLANTS (W.).—*Hypericum perforatum*. (M. H. A.).—*Sanguisorba officinalis*. (F. K.).—1, *Gymnogramma chrysopogon*; 2, *G. ochra-*

cca; 3, *Cheilanthes hirta*; 4, *Platycerium alcicorne*; 5, *Pilea muscosa*. (J. G.).—*Asplenium cicutarium*. (R. C.).—1, *Adiantum cuneatum*; 2, *Asplenium flaccidum*; 3, *A. bulbiferum*. (Doubtful).—*Adiantum cuneatum*. (L. M.).—*Selaginella Braunii*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending August 11th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 5	29.829	29.745	89	58	70	68	S.E.	.00	Clear and fine; very fine; fine, overcast. Heavy showers, rain, densely overcast; cloudy, very dark. Cloudy, very fine; overcast and cloudy. Overcast, hazy; very fine; clear and fine. Clear and fine; overcast; dull and cloudy. Fine; dull and cloudy; fine and clear at night. Overcast, fine; overcast; heavy showers; cloudy.
Thurs. 6	29.820	29.771	78	66	50	67	S.W.	.12	
Fri... 7	29.780	29.804	80	54	70	67	S.W.	.00	
Sat... 8	30.068	29.902	78	48	68	67	S.W.	.00	
Sun... 9	30.084	30.060	80	54	70	67	W.	.01	
Mon... 10	30.064	29.764	82	53	71	66	S.E.	.01	
Tues. 11	29.559	29.422	77	51	70	66	S.	.22	
Mean	29.879	29.744	80.57	54.86	69.71	66.86	..	0.34	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

POSTING LISTS OF PRIZES AWARDED.

ALLOW me to offer a suggestion regarding the posting of prize lists of poultry. Being myself an exhibitor, I have several times waited for the receipt of the Journal to know whether my birds were successful, when I have been obliged to send poultry without my poultry man. If the secretaries of shows would have the kindness to forward with the entry papers a sheet of paper suitable to fold round catalogues, with lines for an address to be written by the exhibitor requiring a list of prizes, and stamped by him, the amount for the catalogue might be named in the list of rules, and forwarded with the entry fees. These directed papers would take little time to paste round the catalogue, and could be posted as soon as the prize lists were published, with no anxiety and little trouble to the secretaries. —B. B.

KETTERING POULTRY SHOW.

THIS was a first attempt to establish a poultry show at Kettering, and under the able management of the Secretaries it was certainly a great success. The grounds on which the Show of the 6th inst. was held are very well adapted for the purpose, and there was no lack of effort to add to the general attraction by the introduction of banners, evergreens, &c. The arrangement of the birds in Turner's pens was as perfect as could be desired, and the entries included both poultry and Pigeons from many of the principal breeders in the kingdom. There was also a very well-filled class for foreign birds of any description. A show of flowers and fruits was likewise held. We have not as yet this season seen such good Black Red Game, Grey Dorking, and Game Bantam chickens as those exhibited at Kettering.

The following is the prize list:—

DORKINGS (Any variety).—First, H. Warner, Loughborough. Second, T. Burnaby, Pipewell. Highly Commended, R. Wood, Clapton. Commended, H. Wyman, Kimbolton, Hunts Chickens.—First, R. Wood. Second, O. E. Cresswell, Hanworth. Highly Commended, R. Sykes, Geddington. Commended, H. Warner. Hens.—First, R. Wood. Second, J. Sheffield. Commended, T. Burnaby; L. Richards, Glendon Lodge; R. L. Garratt, Thorpe Malsor.

GAME (Any variety).—First, F. R. Hall, Cambridge. Second, Capt. T. Wetherall, Loddington. Highly Commended, Capt. T. Wetherall.

COCHINA (Any variety).—First and Second, J. N. Beasley, Chapel Brampton.

BRAMMAS (Light or Dark).—First, R. P. Wakefield, Wellingborough. Second, G. Chettle, Kettering.

SPANISH (Any variety).—First, W. R. Bull, Newport Pagnell. Second, C. Wright, Northampton.

HAMBURGNS (Gold and Silver-pencilled).—First withheld. Second, W. Nottage, Northampton.

HAMBURGNS (Gold and Silver-spangled).—First, J. Laming, Cowburn, Spalding. Second, A. Stowar, Peterborough.

ANY OTHER DISTINCT VARIETY NOT PREVIOUSLY MENTIONED.—First, Capt. T. Wetherall, Loddington (Crève-Cœur). Second, A. S. Roe, Ely (Silver-spangled Polish). Commended, Capt. T. Wetherall (Crève-Cœur).

ANY VARIETY.—Chickens.—First, H. Warner (Game). Second, Capt. T. Wetherall (Crève-Cœur). Highly Commended, T. Dadford, Northampton (Dark Brahmans). Commended, H. Wyman (Boudans); O. E. Cresswell; J. N. Beasley (Cochin-China).

GAME BANTAMS.—First, J. R. Robinson, Sunderland. Second, Capt. T. Wetherall.

BANTAMS (Any other variety).—First, H. Draycott, Humberstone. Second, Hon. Mrs. H. Hambrough, Pipewell Hall.

SELLING CLASSES.—First, W. Nottage, Northampton (Spanish). Second, H. Warner (Dorkings).

SWEEPSTAKE FOR GAME COCK.—Prize, H. Warner, The Elms, Loughborough.

DUCKS (Rouen).—First, T. Burnaby. Second, R. Burnaby. Highly Commended, R. Booth, Glendon Hall, Commended, J. S. Calthorp, Sutton.

DUCKS (Aylesbury).—First, W. R. Bull. Second, J. J. Sharpe.

DUCKS (Any other variety).—First, Duke of Buccleuch and Queensbury, Broughton House. Second, Withheld.

GEESE (Any variety).—First, R. Sykes. Second, J. J. Sharpe.

TURKEYS (Any variety).—First, J. N. Beasley. Second, M. Kew, Market Overton.

RABBITS.—Lop-Eared.—Prize, S. Arch, Kettering. Fancy Variety.—Prize, J. Rowe, Thorpe Malsor.

PIGEONS.

CARRIERS (Any colour).—First, J. Hawley, Bingley. Second, A. Stowar. Highly Commended, H. Yardley, Birmingham.

POTTERS (Any colour).—First, R. P. Payling, Peterborough. Second, S. Horn, Kettering. Highly Commended, J. Hawley; H. Yardley.

TUMBLERS (Any variety).—First, J. Hawley. Second, S. Horn. Commended, E. Norman, Northampton.

BARBS (Any colour).—First, J. Hawley. Second, H. Yardley.

JACOBS (Any colour).—First, H. Yardley. Second, J. Hawley.

FANTAILS (Any colour).—First, O. E. Cresswell. Second, H. Draycott, Humberstone. Highly Commended, J. Hawley; H. Yardley; R. F. Payling. Commended, J. Rowe.

ANY OTHER DISTINCT VARIETY.—First, H. Yardley. Second, H. Draycott, Humberstone (Toys). Highly Commended, J. Hawley. Commended, W. Nottage, Northampton; R. F. Payling; E. Norman, Northampton.

SELLING CLASS (Any variety).—First, H. Yardley. Second, H. Draycott (Yellow Magpies). Highly Commended, E. Norman (Yellow Antwerp) Commended, R. F. Payling (Almond Tumblers); W. King, Wellingborough.

CAGE BIRDS.

CANARY (Clear Yellow and Buff).—First, W. King. Second and Highly Commended, Toon & Cleaver, Kettering.

CANARY (Variegated Yellow and Buff).—First and Highly Commended, Toon & Cleaver. Second, A. Heath, Desborough.

AVIARY OF SMALL BIRDS.—First, Toon & Cleaver. Second, E. Robinson, Kettering.

LINNET, GOLDFINCH, OR OTHER ENGLISH FINCH.—First and Highly Commended, J. Wallis, Kettering. Second and Highly Commended, J. Yeomans, Rothwell.

BLAC B, THRUSH, STARLING, LARK.—First, W. Bailey, Kettering. Second, Harrison, Stanton. Highly Commended, W. H. Tomlinson. Commended, T. Harrison.

PARROT, PARAKEET, LOON, OR OTHER FOREIGN BIRDS.—First, W. King, Wellingborough. Second, G. Pell, Kettering. Highly Commended, J. Wallis; W. Buckby, Kettering. Commended, J. Barber, Bank, Kettering.

Mr. Edward Hewitt, of Birmingham, was the Judge.

ALLERTON POULTRY SHOW.

THIS year's meeting, held at Allerton on the 8th inst., was a far more decided success than any of its predecessors at the same place; indeed, it is stated in a local paper that ten thousand visitors were on the ground, and that the money received for admissions was upwards of £200, although the Show continued open only during a single afternoon. It is certain that such a show of poultry and Pigeons of really first-class character throughout rarely occurs, the *Hamburghs* of all varieties being such, as no amateur had previously witnessed; and the *Game* and *Game Bantam* classes were scarcely less commendable. The pens used were those commonly known as Turner's, of Sheffield; and the arrangements were such as reflected much credit on the management. A very high wind prevailed, which, though it had the effect of keeping off rain, proved a great annoyance to the poultry and Pigeons so long subjected to its influence.

The following is the list of awards:—

GAME.—Cock.—First and Second, J. Settle, Manningham. Third, J. Spencer, Queensbury, near Halifax. *Pullet*.—First, H. Jowett, Idle, near Leeds. Second, H. Jennings, Stream Head, Allerton. Third, J. Fell, Adwalton. Highly Commended, J. Mason, Worcester; E. Aykroyd, Bradford; Fitton & Redman, Holmfied, Ovenden; T. Barker, Holmfied, Ovenden; J. Smith, Allerton. Commended, H. Jennings; J. Fortune, Morton Banks; G. Noble, Stauncliffe, Batley.

HAMBURGH.—Cock.—First, W. Clayton, Keighley. Second, H. Eldon, Goit-lock, Bingley. Third, J. Preston, Allerton.

SPANISH (Black).—First, H. Beldon. Second, J. Thresh, Bradford.

THIRD, J. Newton, Silsden, near Leeds. Highly Commended, W. C. F. Pickard, Thorne, near Leeds; T. C. & E. Newbitt, Hepworth, near Bawtry.

CHICKENS.—First, H. Beldon. Second, J. Walker, Wolverhampton. Third, J. Thresh. Highly Commended, J. Berry, Silsden; J. Newton. Commended, T. C. & E. Newbitt.

COCHIN-CHINA.—First, H. Beldon. Second, T. Stotch, Ormskirk. Third, L. Biney, Manchester. Commended, C. Sidgwick. *Chickens.*—First and Second, C. Sidgwick, Ryddlesden Hall. Third, J. J. Booth, Silsden.

HAMBROUN (Silver-pencilled).—First and Second, H. Beldon. Third, H. Pickles, jun., Earby, near Skipton. Commended, R. Longbottom, Bingley; W. M. Mann, Kendall; Miss A. Robertshaw, Allerton. *Chickens.*—First, H. Beldon. Second, R. Longbottom. Third, H. Pickles, jun. Highly Commended, T. Hanson, Keighley; R. Longbottom; H. Smith, Morton Banks.

HAMBROUN (Silver-spangled).—First and Cup, and Second, H. Beldon. Third, H. Pickles, jun. Commended, T. Fawcett, Baildon; J. Walker, Knaresborough. *Chickens.*—First, H. Beldon. Second, T. Fawcett. Third, H. Pickles, jun. Highly Commended, T. Blakey, Silsden; J. Pearson, Allerton; T. Robinson, Baildon; Ashton & Booth, Broadbottom, Mottram; A. Fawcett.

HAMBROUN (Golden-pencilled).—First, J. R. Jessop, Hull. Second and Third, H. Beldon. Highly Commended, H. Pickles, jun. *Chickens.*—First, H. Beldon. Second, E. Moore, Cottingley, Bingley. Third, J. Pearson. Highly Commended, H. Pickles; H. W. Illingworth, Commended, J. Preston, Allerton, near Bradford.

HAMBROUN (Golden-spangled).—First, H. Beldon. Second, J. Newton, Silsden. Third, H. Pickles. *Chickens.*—First, H. Beldon. Second, W. Driver, Keighley. Third, S. & R. Ashton, Mottram, Cheshire.

HAMBROUN (Black).—First and Highly Commended, C. Sidgwick, Keighley. Second, H. Beldon. Third, J. Preston, Allerton, near Bradford. *Chickens.*—First and Third, C. Sidgwick. Second, J. Dixon. Highly Commended, J. Preston.

POLANDS (Any variety).—First and Second, H. Beldon. *Chickens.*—First and Second, J. Bowker, Keighley. Third and Highly Commended, H. Beldon.

DORKINGS (Any variety).—First, Hon. W. H. W. Fitzwilliam, Wentworth Woodhouse, Rotherham (Silver-Grey). Second, Miss H. Jennings, Allerton. Third, H. Pickles, jun. *Chickens.*—First, H. Pickles, jun. Second, J. Stott, Healey, near Rochdale. Third and Highly Commended, Hon. W. H. W. Fitzwilliam.

GAME (Red).—First, J. Fletcher, Stoneclough, Manchester. Second, L. Biney, Manchester. Third, T. Bottomley, Shelf, near Halifax. *Chickens.*—First, Cup, and Third, H. Jennings, Allerton. Second, H. Jowett. Highly Commended, W. Spencer, Haworth; S. Spencer. Commended, T. Bottomley.

GAME (Any variety).—First, E. Aykroyd, Bradford. Second, H. Jowett, Idle, near Leeds. Third, W. Fell, Adwalton, near Leeds. *Chickens.*—First, E. Aykroyd. Second, G. Noble, Staincliffe, Batley. Third, W. Fell. Commended, Miss S. Jennings, Allerton.

GAME BANTAMS.—First, W. F. Entwistle, Blenheim Place, Leeds. Second, Miss Charlton, Bradford. Third, L. Biney. Highly Commended, J. Blamires, Horton, near Bradford. Commended, G. Noble.

BANTAMS (Any variety).—First and Third, T. Burgess, Brighstone. Second, S. & R. Ashton. Highly Commended, J. R. Jessop, Hull. Commended, O. E. Cresswell, Hanworth, Honeslow. *Chickens.*—First and Second, W. F. Entwistle, Leeds. Third, W. H. Robinson, Long Lee, Keighley.

ANY OTHER VARIETY.—First, E. Leech, Rochdale. Third and Commended, H. Beldon. Second, R. Loft, Woodmansey, near Beverley. Highly Commended, Col. Stuart Wortley, London (French Fowls); Hon. W. H. W. Fitzwilliam.

DUCKS (Rouen).—First, J. Dixon. Second, T. Dean. Third, E. Leech. Highly Commended, H. Beldon.

DUCKS (Any variety).—First, E. Leech. Second, J. Dixon. Third, H. Beldon. *Ducklings.*—First, E. Leech. Second, H. Beldon. Third, J. Firth, Greenop, Allerton.

PIGEONS.

POUTER OR CROPPER.—Cock.—First, H. Beldon. Second, R. Fulton, Deptford. Third, J. Hawley, Bingley. Commended, J. Hawley; H. Yardley, Birmingham; R. Fulton. *Hens.*—First, R. Fulton. Second and Third, J. Hawley. Commended, H. Beldon; R. Fulton.

CARRIERS.—Cock.—First and Third, R. Fulton. Second, J. Hawley. *Hens.*—First, J. Hawley. Second, R. Fulton. Third, H. Yardley.

TUMBLERS (Any variety).—First, Second, and Third, J. Hawley.

OWLS.—Cup, First, Second, and Third, J. Fielding, Rochdale.

TURBITS.—First, Second, and Fourth, J. Thompson, Bingley. Third, J. T. Lishman, Gillington. Fifth, W. Lund, Shipley. Sixth, J. Wade, Ovenden.

JACOBS.—First, J. Wade. Second, J. Thompson. Third, J. Hawley.

FANTAILS.—First, J. Hawley. Second, J. T. Lishman. Third, T. C. and E. Newbitt, Epworth, near Batwry.

BARBS.—First, J. Fielding. Second and Third, J. Hawley.

DRACOONS.—First, J. Deakin, Sheffield. Second, H. Yardley. Third, J. Thompson.

TRUMPETERS.—First and Second, J. Hawley. Third, J. Thompson.

ARCHANGELS.—First and Second, H. Yardley. Third, J. Booth, Oaks, Allerton.

ANY VARIETY.—First, J. T. Lishman, Gillington. Second, H. Yardley. Third, F. Graham, Birkenhead.

Mr. Hewitt, of Birmingham, and Mr. Cannon, of Bradford, were Judges for Poultry; and Mr. Hinton, of Padsey, for Pigeons.

REMARKS ON THE DIFFERENT VARIETIES OF PIGEONS.

In continuation of my remarks on the present state of the Fancy Pigeons, I shall next notice the Turbits. These I find tolerably numerous at most shows and of fair quality, although there seems to be a growing tendency to foul thighs, especially in Reds and Blues. This need not be, and need not be. I have had several pairs of both colours with clean thighs, and fanciers should remember when showing that they thus lose a point.

Owls, I think, were never shown in such perfection as at the present time. The foreign birds are truly beautiful, and

so are the English Powdered Blues. One never sees Reds and Yellows now. This, I think, is a pity, as I have seen exceedingly good birds of these colours. It would be well, I think, if a separate prize were offered for these colours, otherwise they will be utterly lost.

Nuns, I am sorry to say, are not in the ascendant. Very few of the birds shown have not undergone the process of a very severe trimming. A friend of mine bought a first-prize pair, and when they moulted he was amazed at the different appearance of the birds. The vendor, on being written to, acknowledged the trimming, but said everyone did it with Nuns, so he was not worse than other people. The judges would do well boldly to disqualify all such birds, and even the whole class if necessary. I think these birds are more tampered with than any other variety shown.

I should like to see a good class of Flying Baldheads with all the colours represented. I mean clean-cut birds, ten of a side, clean thighs, and good in colour, size, and carriage. I remember many years ago a Mr. Juniper had a flight of these birds, and very beautiful they were. One only sees a pair or two of such now at the shows, as there is not a separate class for them. I think there might be one with advantage. They were always great favourites of mine, as also with many of my friends.

I think Beards, Long and Short-faced, keep their position well and find many admirers, as the strength of the class indicates. I am glad to see the pepper-throated heresy is entirely swept away, and the true legitimate Beard reigus supreme.—HARRY.

PIGEON-JUDGING.

In your last impression "A YOUNG FANCIER" takes up the subject of the fairness or otherwise of dealers being allowed to exhibit in competition with fanciers. I think that dealers have a perfect right to show against fanciers. In my opinion it would be unjust to exclude them from competition, as the fact of a dealer being able to win against good fanciers is his best advertising medium; and when a man is dependent upon his business, whatever it may be, no man has a right to injure his chance of making a living by vexatious restrictions.

"A YOUNG FANCIER'S" proposition to make separate classes for dealers is quite impracticable, as no committee, I think, would be bold enough to try the experiment.

There is one part of "A YOUNG FANCIER'S" letter which I fully endorse, and which strengthens my case—viz., the difficulty of deciding who are dealers, as all fanciers are dealers to a certain extent. There are few men in the fancy who do not buy and sell, and it would be a difficult matter to say to what extent this buying and selling should be carried before a man becomes a dealer.

He quite misinterprets what Mr. Fulton says at page 415. Mr. Fulton attributes the reluctance of many good fanciers to exhibit their birds to the inability of the judges, and not to the fact that they have to compete with dealers, as "A YOUNG FANCIER" implies.

There has been much said (with most of which I agree), about the scarcity of able judges, but nothing about the want of honesty in exhibitors themselves. My object at present is to call the attention of fanciers to the extensively-prevailing custom of showing two cocks in a pen or two hens of the Toy varieties. This dishonest practice is committed at all shows, large and small, and it has become so common that it appears to be considered quite *en règle*.

It is quite useless to say the judges should disqualify the offenders, as it is very difficult for the judges to feel convinced that both birds are cocks or hens, as the case may be. The only effective remedy is to appeal to the honour of exhibitors, and I now beg of my brother fanciers to raise the status of the fancy by setting their faces against this dishonourable practice.

I have been beaten in this way, and have been in a position to prove it, but have hitherto refrained, although I have felt it very hard; but after this warning, if the practice should be continued, I shall feel it a duty to honest exhibitors to expose such cases as I may be able to discover. I contend that a man who does this thing knowingly, defrauds the society at whose show he wins.—J. FIRTH, JUN., Webster Hill, Dewsbury.

CANARIES LAYING SOFT EGGS.

"C. A. J." in your Journal of July 30th complains of his Canary laying soft eggs. I should recommend him to discon-

tinue the rape seed, and supply the hen with good canary seed, chopped egg (shell to be cut up with it), bread crumbs, and a liberal supply of green food. Rape is by some fanciers considered too heating and liable to cause inflammation.—L. B.

THE BARON VON BERLEPSCH ON FOUL BROOD.

(Continued from page 105.)

HOW DOES FOUL BROOD ORIGINATE ?

THIS question is still involved in the greatest obscurity, and the opinions of bee-keepers differ extremely. My own conviction is, that it arises from causes as various as the phenomena it presents, and the character it assumes. I can hence do little more now than restate briefly the views entertained of it by the most prominent writers on apiculture.

First View.—It is believed by some that a minute black fly, the *Phora incrassata*, enters the hive and deposits its eggs in the brood, selecting as the nidus the unsealed but most advanced larvæ, and depositing in each only a single egg. The *Phora* larva hatched from this egg parasitically consumes the viscera of the bee larva which it inhabits, just as the larva of the ichneumon fly lives in or on the common cabbage caterpillar. Maturing in the course of five days, it then leaves the carcase of the bee larva by an opening visible to the naked eye, and perforating the cap of the cell, falls to the bottom of the hive, and either spins its cocoon among the refuse found there or passes out to undergo its further metamorphoses in the earth. So long as the *Phora* larva inhabits the bee larva, the latter, according to Dr. Derhoff, remains alive, but finally perishes in consequence of the abstraction of its internal fatty substance by its parasitic foe. Decomposition is thus already virtually begun whilst the larva is yet living, although running into putrescence only after death.

Dr. Asmuss states that he has found many *Phora* larvæ in the larvæ of bees, and says that in order to see them it is only necessary to decapitate a bee larva in which the first symptoms of foul brood are exhibited, and carefully press out the juices of the body. By repeating this process several times the operator can scarcely fail to detect one or more *Phora* larvæ. Or if the body of a bee larva be held before the light of a candle in a darkened chamber the motions of the contained parasitic larva will be plainly perceptible. But, according to Dr. Asmuss, *Phora* larvæ are not found in all bee larvæ, but only in comparatively the smaller number. Yet by the miasma diffused in the hive by the putrid larvæ, others not thus parasitically affected also become infected, die, and putrefy. Thus while a portion only of the brood perishes, and another portion develops in health, the case is analogous only to what occurs in other pestilential diseases, such as peripneumonia, rinderpest, &c., whereof of animals similarly exposed some are infected while others escape, owing, perhaps, to a peculiar habit of body at the time. The like is often observed when contagious diseases such as plague, cholera, typhus, scarlatina, &c., to which the human system is subject, prevail. Numbers are stricken down while others remain unattacked even in the most infected districts. This is the view of Dr. Asmuss, as presented in his treatise on the parasites of the honey bee; and it must be admitted that the *Phora* as figured in his plates has a decidedly Mephistophelian appearance and expression.

Against this view it may be urged—

1. That the *Phora incrassata* abounds everywhere and is bred in every hive containing dead bees. Yet there are numerous districts totally exempt from foul brood. This, as Mr. Kleine remarks, could not be the case if such were its origin—for the same cause should in like circumstances produce the same effect, if Nature designed that the *Phora* should lay its eggs in the larvæ of the honey bee.

2. The *Phora incrassata* does not lay its eggs in *living*, but only in *dead* organisms.

3. If, as Dr. Asmuss seems to have found in microscopic examinations, the *Phora incrassata* does, in exceptional cases, lay its eggs in bee larvæ, it would be in the highest degree singular that the result should be the putrid decomposition of such larvæ—a result never produced in other analogous cases. Why do only larvæ thus destroyed by the *Phora* diffuse a putrid miasma, such as is not diffused by decomposing larvæ which have died from some other cause?

4. If Dr. Asmuss's views were correct, the pupæ of *Phora incrassata* would be as numerous in foul-breeding as in other

hives containing dead bees in which the *Phora* had laid its eggs. This, however, is not so.

5. Parasites do, indeed, prove destructive to insects designed by Nature to be their prey, but must never be assumed to become the cause of the destruction of the entire race, which would in effect be warring against their own kith and kin.

6. I have examined nearly a hundred bee larvæ "by holding them before the light of a candle in a darkened chamber," but could never detect the motions of a single *Phora* larva.

7. Professor Leuckart examined microscopically a great number of foul-broody bee larvæ in the summer of 1860. Some were dead and some still living. He found neither *Phora* larvæ nor any other animal parasite in any of them. Notwithstanding all this, it is my impression that foul brood of the first and second grade or form is, at least occasionally, and probably more frequently than we suppose, caused by some parasitic insect, even though it be not the *Phora incrassata*.

In the first place Dr. Asmuss has ascertained the presence of animal parasites in still living bee larvæ from foul-breeding hives; and as against clearly ascertained facts, I hold mere scientific inferential and negative proof as of small account.

Secondly. The minute holes observed in the caps of foul-broody cells indicate that some living creature either there entered or came out of those cells; but of the fact that it comes out thence, I think I have conclusive evidence. In the summer of 1861, Mr. Henry Keil, a bee-keeper in Dettelstadt, near Gotha, brought to me a foul-broody comb from one of his hives. I examined it minutely, and observed small holes in the caps of seven of the cells. I then placed the comb under a glass cover, and on examining it again nine days after found that the number of holes had increased to twenty-four. The additional seventeen, it is apparent, could only have been perforated from *within* and *outwards*. Nor could they have been produced, as Scholtz supposed, by the bees "in order to ascertain the contents of the cell after having in vain awaited the development of the larvæ."

Thirdly. This view of the matter accounts plainly for the spontaneous occurrence of foul brood in places where no obvious cause is known to exist. It is probable that the insect makes its appearance only temporarily and in limited areas, though occurring in greater or less numbers at different periods. This, too, would account for the fact that at times one or two hives are attacked in an apiary where no vitiated or noxious honey has been given—a circumstance otherwise inexplicable.

Second View.—Foul brood may be caused by feeding the colonies with fermented or acidified honey. Fermentive matter, even though not derived wholly or in part from foul-breeding stocks, would cause fermentation in the brood fed therewith, and thus produce foul brood. President Busch, however, states that he has often given such honey to his stocks without injury. I have myself in former years given tons of Cuban honey to my bees—honey having a nauseous disagreeable taste and smell, with no bad effect whatever. But this is inconclusive. That which was in ten cases harmless may prove destructive in the eleventh. I think the positive evidence here shows that fermented or acidified honey can produce foul brood.

Mr. Kalteich states that "honeycombs of the previous year emitted a fetid odour, their surfaces was damp, and the pollen mouldy. I gave these combs to three populous stocks, all of which became foul-breeding and perished, as did likewise a fourth, the bees of which had appropriated some of this honey, and several others also into which I had introduced such combs before I knew they were contaminated."

Mr. Hermanu says, "In two instances foul brood was produced by feeding bees with honey kept in a vessel in which verdigris had been formed."

Mr. P. J. Mahan, a highly intelligent bee-keeper from Philadelphia, told me when here that he had formerly spent some time on the island of Cuba, and had observed that it was a common practice in the apiaries there, after suffocating the bees, to press out the liquid from the commingled mass of honey, pollen, brood, and dead bees, and run it into casks as the product of the bee. This nauseous mixture speedily undergoes fermentation, especially if the combs were not previously heated and contained much young brood, the rich juices of which readily ferment. Foul brood is sure to be produced when bees have access to such food; and he knew of many instances in the United States where the disease originated from this cause, though it was almost unknown in Cuba. The bee-keepers there are well aware of the noxious quality of such honey, and are careful that their bees shall not have access to

it. So long as this admixture, called Cuban honey, has not undergone fermentation, it may be safely given to bees; and its pestilential quality depends entirely upon the fact whether the pressing took place when there was much unsealed brood in the cells. Usually the pressing was done when the combs were free from brood, but occasionally the want of empty hives to accommodate all the numerous swarms, constrained the owners to be less particular in that respect. Bee-keepers in the United States, taught by experience that Cuban honey is a dangerous kind of bee food, avoid it altogether, and would not accept it for that purpose as a gift. Thus far Mahan. Polish and other foreign honey of commerce is of nearly the same character.

In corroboration of this view, I quote also the observed fact that such honey does not directly, but only indirectly produce foul brood. It gradually contaminates the air in the hive, developing a fœtid odour, and thus causing disease, which always breaks out six or eight weeks after the noxious honey has been administered. This is also confirmed by Dzierzon's experience, who made all his stocks foul-breeding in 1848 by feeding with Cuban honey.

Third View.—It is believed by some that if brood which has died from any cause is not removed by the bees it will become putrid, and produce a contagious disease—that is, non-contagious foul brood may under certain circumstances become contagious. This, I conceive, is only too likely. In 1855 I discovered a highly fœtid foul-breeding hive in the apiary of Mr. Oscar Ziegler, in Schleusingen, which was forthwith condemned to the brimstone-pit. Mr. Ziegler bought this hive in the neighbouring village, and the bees were suffocated while it was being transported to his home. About eight days after a swarm was put in it, and, thereupon, the non-contagious foul brood immediately assumed the contagious form.

Fourth View.—The disease may be caused by noxious dews which sometimes occur while the fruit trees are in blossom. This is a very old opinion. Hoffer said in 1660—"In some years the blossoms of trees are literally poisoned by dews and mists, so as to make bees sick." In a conversation with Dzierzon in 1855, while he was on a visit to Seebach, he said he was inclined to accept this view. "I think," said he, "I have frequently observed this in my own neighbourhood while fruit trees were in blossom. Foul brood may originate thus, although to these noxious dews is attributed the disease more commonly known as vertigo." Were, however, such the case, would not all the stocks within a certain range or circuit be simultaneously and similarly affected? Hoffman Brand states that in his foul-breeding hives the pollen was slimy, and apparently undergoing a kind of fermentation; which he ascribed to the noxious qualities of the dew.

Fifth View.—The fungus called *Mucor mellitophorus*, which is often found in the chyle stomach of bees, it is alleged, exerts a deleterious influence on the preparation of the jelly, so that the brood is not furnished with a properly-digested pabulum, and hence becomes diseased, dies, and putrefies. The fungus is supposed to be thus the indirect cause of the disease; but this fungus is often found abundantly in colonies entirely healthy, and Dr. Asmus never found it in bees of foul-breeding stocks.

In addition to all this, we find many other conjectures offered in bee books and by correspondents of the bee journals, none of which seem to have any substantial basis. Mr. Kritz supposed that foul brood may be caused by some unhealthy effluvia emanating from the bee-keeper himself. Dr. Alefeld thinks it may arise from a diseased condition of the sexual organs of the queen bee. Semlitsch imagines it may result from the dust blown into the hives from the streets and highways; and even the position assumed by Director Fischer in an article on "The Origin, Nature, and Cause of Foul Brood," published in the "Transactions" of the third meeting of German Agriculturists in 1865 is of no account, being manifestly based on erroneous premises.

In conclusion, I believe, as I have already stated, that foul brood as it presents various phenomena and assumes various forms or grades, so it may arise from various causes. At present, however, we possess no tangible knowledge respecting it. Bee-keepers should therefore be careful to ascertain, and note the facts and circumstances whenever the disease comes under their observation. Nor should they be in haste to form

or propound theories. Above all, they should not neglect to submit foul-broody combs when practicable to the examination of some competent naturalist. I do not think it at all likely that inexperienced bee-keepers unversed in physiology and unpractised in the employment of the microscope will ever advance us much in this direction unless aided by men professionally prepared to prosecute scientific investigations, to whom carefully observed facts would be invaluable. Only after ascertaining the true nature of the disease may we hope possibly to devise methods for its prevention and cure.—A. VON BERLEPSCH.

THE GERMAN CENTRIFUGAL HONEY EXTRACTING MACHINE.

I FIND that Mr. James Lee, of Windlesham, Surrey, has undertaken the manufacture of these machines, which are similar in every respect to the one described by me in page 465 of the last volume of "our Journal." Although Mr. Lee supplies his machines at so moderate a price as to bring them within the reach of all classes of bee-keepers, he warrants them in every respect as perfect as that which I originally imported, and which is now in his possession.—A DEVONSHIRE BEE-KEEPER.

LARGE HONEY HARVESTS IN LARGE HIVES.

It is, I believe, nearly if not quite a quarter of a century since Mr. A. Pettigrew, of Rusholme, near Manchester, first advocated the use of hives, for first or top swarms, of "from 20 to 24 inches wide, and from 12 to 15 inches deep." This veteran apiarian has favoured me with a sight of the following letter recently received by him from an old correspondent residing in his native village of Carluke, in Lanarkshire, which in its details of results speaks strongly in favour of large hives. Mr. Pettigrew says, that "it should be noted that at Carluke, bees are kept on the swarming system, and that these heavy hives are swarms of this year. I expect," he says, "they will be 200 lbs. each ere the season ends."—A DEVONSHIRE BEE-KEEPER.

"Carluke, 4th August, 1868.

"My dear old Friend.—When you wrote your last note to me about the bees they were in very bad trim, but ever since they have got on well. There are many "tops" (first swarms) above 100 lbs. each. Mr. H., one of my neighbours, has one estimated at 150 lbs.; it was 117 lbs. more than three weeks ago, and if it has gained as much since as some others standing beside it, it will be 150 lbs. They are standing at Newbiggin, a better place for clover than this. My heaviest one was only 88 lbs. when I sent it away to the heather; I expect it is above 100 lbs. now. They have been on the heather for a good while; here about ten days ago they were making weight from it, but the drought is very severe here now. I do not think the heather can last long unless we get rain; we have scarcely had a drop since I wrote to you last.

"Your friend S. told me his stock was not heavy this year, but they had plenty of bees and combs. He has three or four about 90 lbs. each. S. D., a man that goes to the heather along with S., had one 120 lbs., but it stood at Thankerton—the clover has been better there also than here. Our clayey soil is very hard. We had not much clover this season."—Yours truly, "R. R."

SILKWORM-REARING IN ENGLAND.—No. 15.

PREVENTING DISEASES.—Various ingredients and methods are recommended as cures for the different complaints of silkworms; but it is not my intention to bring them into notice, my motto being that "Prevention is better than cure." Indeed, silkworms generally speaking, do not give time, nor is it easy to administer medicines for the cure of diseases which often are not discoverable until too far confirmed. The most natural medicines are pure air, cleanliness, wholesome food, consisting of fresh-gathered good leaves, and the continual maintenance of the requisite temperature of about 70°. For promoting the ventilation of the rearing room, it is useful sometimes to burn a handful of straw, shavings, or other light material in the fireplace, especially when the worms are becoming large; it puts the air in gentle motion.

There is a custom among the Italian peasantry of fumigating the room by burning pieces of juniper, sweet herbs, &c., but this practice I believe productive of no good; on the contrary, I think the smoke does harm.

A few drops of vinegar falling on a red-hot dustpan or iron will cause an agreeable vapour, which is said to sharpen the worms' appetite when they are slow at eating.

* Mr. Fischer has since protested against the adverse verdict pronounced by the Baron, declaring that he can "cause the best colony to become foul-breeding in a few months, and cure a diseased colony in a still shorter time." I can only hope that he is right, and that if so the means of cure will soon be made public.—A DEVONSHIRE BEE-KEEPER.

One of the most potent articles for correcting putrefaction is charcoal, which I find is used in China, being sifted over the worms. Another powerful agent is chloride of lime, and this at the present day is becoming more generally used, since atrophy appeared among silkworms, but it must not touch the worms.

In general I have found that well-directed ventilation, good food, cleanliness, and diligent care in removing from among the healthy any infected worms, will prevent most of the complaints to which the insects are subject, although sometimes insufficient, especially when the worms increase in size after their fourth change of skin.

The atrophy and calcine diseases of silkworms seem to be hereditary, and contagious also, for when the infection is not in the eggs it may be brought to the worms even from a distance. Various species of caterpillars in the open country are stated to be attacked by the calcine disease, and they may even communicate it to silkworms—at least, this is stated by several Italian authors.

When eggs are suspected of being infected, the use of spirits of wine and water in equal quantities, in which to soak them before detaching them from the napkin on which they have been laid, is said to prevent any evil effects. I have never tried this, but I think it an unnatural process.

When a silkworm house has been infected, it is a good plan, before using it again, to clean or disinfect it, and everything connected with it should be placed in the air. The walls of the room might be whitewashed, and the stages and other materials, having been thoroughly cleaned, should be placed in the sunshine, and then kept in an airy situation till March. They may then all be placed in the rearing room, and be disinfected by fumigating with flowers of sulphur, mixed with a tenth part by weight of nitre. Having secured the windows and closed the chimney, ventilators, &c., the mixture is divided into six or eight parts, and placed in earthen pans in different parts of the room. Having placed some shavings on the mixture they are to be set on fire, and the room immediately left, closing the door and all holes to render the fumigation more complete. The room may thus remain from twelve to twenty hours, after which door and windows are opened to admit the air.

Young silkworms should be observed attentively, and if any are found affected with the calcine disease they should be removed. If its extinction is not effected, the removal of all dead worms must be continued, putting them in a vessel half full of unslacked lime, or the caustic lye of potash, and afterwards burying them together in the earth. If after the fourth sleep the quantity of dead worms be more than can be collected before calcination, then, in order not to spread the infectious powder about, it is advisable to remove the heds from the stages only after the healthy worms have all repaired to spinning quarters, which should be done by lightly rolling up all in the papers, and transporting these from the room.

It has been recommended some time before hatching silkworms' eggs to prepare a solution formed of a hundred parts of water and five of the sulphate of copper, in which to dip everything which is to be used during the rearing, washing well with the same solution all the woodwork, &c., in the rearing room.—LEONARD HARMAN, JUN., *Old Catton, Norwich.*

MANAGEMENT OF FERRETS.—No. 1.

Most persons residing in the country have either a hobby or some sort of pet. If a lady can pet a snake, why may not ferrets be petted? I have seen persons turn from them as if they were too horrible to be looked at, and call them "disgusting creatures," but the same individuals would not approach a harmless toad.

Now, I am not ashamed to acknowledge that I am very fond of these little creatures, and as I have heard they are difficult to rear, I offer a few remarks on their management. They are as easily reared as kittens, and very free from disease if properly treated.

Avoid breeding from relations, as this will make them less hardy. The breeding hutch should be roomy, and well made to resist the weather. They will do well out of doors, even in winter if sheltered from cold winds. The hutch should measure at least 3½ feet by 2½ feet, and be nearly 2 feet in depth. The roof should slope toward the front, to allow the rain to run off, and if long-continued rains penetrate, the top may be protected by some waterproof material. The back and front should have a few holes bored near the top for ventilation. The floor should also have two or three holes to allow water to

run through, as Ferrets require to be kept dry. A portion of the front of the hutch may be wired to admit light and air, both being essential to their well-doing. The floor should be littered with clean straw, and soft oat straw is better than hay for their sleeping boxes in summer; in winter I prefer hay, as they can get under it, and lie snug and warm. I put a little clean straw on the floor nearly every day, that the feet of the young may not get damp, and the hutch should be frequently cleaned, and washed out. I believe the diseases to which Ferrets are subject arise from dirty hutches and damp litter. They are naturally very clean animals, and it is cruel to keep them in confinement and neglect them.—LOUISA E.

OUR LETTER BOX.

JAPANESE BANTAMS (Inquirer).—Truly-bred Japanese are of various colours, one of the most usual being a generally light-coloured plumage all over the body, but marked, exactly as Light Brahmas are, on the necks and tail feathers. Another variety is entirely Cuckoo-coloured; and, again, a third is precisely like a dark-feathered Houdan fowl in feather. The birds of both the last-named colours are usually by far the most heavily-feathered on the legs and thighs, which makes them appear much closer to the ground than they really are. The feather itself of a true Japanese Bantam is similar to that of fowls in general, the feathers not being at all broken up as in the Silky fowl.

LA FLÛCHE COCK'S COMB (Lemon Buff).—The comb of a La Flûche cock should have but two principal points or spirals in front. Embryo points between them are unimportant, but a third as large as the other two would be a decided disadvantage, if not a disqualification. If the bird is a chicken, we should remove it.

GAME BANTAMS' LEGS (Subscriber).—No. The colour of the legs of Game fowls is immaterial, but no rule in judging is so imperative as that which makes it necessary for all in a pen to be of the same colour. Yours would be disqualified anywhere, and they do not form a pen.

CROSSING BLACK SPANISH AND SPECKLED HAMBURGERS (E. A. S.).—We do not think the cross would be a good one. We should rather advise you to keep Crève-Coeurs. Their eggs are as large as the Spanish.

HENS PECKING THEIR EGGS (Amateur).—The habit is supposed to arise in the first place from the lack of the necessary material for forming the shell of the egg. It is in that case prevented by supplying their roost or house with plenty of bricklayers' rubbish, such as old ceilings, mortar, &c. If they have this and still peck their eggs, it is from a bad state of the body. The only cure we know, is to put some very hard composition eggs in the nest. They peck them till their beaks are sore, and become tired of it.

FOWLS OVERFAT (Brazilianus).—When fowls are very fat, and begin to fall away, the flesh disappears first. Once is had food. Feed on oatmeal and whole corn, but, above all, let them have plenty of green food and fresh earth. We should think, from your description, you fed them on Indian corn. That makes fat, but no flesh. When you say that a fowl of 6 lbs. becomes less than 4 lbs. when cooked, you mean perhaps that the comparison is made between the fowl as it is when first killed, and as it is when dressed or trussed for dressing. If so, that explains itself. The head, neck, and inside, that are removed in the operation, will make more than that difference. Do not over-feed.

GAME FOWLS NOT DIGESTING THEIR FOOD (F. E. X.).—There seems to be nothing in your feeding to cause the appearance you name. They will not thrive while they have no appetite. Discontinue their evening meal, also the potatoes altogether. Give them their bread dry. Feed often, and give very little at a time.

TURKEYS SUFFERING FROM COLD (Constant Subscriber).—Your Turkeys are suffering from cold, which if neglected will probably end in roup. It has been thought when following the hen about in the early dew. A hen Turkey is not fit to be trusted with her brood. She will leave her behind and go contentedly on with three, or will drag them through high wet grass on the first appearance of day. Wash the eyes of the patients with vinegar and cold water. Feed them on bread steeped in strong beer. Keep them in a dry place, on loose sandy flooring, and do not give them their liberty till the sun is up, and vegetation is dry. The cold of which they are now feeling the effects was probably caught some weeks since.

HAMBURGH COCK ROUP (Frank).—It is incipient roup. We do not dread it as we used to do, and we are not bent on separating every sickly bird, neither do we ever allow it to go on. We treat bad cases most successfully with Baily's pills. Milder forms are cured by washing the face with vinegar and cold water, feeding on stimulating food, as bread and ale, and keeping the patient as much as possible on dry ground, and in a dry atmosphere.

REMOVING BEES (Constant Reader).—If the hives are well stored and populous there is no especial risk of the bees dying merely because they have not swarmed this year. You should select a cool evening for removing them, and take care that the cloths used are of open texture—cheesecloth is the best. If you want to keep both colonies you must not meddle with their stores, nor should you drive them unless with the view of transferring them to frame hives. A flat stone is a bad floor-board.

UNITING SWARMS (H. C. Ripley).—We should expel the bees by driving about the beginning of September, if there is no late pasturage near, such as heath, by which they might yet increase their stores, and in such a season as the present should expect by that time, little or no brood remaining.

COMMUNICATIONS BETWEEN HIVES AND SUPERS TOO SMALL (E. Leech).—It is evident that the communication afforded by Mr. Pettitt's gratings is too restricted, and that large numbers of bees have perished from not being able to find their way through them. I have known the same thing occur when communication with a super has been by a central aperture of unusually small dimensions. Honey can only be prevented from crystallising by being kept in a warm place.—A DEVONSHIRE BEE-KEEPER.

WEEKLY CALENDAR.

Day of Month	Day of Week	AUGUST 20—26, 1868.	Average Temperature near London.			Rain in last 41 years.		Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year
			Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	h.	
20	TH	Kirkby Stephen and Middlesborough Horticultural Shows.	72.7	50.5	61.6	20	55	af 4	10	af 7	42	af 7	29	af 8	2	3	5	238
21	F		72.4	49.6	61.0	14	56	4	8	7	2	9	55	8	3	2	51	234
22	S	Todmorden Horticultural Show.	71.7	49.6	60.6	16	58	4	6	7	19	10	22	9	4	2	36	235
23	SUN		71.8	49.1	60.4	21	59	4	4	7	33	11	51	9	5	2	20	236
24	M	Crystal Palace Autumn Show	71.5	47.8	59.6	16	1	5	2	7	after.	23	10	6	2	4	237	
25	TU		74.2	49.7	61.9	16	3	5	0	7	45	1	59	10	1	48	236	
26	W	Salisbury Horticultural Show.	72.8	48.2	60.5	13	4	5	58	6	47	2	39	11	8	1	32	239

From observations taken near London during the last forty-one years, the average day temperature of the week is 72.4°; and its night temperature 49.2°. The greatest heat was 89°, on the 25th, 1859; and the lowest cold 31°, on the 26th, 1861. The greatest fall of rain was 0.95 inch.

THE HOLLYHOCK, AND ITS CULTURE.

FOR the summer and autumn decoration of the flower garden Hollyhocks are of great value, and prove very effective; no garden of any pretensions ought to be without a collection of select varieties. The Hollyhock has been in our gardens for nearly three hundred years, having been introduced from China in 1573. Many years, I may say centuries, it was treated as a biennial, and no pains were taken to perpetuate the improvements or variations that were produced, excepting by saving of seed and sowing it, cross-breeding being then unknown. The result was very little variation, and but small improvement on the flower of the original *Althæa rosea*, a biennial, in colour of a bright rose. Since the late Mr. Barron, of Saffron Walden, attempted the improvement of the flower, the Hollyhock rapidly advanced toward the florist's standard of excellence. So rapid, indeed, was the transformation that the improvements were soon in the hands of Mr. Chater and Mr. Bircham, both of whom effected further variations and improvements, and since then Mr. Roake, Mr. W. Paul, and others have so advanced the flower, that it claims a place at the exhibition table. To the late Mr. Barron, however, we owe all our improvements in Hollyhocks; he was the first to raise and perpetuate variations in colour, likewise improvements in the form and substance of the flower. It was he who first perpetuated the improved varieties by division and cuttings. In his time, no doubt, the Hollyhock survived, as it does now, several winters in dry well-drained sandy soils; but it would seem, from propagation being confined to seed-sowing, that the idea of the Hollyhock being a perennial had not occurred to its cultivators; to him, therefore, we must give the credit of first making the Hollyhock perennial.

Although the Hollyhock is perennial when propagated by cuttings and other modes, also when raised from seed in some soils, yet those possessing a fine selection, acting on that principle in the same sense as with most other perennials, will in the course of a few years lose their best varieties, and find their collection fast disappearing. The system of planting a border, and allowing it to remain so for years, does not apply to Hollyhocks. In that or some other unaccountable manner many gardens once gay with this noble flower are so no longer. Perhaps the present, I may say late, rage for dwarf plants in flower gardens has driven this and other equally fine summer and autumn flowers beyond the flower-garden boundary, where they may perchance still hold a place. At exhibitions, too, no very great impression is produced by a stand of spikes or blooms of Hollyhocks, for these afford no just idea of the plant's stateliness of growth and splendid display of bloom at home. Those according the Hollyhock a good situation, though outside the flower-garden boundary, where, in good soil and with proper care, it grows so tall and blooms so well, may see the plant when at its best; but this is rare, for they do not care to show to visitors anything beyond the best part of the grounds, to which it is seldom admitted,

and when it is seen by the proprietor or his friends it is often when the plant is at its worst, when a high wind or some accident has brought them past the Hollyhocks.

Some object to the Hollyhock in flower gardens on account of its height, and there is good reason for doing so, if in a garden of dwarf plants it is placed in front of these, instead of the tall plants at back and the dwarf in front; but unquestionably it is a noble plant at the back of borders, whether wide or narrow, by itself or in beds, and the grandest of all for shrubby borders, whilst it cannot be too extensively cultivated as a flower. A garden without a collection of select Hollyhocks is destitute of one great attraction.

VARIETIES.—The following are some of the most useful:—

- | | |
|---|---------------------------------------|
| Alexander Shearer, crimson. | Mrs. Roake, blush. |
| Advancer, shaded rose. | Mrs. Chater, carmine, tinted rose. |
| Black Prince, black. | Mr. Roake, pale yellow. |
| Countess Russell, rosy peach. | Lady Braybrooke, lemon, tinted fawn. |
| Comet, purplish crimson. | Lady Middleton, rosy salmon. |
| Competitor, deep purple. | Lilac Model, shaded lilac. |
| Decision, salmon flesh, shaded with rose. | Pericles, chrome yellow. |
| Electra, yellow, chocolate base. | Queen of Whites, white. |
| Fearless Improved, creamy buff. | Reine Blanche, white. |
| Gem of Yellows Improved, deep yellow. | Rev. H. Dombrian, rosy salmon. |
| Hebe, creamy flesh, peach centre. | Syrian Prince, purple. |
| Hon. Mrs. Ashley, bright peach. | Walden Masterpiece, gold and scarlet. |
| Memnon, bright crimson. | Warrior, bright crimson. |

PROPAGATION.—Hollyhocks are propagated by seed in order to raise new varieties, or where plants are required for extensive planting in borders; also by cuttings, division, and eyes.

Propagation from seed is only time, labour, and ground lost, unless the seed has been carefully saved, and from the finer sorts only. The seed may be sown as early as March, and from that time to July or August. I prefer to sow in June, and not later than July. Spring-sown plants become so strong by autumn that much room is taken up in wintering them, and except for being planted out in autumn, or remaining, transplanted, in the bed to bloom, are not desirable. I may, however, treat of sowing the seed in spring, in summer, and as soon as ripe.

Sowing in spring may take place at the end of March or early in April. An open situation out of doors should be chosen, and the ground well dug and pulverised, working in a liberal dressing of leaf mould. The soil most suitable is a sandy loam; if heavy, it may be improved by a free admixture of sharp sand. The surface having been made fine, place seeds about an inch apart, and cover them with fine soil. All weeds must be removed, and in June the plants will be fit to turn-out in beds. Plant in beds 4 feet wide, five rows in a bed, and the plants 6 inches from each other in the rows. If the weather be dry, give the seed bed a good soaking before taking up the seedlings, which must be done with a fork. The bed for planting ought to be well and deeply dug, adding leaf mould or rotten manure liberally. Water well at planting; and if dry and hot, shade with mats over hoops for a few days until the plants recover. Occasional waterings will need to be given in dry

weather, and the bed must be kept clear of weeds. In October the plants will be strong, and fit to plant out in their blooming quarters, or they may be left where they are, only every alternate row and plant must be removed, and either planted in the borders or in another bed, which will, of course, be equal in extent to that of the bed in which the plants are left undisturbed. Between the rows a mulching of half-rotten leaves or manure should be given early in November, and in spring fork that neatly into the soil, if the plants are left to bloom in the beds; or the plants may be taken up carefully, and planted out.

Seed sown during June requires the same treatment—*i.e.*, to be sown in the open ground, and when the seedlings have two rough leaves, take them up, and plant-out 6 inches apart every way in beds, shading and watering until established. The planting-out will cause the production of fine fibrous roots for taking up early in October, and the plants should then be placed in pots large enough to hold the roots without cramping. The pots ought to be set on coal ashes in a cold frame, giving abundance of air, and protection from frost and heavy rains by drawing on the lights at such times, with an occasional covering of mats in severe frost. The plants should be shifted into larger pots as may be necessary—that is, before they become potbound, and being well-hardened off, may be planted out in April.

The seed may also be sown as soon as ripe in pans of good light soil, and be placed on a mild hotbed of from 70° to 75°. When the seedlings appear, keep them near the glass, and give air plentifully. When they have two rough leaves pot them off singly in 3-inch pots, in a compost of light turfy loam two-thirds and one-third leaf mould, keeping them close in the frame with proper moisture and shade till established, and then harden them off, and remove them to a cold frame, where they are to remain during the winter, being shifted into larger pots as may be necessary, and planting-out at the end of April.

The seedlings will bloom in the year following the sowing of the seed, and should have proper care with respect to staking, tying, and watering. The object being to preserve good varieties and to discard the bad, remove every single or semi-double flower, and pull up the plant unless a new colour or something worth perpetuating be seen, also every plant with thin-petalled flowers. By discarding worthless seedlings as soon as they bloom you prevent the flowers of the good kinds being impregnated, for these, as a rule, come last. Any thought worth propagating should be labelled, and if seed be saved remove the pods as they become brown, cut the stalks off to within 2 or 3 inches of the ground, and stir the soil about them with a fork, but not so deeply as to injure the fibres. This will encourage growth for propagation, which may be effected by eyes or by division, and the plants obtained in either way will the following year show whether the flower is worth adding to the general collection, or does not maintain its character.

Cuttings may be taken off at almost all seasons. Those put in during the spring afford a late bloom, and those plants propagated from cuttings in summer and autumn flower early and late in summer. The young shoots when from 2 to 3 inches long are to be taken off close to the old root, and after paring the base of each cutting smooth with a sharp knife, pot them singly in 3-inch pots, using a compost of two-thirds sandy fibrous loam and one-third leaf mould, with a liberal admixture of sharp sand. Pot firmly, give a gentle watering, place them in a cold frame, shut it up closely, and shade them from sun. In the course of a week or ten days according to the time of year—a week in summer, ten days in spring and autumn—a little air may be given, but not much until the cuttings are rooted. Avoid excessive watering, but keep the soil moist, and when the cuttings have rooted well admit air freely, and expose them fully when the weather is mild or not excessively wet. The plants should be potted as they require more room, and should be wintered in a cold frame as described for seedlings.

Cuttings put in from September to April should have the benefit of a bottom heat of about 70°, and should be kept close and shaded. Care should be taken not to overwater, and to prevent damp a little air may be given. The cuttings rooted, they must be well hardened off and removed to a cold frame.

Propagation by division is performed in autumn after flowering, generally in September or early in October. The root should be dug up and divided into as many pieces as there are shoots, and these pieces ought to be potted singly in 4½-inch pots. Any shoots without roots may be potted in 3-inch pots

and treated as cuttings, they and the divisions being wintered in a cold frame.

Eyes are the side shoots taken from the plants close to the roots as soon as they begin to become firm (which will be the case in July, August, or September, according to the forwardness of the plant), cut into pieces with an eye to each. The knife should be sharp, at least the cut must be clean so as to give 1 inch or 1½ inch of shoot to each eye. The leaf should be removed with exception of the leafstalk, and the pieces or eyes should be inserted in sandy soil as for cuttings, placing them vertically, and covering them with an inch of fine sandy soil. It will answer as well if the eyes are placed horizontally. Cover them with a hand-glass after giving them a gentle watering, and shade from bright sun. When struck, as will be known by their growing strongly, pot them singly in 3-inch pots, and place them in a cold frame.

SOIL AND SITUATION.—The most suitable soil for Hollyhocks is a rich sandy rather than a heavy loam. In the former the plants are more hardy, but do not grow so strongly. The ground intended to be planted in spring should be trenched in autumn, and thrown up as roughly as possible, in order to expose it to the action of frost, and a good dressing of manure should be forked in. In February or March the ground should be forked over, and if no manure was afforded at the time of trenching, it ought to be given now. If the soil is heavy leaf mould will help to lighten it, and so will sharp sand. The situation should be open, free from the drip and shade of trees, and if sheltered from wind all the better. The more sunny and open the situation the better will Hollyhocks grow and bloom.

PLANTING AND AFTER-TREATMENT.—From the middle to the end of April is the best time to plant for the general bloom, whilst for a late bloom planting may take place a month later. The distance apart may be 3 feet in beds, and in borders a like distance may be allowed from plant to plant every way; but in the latter case I generally have the lines 4 feet apart, and put in the plants at 3 feet from each other. In planting make a good-sized hole, and fill it up, or nearly so, with a compost of two-thirds loam from turves, and one-third rotten manure or leaf mould. Put in the plants from pots in the centre, lightly scratching the sides of the ball, so as to disentangle the roots a little; but if the size of the pots has been sufficient, this will scarcely be necessary. Make the soil firm about the plant, and give a good watering, and if the nights are frosty cover the plant with an inverted flower pot, taking it off in the morning and replacing it at night until all danger from frost is over. In dry weather water must be liberally supplied, especially in May and June, when the leaves are very actively catering for the coming display. When the plants are advancing towards flowering and are in flower, thorough waterings in dry weather are also necessary.

Too many flower spikes should not be retained. Two or at most three flower spikes are all that should be allowed on strong plants, whilst one will be sufficient for a weak plant. All the others, or side shoots, should be cut away as they appear. The staking of the plants must be attended to early. Stout, but at the same time neat stakes must be driven into the ground close to each plant, and ought to be about 3½ feet out of the ground, and to these the flower spikes must be tied as they advance. When the spikes have reached a height of 7 or 8 feet cut off their tops if you want them for exhibition, and thin the flower buds, so that when expanded there will be no more flowers than enough to cover the spike; and if blooms or spikes are wanted for exhibition they must be protected from rain and sun ten days before the show. If not wanted for exhibition the flower spikes may be allowed to grow as tall as they will, and the blossoms need not be thinned; but I like to thin the flowers a little, even in gardens, and to have there as good blooms as are seen in stands at exhibitions, cutting off the tops of the spikes at some height.

After flowering cut down the spikes to within 3 or 4 inches of the ground, and at the end of October take up the roots, pot them, and winter them in a cold frame. In sandy, well-drained soil, however, they may be left in the ground, and this being lightly forked over, put a dressing round the plants of leaf mould, not very rotten, or short littersy manure, and point it neatly into the ground in spring. In winter the pots of plants, whether from seed, cuttings, divisions, or eyes, should be plunged to the rim in coal ashes, the plants being kept near the glass, and afforded plenty of air in favourable weather, with little or no watering at the roots—indeed, the soil should not be more than moist. If fine flowers and large spikes of

bloom are desired, the plants ought to be well cared for in potting, never allowing them to become pot-bound, and the greatest possible encouragement should be given to them in May and June, by watering, and supplying them with liquid manure once a-week, also during any dry periods that may occur afterwards until the flowering is past.—G. ABBEY.

MELON-GROWING IN GROUND VINERIES.

For several years I grew Melons in pots in a partially heated orchard house. The fruit was small but of first-rate flavour. The leaves, however, were so infested with red spider that in order to do justice to the proper occupants of the house, I felt it necessary to find the Melons some other home. With this view I purchased 28 feet of ground vineries, 42 inches broad, and as I wished to have something out of them during the spring months, I proceeded as follows:—Last June a Strawberry bed was marked out, 20 feet by 42 inches, and in the centre of this two rows of Strawberries were planted. They had just fruited in the orchard house, and were turned out of their pots. At the end of February in the present year they were covered with 21 feet of the vineries, which remained on till the 18th of May, ventilation being given when necessary by a few bricks being put under the frames. In the meantime the remaining length of 7 feet, blocked up temporarily at the ends, was used for Mustard and Cress, &c. The Strawberries were a capital crop, the first fruit being gathered on the 25th of May.

As soon as the Strawberries were uncovered, the entire 28 feet-length was laid on a border fronting the orchard house. A piece of frigi domo of the exact length of the glass, and broad enough to cover it to the ground (after being sewn at the two ends to prevent fraying), was used to cover the glass every night. Four bricks, one at either side of each end, kept the covering quite steady. The heat thus accumulated from the 18th to the 27th of May appeared sufficient to warrant the planting of the Melons, one to each light. They were small plants, stopped at about the fourth leaf. Two were planted in the earth of the garden, and two in Sea-kale pots half sunk in the ground. I need not detail the cultivation, as there was nothing peculiar in it. The first Melon was cut on the 8th of August, and hung up in the orchard house till the 12th. It weighed 5 lbs. 2 ozs., the sort being Windsor Prize. In quality it would be called good, but lacking the rich saccharine juice of those grown in pots in the orchard house in former years, though the foliage of the latter was meagre and yellow with spider, while the leaves under the ground vinery are beautifully green. Had there been less moisture under the vineries the flavour would probably have been better, but it would have been unwise to sacrifice the well-doing of the future crop in order to perfect one specimen. I am aware that this is an unusually favourable year for attempting to grow Melons without bottom heat, but I give you the result of my experiment, nevertheless.—G. S.

PALMS.

In your last number there is an interesting article from "The Gardener," signed "H. K.," on Palms. In his second paragraph "H. K." says, "But now-a-days our enterprising nurserymen are bringing Palms within the reach of everybody." Who and where are the said nurserymen? I have been for years on the look-out for Palms for room-decoration, and some of your correspondents may remember my letters on the subject, pointing out how far behind our neighbours we are in the use of plants for house adornment. Now it appears Palms are to be had at a reasonable price here in England, I do hope we may learn where. I cannot afford three guineas a-plant. I want three for a guinea.—PATELIN.

NEW ROSES OF 1867.

An answer, in part, at least, to "ROSARIAN," will be found in another column. I have had but very few opportunities of seeing new Roses this year, having only been at one Rose Show—the Crystal Palace, a press of business matters having kept me at home. From personal knowledge I can say I think *La France* a beautiful Rose, and quite distinct; *Mademoiselle Marie Larpin*, a beautiful Bourbon; and *Reine de Portugal*, a rich-coloured Tea. I grow besides *Lisette de Beranger*, a Rose in the style of *Madame Gustave Bonnet*, &c., *Curé de Charen-*

tay, *Enfant d'Amengny*, *Ernest Boncenne*, and *President Willemoz*, but have not been able to distinguish any special merit in them. As I have said elsewhere, Mr. Keynes speaks well of *Elie Morel*, *Lonis Bulliat*, *Madame Girodde*, *Madame Rothschild*, *Merveille d'Anjou*, and *Reine du Midi*. I have only seen *Madame Rothschild*; it is very beautiful if full enough. *Miss Ingram* I have not seen this year, so can neither add to nor diminish what I said of it last year. *Mrs. John Berners* will be a good useful Rose; and, as far as I could judge, *Duchesse d'Aoste* is worth keeping.

I fear this will be considered meagre, but I do not wish to go beyond personal knowledge; tastes differ, and circumstances lead people to form various opinions.—D., Deal.

GOLD AND BRONZE PELARGONIUMS.

BEING present at the special Show of Pelargoniums at South Kensington a few weeks ago, my attention was turned more particularly to what are called the Gold and Bronze varieties, and I asked myself, What properties should these possess to make them a really useful class of plants? While some contend most strongly and properly for a flat circular leaf with a clear and well-defined zone, &c., I find that some varieties, which may in these respects be almost all that can be desired, are, nevertheless, apt to become bleached miserable-looking objects when exposed to too much sunlight. On the other hand there are some, of which *Beauty of Oulton* may be taken as a type, which, under ordinary circumstances, are far too green to have any just claim to be called Gold and Bronze, and are of no greater value as bedding plants than ordinary Zonal Pelargoniums. For kinds really useful for bedding we must look to what is called the light Gold and Bronze section, and of this I think, we may place some confidence in *Luna*, which has stood the test of several seasons, and may, I think, be regarded as an established favourite.

As to which of the more recent varieties are the best as bedders it is difficult to decide, though *Kentish Hero* is spoken of as being the best at Chiswick. Of those at present in commerce, *Countess of Kellie* occupies the front rank, being the brightest and most distinct of the whole lot exhibited, and it possesses another good quality, constancy of character. I maintain that Gold and Bronze varieties should retain their colours under ordinary circumstances for at least eight months out of the twelve, and this, unfortunately, few of them do. I forbear to say anything of varieties at present not in commerce.

The following are what I consider the principal points:—

First and most important, constancy of character in colour.

Secondly, flat leaves with clear zones and large centres; for the larger the centre of the leaf is, the more effective will the plant be for bedding purposes.

In the event of another show of the same kind being held, I would suggest that at least two or three months beforehand rules should be drawn up and published, in order to guide the judges in their decisions, and that exhibitors may know what the different standards of merit are by which their specimens will be judged, for at the last show it was quite obvious that the different sections had in some instances been judged from different standards of merit.—W. B. G.

PORTULACA THIELLUSONI.

This is a plant which I expect to bear has done good service during the present season. It is a well-known old favourite, but in some cases and seasons is shy-flowering. There are purposes, however, for which I think it may always be employed to advantage, as even in dull or wet seasons it would most likely succeed well. In window boxes in the sun, vases, baskets, and dry sunny spots at the base of trees or buildings where but few subjects will grow, except Sedums and other dry rock plants, the *Portulaca* will succeed remarkably well, and I know of no plant that can vie with it in the variety and brilliancy of its colours.

A dry sandy soil would seem to suit this *Portulaca* best, but it is occasionally found doing well in one of an opposite character. If a good bed of it is visited during the early part of the day, when the flowers are fully expanded, nothing can have a richer appearance. In the latter part of the day its flowers close, but even in that condition it looks well. As a vase plant it deserves to be more generally grown.

A small packet of seed will furnish a number of plants, and these transplant well. The seeds ought to be sown in a slight

hotted early in the spring, but I have seen as good a result as could be desired from self-sown plants; for where the ground suits it, it perpetuates itself almost as well as Mignonette.—
J. ROBSON.

THREE USEFUL HARDY HERBACEOUS PLANTS.

SEASONS like the present are not likely to pass away without some one noticing how certain plants appeared to withstand the unusual heat and drought which prevailed throughout the growing part of the summer, and it will be easily seen what plants suffered or the contrary by the almost tropical heat they have been subjected to. In making notices of this description it is, of course, necessary to specify whether the plant has been assisted by artificial watering or not, as when this is done the plant ought no longer to be regarded as one capable of enduring much heat and drought, unless the amount of such watering has been very small. In the case of the three plants which I shall mention no artificial watering whatever has been afforded, and their appearance has been in every way satisfactory; besides which they have claims to attention beyond the mere fact of withstanding hot dry weather.

The failures in a trying season like the present will no doubt lead many to condemn more plants than they ought to do, while they may give a more than due importance to those which withstand the sun well; but the three plants to the merits of which I seek to call attention have done as well with me in damp seasons as in the present year, and consequently no one need be afraid of trying them. They are not the uncertain creatures of a hot season, but long-trying friends, displaying their beauties alike in a hot season and in a wet one. They all belong to those useful plants which are again fast making their way into public favour—namely, hardy herbaceous plants, and I have long regarded them as amongst the most ornamental of that highly interesting class of plants. Not one of them has any claim to rarity, and yet they are more rarely met with than they ought to be, possibly from their great beauty and their capabilities of withstanding heat not being known, although so many Phloxes, Pentstemons, and other plants have succumbed to the heat and lack of moisture.

Taking the three plants in the order in which they flower, I shall first begin with—

TRACHELIUM CERULEUM.—This, although allied to the Campanulas, does not much resemble any of the ornamental kinds with which I am acquainted. Its flowers are individually small, but are so numerous, and collected in such mathematical order in umbels of from 2 or 3 to 4 or 5 inches in diameter, that their heads look in the distance like florets. The flower stem is much branched, each branchlet supporting its umbel of flowers, which in ordinary seasons are pale blue, but this year they have darkened into a good purple, being when in a body and viewed at a distance of a darker and better purple than Purple King Verbena. The flowers, too, are produced in great abundance, and although the plant is from 2 to 3 feet high they require no tying-up, standing much better than Phloxes; and in consequence of the stem branching near the ground, flowers are produced all the way up. The plant produces its exceedingly small seeds freely, and these if sown in heat early in spring afford plants which flower the same year. It may also be propagated by cuttings taken off any time during the summer or autumn; and it is advisable to strike some, as very hard winters kill the plant. A row of it surrounding a bed of shrubs has been one of the most ornamental we have had here, a silver-edged Pelargonium being in front of it. It remained in full flower throughout July.

STATICE LATIFOLIA.—This is also an herbaceous plant of great beauty. Its broad overlapping foliage is scarcely less ornamental than some of the Lomarias or Scolopendriums; and the flower stem, much branched, is upwards of 2 feet high, and is so rigid and its branchlets so wiry, that tying of any kind would only injure it. The flowers when fully expanded are of a pretty pale blue, hardly inferior to the exotic species *Statice Hoffordii*, while in point of habit the plant is much superior. It produces its flowers in the greatest profusion, the stems branching out and interlacing each other, so as to form a compact head or bush of 3 or 4 feet in diameter in a full-grown plant, and perhaps 2½ feet high or more. It is, however, for the utility of the flower spikes just before they are fully expanded that I claim for it the greatest merit. At that time the small but numerous flower buds present a shining mass of a rich silvery grey tint, and if then cut and dried they retain

their colour, and the stiff wiry stems of the plant support them in due order. Amongst dried flowers, therefore, this plant is of the greatest importance. Its feathery appearance and distinctness from all others entitle it to a high place in such collections, apart altogether from the display it makes in the flower garden, where it continues in bloom a much longer period than most other plants; and even in its decay its sturdiness of flower stem and the small petals of the individual flowers preserve it from ever appearing rubbishy. The ever-green character of its foliage also imparts an amount of beauty to it which few plants possess. I believe the plant is met with under other specific names, but that which I have adopted seems applicable to it. It propagates much less freely than the *Trachelium*, not seeding, so far as I am aware, in this country, and furnishing but sparingly short tufty offsets or cuttings much like those of the double Chinese Primrose. These cuttings in a cold pit, with no other care than shading and watering, make plants in time. The plant, too, in other respects very hardy.

ACONITUM VIRGINICUM is a useful and ornamental herbaceous plant, more hardy than most of those which I know, and not particular as to site. This season, to my surprise, it has flowered well, although growing immediately in front of shrubs whose roots, I expect, intermix with its own, and on the other side a strong hedge of *Dielytra spectabilis* has several weeks the start of it every season, but this highly ornamental Monks-hood invariably makes itself seen by the 1st of August, and this season it was much before that time. The foliage and flowers did not show that distress which might be expected from the confined position of the plant, and the total absence of rain for so long a period. It usually attains a height of 4 feet, produces a spike of blue and white flowers, and well deserves a place in an herbaceous border, where something of a lower growth can be placed in front of it.

As a plant capable of withstanding heat I was agreeably surprised with *Aconitum virginicum* this season, as it never appeared to be suffering as some of the *Delphiniums*, *Phloxes*, and similar plants did, for its foliage and flowers presented a freshness of aspect which was seen in few plants this season, consequently its merits in this respect deserve to be known. It is propagated with tolerable freedom by division of the root. In very wet places I believe slugs are rather fond of it, but I have always found it very hardy, capable of taking care of itself, and furnishing plenty of flowers.—J. ROBSON.

ROSES AND OTHER FLOWERS AT MR. KEYNES'S NURSERY.

I THOUGHT to have included my notice of Mr. Keynes's in my last paper, in which I coupled it with Mr. Radclyffe's at Okeford Fitzpaine, but my space came to an end; and so I add this brief notice, first saying that I made one omission in my list of Strawberries—viz., Frogmore Late Pine, which is a great favourite with Mr. Radclyffe, and which I have more than once spoken of from my personal experience as a fine variety. It is of a good pine-like flavour, and comes in well after some of the others have finished bearing, but we still want some late sorts of this delicious fruit. If we could have a season as prolonged with good kinds as with the *Fraise des quatre saisons* it would be a great result achieved.

And now as to Mr. Keynes. His nursery is remarkable, not so much for the general stock as for the manner in which a few things are grown, especially Dahlias, Roses, and Vines. For many a long year has John of Salisbury held his ground as a grower of the first flower. Many have been the races that he has run with Mr. Turner, of Slough; varied their results, but never, or rarely ever, has he allowed any other competitor to snatch the laurels of victory from him—sometimes first and at other times second, but descending no lower; and now that Mr. Turner has given up exhibiting he holds the first place, probably doing more with new Dahlias on the exhibition table and in the market than all other growers. It has been a sore time for him this year; notwithstanding that a fine river runs at the bottom of his grounds, and of course an unlimited supply of water, it has cost him a larger sum than people would be inclined to believe to keep his plants going. At one time they were completely covered with black fly, which all, however, after giving a world of trouble, disappeared in one night. At the period of my visit the plants looked well, and some promising seedlings were developing themselves; but the Roses were the chief attraction, although it was just between the two

seasons, and owing to the intense heat very few flowers were to be seen.

There were, however, two rows of *Maréchal Niel* worth going a hundred miles to see. They were two-year-old plants budded as half-standards on the Briar, the branches tied down to a sort of rough framework, and from one end to the other dozens upon dozens of brilliant blooms in all stages. Away with those who babbled about its being the worst introduction for many years. It is the graudest Rose we have had introduced to English gardens for many a year, and I have never seen it necessary to abate one jot of the praise I gave to it when Eugène Verdier first showed it to me in Paris, if only it fulfilled conditions as to growth, &c., of which I could not then speak, but which it most certainly has done. At any time during the summer, Mr. Keynes said, he could have cut dozens of blooms from these two rows. On young plants it may, from its very free growth, be shy of blooming, although I have not found it to be so, but afterwards it is one of the freest of bloomers, and certainly one of the very finest Roses we have.

The very exceptional season which we have had told upon Mr. Keynes's Roses as upon those of everyone else, mildew being prevalent; but at the same time I never saw a finer-looking lot of plants, whether on Briar or Manetti stocks. About 50,000 on the latter were especially fine, and great care had evidently been taken to cut out the eyes of the stock under ground, for there was scarcely a Manetti shoot to be seen, and all who have grown Roses on this valuable stock know what a boon this is.

With regard to sorts, I had a long chat with Mr. Keynes, and our opinions on the older varieties were very much in accord. With regard to the new I could not say much, as my opportunities for seeing them had been but few. Those that he had marked as especially good were *Elie Morel* (Liabaud), rosy lilac; *Louis Bulliat* (Gonod), bright crimson shaded with violet black; *Madame Girodda* (C. Verdier), clear rose, extra good; *Madame or Baronne de Rothschild* (Pernet), bright rose shaded with white: it has been exhibited this year, and was certainly very beautiful; the only doubt I had was as to its being full enough. *Merville d'Anjou*, splendid bright red, large and full: this is highly thought of. If good it is, I think, the first Rose of first-class merit *Touvais* has raised. *Reine de Midi* (Rolland), delicate rose. *La France* was not so highly thought of, having too much of the Tea Rose in it, but I am inclined to think it will be a good and useful Rose and bloom very constantly.

Who has seen *Comtesse de Jaucourt* this season? Many were the sly shakes of the head, in the true Lord Burleigh style, as to what a grand stroke they would make who propagated it. Nobody, or next to nobody, knew anything about her; but she was a star. It might be so, and like the Unknown Knight in "Ivanhoe," she might vanquish all comers; but I doubted, and I could not learn anything about her here. Not so a Rose which seems unaccountably in its year of introduction to have escaped notice, but is now unquestionably in the front rank—*Maria Baumann*. Mr. Keynes considers it even superior to *Alfred Colomb*—one of our very best Roses, as I predicted it would be. Again, another Rose of which I would say a word, and which many saw this year—*Monsieur Noman*—when I last mentioned it I was under the impression that I had hastily condemned it last year, and made my *amende* accordingly. It was not so, however. The Rose I condemned was *Madeleine Noman* raised by Gonod, and not *Monsieur Noman*, which was raised by Guillot père. Another Rose much valued here is *Hippolyte Flandrin*; it is evidently not a very free bloomer, but the flowers are magnificent. I was glad to find that my judgment with regard to another flower, *Madeleine Marguerite Dombain*, was fully confirmed here; and the fact that Mr. Keynes took the second prize with it at Birmingham in the stand for the best twelve blooms of any Rose which has been sent out, the first being taken by *Alfred Colomb*, speaks volumes in its favour.

Fisher Holmes is another good flower that does not receive generally the favour it deserves. It is very brilliant in colour, and the form of the flower is excellent. *Horace Vernet* is regarded as too rough, a fault it certainly has; while *Napoleon III.*, although brilliant in colour, is too uncertain. *Felix Genero* is regarded as a beautiful rose-coloured flower, with a dash of violet in it; and *François Treyre*, a bright scarlet, large and well-formed, is also highly thought of. I do not remember to have seen either of these, but I have not been much at exhibitions this year.

Mr. Keynes's houses were full of splendid-looking Vines in

pots raised from eyes, and his house of Tea-scented Roses looked vigorous and well; in fact, the same might be said of all the stock. There can be no question that the *Salisbury Dahlias* and *Roses* are destined for more triumphs—a return they are bound to give for the care which they receive.—*D., Deal.*

DUC DE MALAKOFF STRAWBERRY.

IN answer to Mr. Radclyffe's letter in the Journal for August 13th, and to that of Mr. Biggs in the previous number, concerning *Duc de Malakoff Strawberry*, I received the plants from Mr. Rivals, of Sawbridgeworth, exactly four years ago, and have no doubt as to their being the true sort. The fruit is large, roundish; flesh deep red throughout; the foliage soft and rather downy, and the whole appearance of the plants, as well as of the fruit, quite distinct from that of any other variety which I have.

I did not allow the plants to bear any fruit the first year, and only saved one runner from each—fifty in all, which I fruited in pots. More plants of it were barren the first year of its fruiting than I liked to see, but it ultimately improved in that respect, as the runners were carefully selected from the fruiting plants. It is now discarded, because the fruit spoils almost as soon as it ripens. Mr. Biggs cannot have the true sort. I would have sent him runners, but have destroyed all the plants.

Would Mr. Radclyffe be kind enough to say if he would grow *Duc de Malakoff* as one of eight varieties? And he would confer a favour on myself and others if he would give the names of the best *Long Strawberries* to ripen with *Frogmore Late Pine*.—J. DOUGLAS.

WORK NEEDED ON SUNDAYS.

ARE gardeners generally required to water greenhouse plants on Sunday? I have a new man who thinks that plants ought to take care of themselves on that day; but he says he will water them or do any other work I order (in reason), provided I take the moral responsibility on my own shoulders. I tell him that so long as plants are grown in pots it is an act of necessity to water them on Sunday during the hot months.—AMATEUR.

[There is something very entertaining in the proposition of vicarious moral responsibility. Some ill-natured people would be apt to say in the present case, that the tender conscience of the servant was very much akin to mere personal ease and convenience; but there seems to be such a kind desire in the employer to meet as far as possible the conscientious scruples of his servant, and in the servant there seems to be such a willingness to oblige, combined with honest simplicity and a regard to religious principle, that we would be slow to think that in the present case conscience was made a plea for bodily ease.

The subject is one that has several times come before us, and that not always in such pleasing aspects as the present.

On one side it has been contended that growing plants in pots is no work of necessity, and that therefore watering them could form no work of necessity. We can enter into no serious discussion on this point, for on the same ground we might contend that as a horse kept for pleasure is not a necessary, therefore it is objectionable to feed it or water it. A plant in a pot must have sustenance when it needs it, or it may suffer proportionally with a horse left without sustenance on a Sunday. Men who resolve to do nothing except what is in the highest sense a work of necessity, should confine themselves to trades in which nothing is required of them on that day. The gardener who has religious scruples about watering a flagging plant in a pot on a Sunday may retain his scruples, but he should take to another occupation. He could not, with advantage to himself or to his own satisfaction, fill the situation of gardener in the smallest place where plants are grown in pots.

On the other hand, few men more deserve the Sunday's rest than gardeners. Employers should exact as little from them on that day as possible. We know that in some places it is the most harassing day of the seven. Employers—often, it may be, as a mark of mistaken kindness—will take their gardeners along with them over the demesne, and plan future arrangements with them, totally oblivious of the fact that the gardener has had enough of walking for six days already. Others have a habit of giving orders for hampers and packages

chiefly on that day. In many cases the man who attends the house finds it the worst day of the seven.

Now in the one case, whilst the gardener must see his plants do not suffer on Sunday, he, in our opinion, would be quite right if he courteously declined to enter on mere matters of business on that day. We have known cases of the ablest men of the day leaving their places because they found themselves unable to prevent the Sunday being made the chief business day. We believe that such Sunday work is anything but a benefit to all the parties concerned. In supplying the establishment there need be no difficulty in getting most of such work done in the morning, if the head of the establishment would make a few simple arrangements accordingly.

Then as to the case in hand, we shall never be able to make plants in pots so intelligent as "to take care of themselves" in all cases on Sunday, and just as we would feed a horse when he needed it, so would we without hesitation give a little water to a drooping plant; but though we should never question this as a work of necessity, if not of mercy, we would on the other hand never allow the principle to be made the excuse for keeping the man in charge on Sunday, or the gardener in a small place, almost if not as much employed on Sunday as on other days. Whilst a dry plant is not to be left dry, we think it wrong, unless in extreme cases, to require a gardener to water as much, if not more, on the day of rest as he would require to do in one of the regular six working days. In fully one-half of the year very seldom will a plant in a pot need watering, and even in the height of the summer such watering will be little needed if the plants are looked over in the last working hours on Saturday afternoon or evening. By such a simple arrangement we think our correspondent and his gardener may work comfortably together without any wounding of a tender conscience on the one hand, or taking undue moral responsibility on the other.]

ROYAL HORTICULTURAL SOCIETY.

AUGUST 18TH.

FRUIT COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. At this meeting there was a long schedule of prizes offered for various kinds of fruit, which produced a larger exhibition than ordinary, and brought out some very fine dishes, particularly of Plums, Pears, and Melons. A large and valuable collection of Figs from the Society's garden at Chiswick contributed much to the interest of the meeting.

For Plums there were seven competitions, all of which were good. After a careful examination the first prize was awarded to Mr. Whiting, of The Deepdene, for Jefferson, Miss Bardett Coutts, and Washington; the last remarkable for size, colour, and flavour. The second prize was obtained by Mr. Tillery, of Welbeck, for splendid samples of Jefferson, Kirke's, and Cox's Emperor, all of which were fine, but the flavour of the latter two was not equal to that of the fruit in Mr. Whiting's collection. The other competitors, all of whom made most creditable exhibitions, were Mr. Cox, of Redleaf; Mr. S. Ford, of Leonardslee; Mr. Miles, of Wycombe Abbey; Mr. Beach, St. Julien's, Sevenoaks; and Mr. Smith, Manor House, East Acton.

For Melons there were five competitors. Mr. Goldsmith, of Polesden Lacey, Dorking, sent a scarlet-fleshed Melon, which was not considered worthy of a prize; but his Marquis of Ailsa, green flesh, was very good. Mr. Earley, of Digswell, exhibited the same variety also good. Mr. Whiting, of The Deepdene, sent a hybrid green-flesh, with firm flesh and good flavour. The first prize was awarded to Mr. Goldsmith for Marquis of Ailsa, and the second to Mr. Whiting, of The Deepdene.

In the competition for early Apples Mr. Cox, of Redleaf, exhibited Kerry Pippin; Mr. Ford had Devonshire Quarrenden; Mr. Earley, of Digswell, Sugarloaf Pippin and Duchess of Oldenburgh, both of which were over-ripe. Mr. Miles, of Wycomb Abbey, sent fine specimens of Cellini unripe; and Mr. Beach, of St. Julien's, sent Devonshire Quarrenden. The first prize was awarded to the Kerry Pippin of Mr. Cox, and the second to the Devonshire Quarrenden of Mr. Ford.

For early Pears there were three competitors. Mr. Smith, gardener to C. Walton, Esq., East Acton, exhibited Windsor under the name of Jargonelle. Mr. Roberts, Holwood, sent Jargonelle, which received a second prize, there being no other dish to which a first prize could be awarded. Mr. Ford sent Williams's Bou Chrétien, which was unripe.

For the best Peaches grown on an open wall Mr. Beach sent Royal George; and Mr. Cox, of Redleaf, sent Noblesse, Early Mignonne, Acton Scott, and Red Magdalen. The first prize was awarded to Mr. Cox for Noblesse, and the second to Mr. Beach for Royal George.

For the best dish of Nectarines grown on an open wall, Mr. Beach sent Elruge; Mr. Smith, East Acton, sent a mixed dish of Elruge and Pitmaston Orange; Mr. Roberts sent the New White; and Mr. Cox sent Elruge. The first prize went to Mr. Roberts; no second was awarded. From the Society's garden at Chiswick came the Balgowan, which far exceeded all the others in flavour.

In Apricots, Mr. McIndoe, gardener to the Archbishop of York, sent a dish which was very rich in flavour, and apparently Moorpark or Peach, to which the first prize was awarded.

For the best dish of Peaches grown in an orchard house, Mr. Goldsmith sent Noblesse, Mr. Ford sent Malta, Mr. Tillery, Barrington, and Mr. Douglas, Loxford Hall, Ilford, sent Bellegarde under the name of Triton de Venus. The first prize was awarded to Mr. Douglas, and the second to Mr. Goldsmith.

For the best dish of Nectarines grown in an orchard house, the exhibitions constituted the most attractive and best part of the subjects produced. The Elruge of Mr. Ford, and the Rivers's Pine Apple of Mr. Douglas, were especially attractive. Mr. Ford also sent Violette Hâtive, Mr. Miles sent Elruge, and Mr. Tillery sent Violette Hâtive. The first prize was awarded to Mr. Douglas for Rivers's Pine Apple; the second to Mr. Miles. The Stanwick came from the garden at Chiswick, and was pronounced remarkably fine.

A collection of Peaches was sent by Mr. Rivers, Comice de Bourbon was not ripe. The others were Golden Rathrippe, an American variety, similar to Crawford's Early; S 18, a seedling from the Snow Peach of America, with little flavour; S 55, a seedling from the White Nectarine, was very rich in flavour, having a rich saccharine juice; S 191, a seedling from Cooleedge's Favourite, was of delicious flavour, and was awarded a first-class certificate; S 74, a seedling from Montagne précocée and Madeleine Blanche, of rich flavour. Reine Claude Bodaert is a large round Plum, in appearance like Haling's Superb, and of rich flavour. Reine Claude rouge d'Altham is remarkably rich in flavour.

Mr. Carmichael, of Sandringham, sent a seedling Grape, raised from the Black Hamburg, and which was said to be superior in colour, more round in berry, and distinct in foliage from that variety. The bunch exhibited was of good size, the berries quite round and jet black, the skin thick, and the flesh tender, juicy, and sweet.

Mr. Melville, of Dalmeny Park, Edinburgh, sent a small piece of a bunch of a seedling Grape of very early character, which has all the appearance of Early Kienzheim, but with a fine flavour of Moselle wine. Mr. Melville was invited to send a complete bunch, so that the Committee might be enabled to form a better opinion of its value.

Mr. Fleming, of Cliveden, sent fruit of a Fig from Spain, of delicious flavour, which was highly approved by the Committee.

Mr. Pearson, of Chilwell, sent two seedling Grapes, raised from the Strawberry Grape; one with a round black berry with a fine bloom, thick skin, and firm, fleshy, and somewhat mucilaginous consistency, like the American Grapes; the other, white, is a long oval berry, raised from a cross between the White Muscat of Alexandria and Strawberry. This is the more remarkable Grape of the two, and one which may be in many respects considered one of the most remarkable of Grapes, inasmuch as the flavour is entirely new, differing very materially from that of the Strawberry Grape, and the flesh possesses none of that mucilaginous character found in the American Grapes; the consistency is, in fact, as tender and melting as in the Black Hamburg.

Mr. Muir, gardener to Sir Philip De M. Grey Egerton, sent two Melons, named Prince of Wales and Green Gage, but neither of them was in condition. Mr. Cox, of Madresfield Court, sent handsome bunches of Madresfield Court Grape, but they were scarcely ripe, though exhibiting all the evidences of being an excellent Grape.

Mr. Francis Dancer, of Little Sutton, Chiswick, made an extraordinary exhibition of Plums, which were shown in branches, like ropes of Onions. The varieties were Poupard's and Mitchelson's, besides Small's Admirable Apple and Jersey Gratioli Pear, which were also shown in immense clusters of ten together. The Committee unanimously awarded a special certificate to Mr. Dancer for this wonderful collection.

FLORAL COMMITTEE.—Considering the season, the exhibition of Gladioli this day must have given much satisfaction. It was the first attempt at bringing together collections of this interesting flower, and we hope next year to find still greater encouragement for exhibitors to compete. Everyone will be willing to admit that the collections exhibited conducted very much to the interest of the meeting. Various other plants were sent, and some of them from continental growers and exhibitors. M. Van Houtte, of Ghent, was awarded a first-class certificate for Iresine Lindenii, a new and promising bedding plant, but until tested as an out-of-doors plant it would be hazardous to speak too highly of it. M. Linden, of Brussels, exhibited Cattleya Eldorado splendens, a fine flower, which was awarded a first-class certificate; also, Cattleya Wallisii rosea, which received a first-class certificate. Messrs. Rollisson sent Pteris straminea leptophylla, which was awarded a first-class certificate; Gymnogramma chrysophylla cristata, not equal to similar varieties; and Pteris cretica dactylopera in the way of crista. Messrs. Kelway exhibited a variety of Scolopendrium called Kelwayii, very similar to Scolopendrium Morgani—first-class certificate. Mr. Tireback, of the Nurseries, Luton, sent several seedling Nosegay Pelargoniums, but not better than nor equal to many in cultivation; there was nothing new in them, but they were not bad flowers. Mr. W. Bull sent Eranthemum elegans, a neat and pretty flower, in shape much resembling an Orchid, and having white flowers minutely spotted. It received a first-class certificate.

Mr. Fry, Manor Nursery, Lee, Kent, sent seedling Fuchsias very far behind the present leading varieties, also two seedling Nosegay

Pelargoniums—namely, Lady Northbrook and Grand Master. Mr. G. Smith, Hornsey, brought his superb hybrid Nosegay Masterpiece. This plant was exhibited at Leicester with only one truss of flowers. On this occasion three specimens were sent, and it proved itself one of the best varieties yet seen. A first-class certificate was given it. The size of the truss and shaded rosy purple flowers cannot be surpassed. It is a flower of great merit. Mr. Green, gardener to W. W. Saunders, Esq., brought three interesting plants—viz, *Agave dealbata latifolia*, or *pendula*, which received a first-class certificate; *Pourretia argentea*, a very curious plant—first-class certificate; and *Trichocentrum coccineum*, a small but beautiful Orchid—second-class certificate. Mr. Walsh, gardener to J. Hawlishaw, Esq., received a first-class certificate for a seedling *Habrothamnus elegans*, with beautiful white-variegated foliage, and named *Hawkshawii*. Mr. Tanton, of Epsom, again brought *Allamanda Wardleana*. The Committee was of opinion that this was identical with *Allamanda Hendersonii*, which in 1866 received a first-class certificate, and could not recognise it by its present name. The various and conflicting opinions on this plant led to the following result. The Rev. M. J. Berkeley and Mr. T. Moore were requested to examine this and other *Allamandas* botanically, and to report thereon. Mr. Tanton, at the suggestion of the Committee, kindly permitted three cuttings to be taken from his specimen *Wardleana*, and Mr. Standish three cuttings of his plants of *A. Schottii*, exhibited at the same time. These were handed over to Mr. Barron, the Superintendent of the Chiswick Gardens, and were directed to be cultivated and subjected to the same treatment and temperature. This, with the report of the botanical referees, will, we trust, finally settle this much-vexed question, and we shall soon learn whether *A. Hendersonii* ever did exist, and if it did we shall hope to discover what has been done with it. Nothing can be fairer than the present proposed settlement of the question. Time and patience will unravel the mystery. It is most desirable to discover how and where the confusion first arose, and why *A. Wardleana* has been shown under three different names.

A fine collection of seedling *Caladiums* was sent from the Chiswick gardens. Two of them, No. 1 and No. 2, were of great merit, and first-class certificates were awarded them.

Messrs. Paul, Cheshunt, sent specimens of a new Tea Rose of bronzy hue, Queen of Portugal, a very pretty flower, and a first-class certificate was awarded. A special certificate was also awarded to Messrs. Paul for two boxes of very fine Roses, among which *Maréchal Niel* was very conspicuous. Mr. Parker, Tooting, was awarded a first-class certificate for a hybrid seedling *Echeveria—glauca metallica*, a very promising and useful variety. Messrs. Lee, Hammersmith, sent *Coleus Carteri*, very similar to *C. aureo-marginatus*. Messrs. Smith, Dulwich, received a special certificate for their fine collection of Balsams; good as these were, they were not at all equal to the specimens usually grown by this firm. Messrs. Downie, Laird, & Laing received a first-class certificate for seedling *Hollyhock Sovereign*, a rich crimson flower, compact, and perfect in outline.

There were five collections of *Gladioli*. Mr. Kelway received a first-class certificate for three seedlings: *Julia*, a magnificent flower; *Lord Napier*, very fine, and *Formosa*, very beautiful. *Ulysses*, one of M. Souchet's varieties of 1868, received a first-class also; these were shown in the stand of twelve, which received the first prize. J. Sladden, Esq., of Ash, Kent, was awarded the second prize, and the Rev. H. H. Dembrain the third prize. Messrs. Banyard, of Ashford, Kent, sent a stand, also Messrs. Paul, of Cheshunt. The weather has completely baffled all skill in producing fine spikes, and with the exception of Mr. Kelway's, which were truly grand, the spikes of flowers exhibited were not equal to the average. Notwithstanding this, they were specimens of first-rate varieties. Mr. Sladden had some fine seedlings. In his collection we noticed seedlings *Aphrodite*, *Champion*, and the Rev. M. J. Berkeley as good; *Norma*, *Princess Clotilde*, and *Etendard* were very fine. In Messrs. Paul's collection *Thanberg*, *Milton*, and *Raphael* were good. The collection from Messrs. Banyard contained some excellent flowers, but out of condition; *Fulton*, *Titians*, *Janire*, *Flora*, *Belle Gabrielle*, *Jenny Lind*, and *Mozart* were good. In Mr. Kelway's collection we admired *James Veitch*, *Félicien David*, *Etendard*, *Leonora*, *Norma*, and *Madame Basseville*.

Messrs. Downie, Laird, & Laing received the silver Flora medal for the best twelve *Hollyhocks*, which were grown in Edinburgh, and were of first-rate quality. Mr. Chater also exhibited a very select and good collection. In Messrs. Downie & Co.'s collection we noticed Mr. Anderson, Mrs. Thorn, James Taylor, R. G. Ross, Mrs. Hastie, The Prince, Princeps, Mr. Marshall, Mr. Downie, and the seedling *Sovereign*. In Mr. Chater's collection were *Willingham Defiance*, *Lady of the Lake*, *Gloria Maadi*, *Walden Queen*, *Lord Napier*, *Scarlet Gem*, and *King*, all flowers of first-rate quality, but bearing evidence of the season. Two better collections as to varieties were never exhibited.

GENERAL MEETING.—W. Wilson Saunders, Esq., in the chair. The business of the Meeting was confined to the announcement of the awards of the Committees. The Rev. J. Dix directed attention to a terra-cotta plant label forty years old, and which would, if improved in shape, be very useful on account of its great durability. The Chairman then referred to the fact of foreign nurserymen having sent their

plants to be submitted to the decision of the Floral Committee as a very good testimony of the high estimation in which the Society's awards are held abroad.

ENTOMOLOGICAL SOCIETY.

The July meeting of this Society was, according to the new regulations, the last of the present season, and was held at Burlington House, the President, Mr. H. W. Bates, being in the chair.

Mr. McLachlan exhibited some fine bred specimens of the rare *Hypercallia Christianna*; and Mr. F. Bond two singular varieties of the Moths *Setina irrorella* and *Arctia villica*, in the latter of which nearly all the black markings are wanting. It had been reared from the caterpillar. He also exhibited a specimen of the large unwieldy female of *Drilus flavescens*, captured by Mr. Rogers in the Isle of Wight, together with two males, and mentioned that Dr. Knaggs had seen two males of different species of Moths, *Tortrix viridana* and *T. luparua*, under similar circumstances with *T. viridana*.

Mr. F. Smith exhibited specimens of the very large Ichneumon-parasite, *Ophion macurus*, a North American species which infested the fine Moth, *Saturnia cecropia*, but which had been reared from cocoons of the Chinese *S. Cynthia*, sent from New York, the eggs of which had been introduced from Europe for experiments of silk growth, the latter being the species which feeds upon the *Ailanthus*. The Ichneumon had severely stung Mr. Smith. Mr. Moore stated that it had also been reared from the fine *Saturnia Polyphemus*.

Mr. Jenner Weir exhibited a large exotic species of *Longicorn* Beetle, which had been caught flying into the Custom House of London, most probably imported in foreign timber.

Mr. Butler exhibited a variety of *Geometra Vanaria* and its parasitic Ichneumon; Mr. Pryer a monstrous specimen of *Haliastur quercana*; Mr. Davis a series of the skins of caterpillars of *Lepidopterous* insects carefully preserved and dried; and Mr. Dunning, the nest of one of the Solitary Wasps, probably an *Odynerus*, placed in a cavity formed by the limbs of a wooden spring letter-clip found in an open box on a writing table in Hampshire.

Mr. Wood exhibited a series of drawings of exotic *Saturniæ* made from living specimens, showing the different modes in which the insects hold their wings in repose, some keeping them flat, whilst in others they are more or less elevated. He also pointed out a curious comb-like apparatus attached to the fore leg of some of the species, which is used for cleaning the antennæ. Mr. Blackmore exhibited a large miscellaneous collection of the insects of different orders made at Tangiers, including many fine and beautiful species. The neighbourhood is rich in entomology, as many as 2700 species of *Coleoptera* having been captured by Mr. Rolfe.

Professor Westwood exhibited specimens and drawings of various exotic species of *Chalcididæ* of large size and singular structure, of which he gave a verbal description. The species were mostly unique in the Oxford Museum.

A paper by Sir John Lubbock, Bart., was read, containing a description of the singular larva of the genus *Miropeplus*, which was thereby proved to belong to the *Necrophaga*, and not to the *Staphylinidæ*, with which it has hitherto been placed. Also, "Descriptions of a new genera and species of *Heteromerous* insects, chiefly from New Holland," by Mr. F. Bates; "Reports of the Commissioner for investigating the ravages of the Borer Beetle (*Xylotrechus quadricaps*), in the Coffee Plantations of Mysore and Coorg," by Dr. G. Bidie. "A Comparison of some representative species of *Diurnal Lepidoptera* in Europe, India, and North America," by Mr. W. F. Kirby; and "On some points in the anatomy of the immature *Conis macrura*," one of the *Ephemeridæ*, by Mr. A. E. Eaton, who exhibited a carefully prepared series of preparations under the microscope.

The meetings, which during the past season have been eminently successful, were then adjourned till the beginning of November.

BATTERSEA PARK.

HOWEVER splendid the display of bedding plants has been in previous years, however magnificent the subjects grown in the subtropical department, never has Battersea Park in all its features presented such a degree of perfection as in the present season. The great attraction of the place, of course, is the subtropical department, in which Mr. Gibson, the talented Superintendent, has, by simple means skilfully applied, been successful in achieving results which have rendered it famous. There, just now, may be seen noble-leaved *Bananas* and *Palms*, *Indiarubber* plants and *Indian Shots* in profusion, *Coral* plants, *Dracænas*, *Caladimms*, and groups of handsome *Tree Ferns*, whose thick black trunks offer a unique feature in an out-door garden in this country. Then there are rich masses of the different kinds of *Coleus*; *Aralias*, *Castor-oil* plants, and *Wigandias*, forming a variety of beautiful combinations in conjunction with ordinary bedding plants. The luxuriance of growth which the more tender exotic plants exhibit this year is remarkable; they are no starvelings, but tall specimens, some of them, the *Bananas* for instance, with leaves 8 or 10 feet

long; indeed, persons who have seen them in their native countries affirm that for beauty the specimens at Battersea are much superior, and for size nearly equal, to those seen in the natural habitats of the plants. The extraordinary heat of the summer has no doubt had a great effect in promoting their growth; but on the other hand that heat was accompanied by an equally extraordinary degree of dryness, not only dryness from want of rain—to that tropical plants are accustomed—but dryness in the atmosphere as well, and to that many of them are not accustomed. Mr. Gibson, however, has an excellent supply of water, which, being conducted in pipes to certain points, is distributed with the greatest ease by means of hose on small wheels, in the same manner as in the public gardens in Paris. The water is thus supplied in a fine shower close to the ground, so that the surface is not beaten down as in most ordinary watering. The effect of this abundant supply of water, and of the facilities for its distribution, is nowhere more apparent than on the grass, which, instead of having a scorched appearance after the late hot dry weather, is almost as fresh and green as in ordinary years.

Dismissing for the present all other parts of the Park, and confining ourselves to the centre of interest, the subtropical department, we shall now proceed to notice the planting of some of the principal beds. These Mr. Gibson intends to have all numbered before the end of the season, and this will be a great convenience to those who wish to refer to any particular bed, its situation, or contents. It may also be remarked that the majority of the plants used have the names attached on neat deal labels, and in characters sufficiently large to be seen from the walks.

Passing in by the main entrance from the north side, the first plant which claims attention is *Uddea pyramidalis*, a tall-growing composite plant, forming a pyramid 14 feet high in a single season, but of which there are better specimens in other parts of the ground; on each side are Castor-oil plants in pairs, and *Caladium esculentum*. Taking the right-hand walk, on one side is a noble plant of the old *Strelitzia augusta*, on the other a group of the Bird's-nest Fern, looking as fresh and healthy as possible, fine plants of *Dicksonia antarctica* making their young fronds, and *Monstera deliciosa*, or *Philodendron pertusum*, as it is sometimes called, a plant frequently shown at exhibitions in collections of fine-foliaged plants, and which produces fruit of excellent flavour, but objectionable on account of the pricking sensation caused in the throats of those who partake of it by the numerous sharp-pointed crystals it contains. On the opposite side of the walk is a fine bed of Cannas, consisting of *Van Houttei*, 8 feet high, with very bright scarlet flowers, one of the best varieties, with *Canna Selovii* in front. The roots stood out all winter under a covering of dry leaves. Another bed on the same side consists of *Urania speciosa*, surrounded with the handsome *Coleus aureo-marginatus*, *Lady Plymouth* variegated *Pelargonium*, and *Robert Fish* outside. In front of this is a pretty feathery-looking bed of the variegated *Acer negundo* and *Begonia ricinifolia*.

In a half-moon bed on the left *Hibiscus rosa-sinensis* is very fine, producing an abundance of its large and showy but short-lived flowers; in front of the *Hibiscus* is a row of Gamboge trees, with *Coleus Veitchii* as a groundwork. On the right again there is a fine bed of *Indiarubber* plants from 6 to 8 feet in height, with *Amaranthus melancholicus ruber* as a ground, and a broad edging of a golden variegated *Marjoram*. In a composite bed near this is a pretty *Perilla*, named *crispa*, having leaves resembling those of some Ferns, and not so dark as those of the common *Perilla*. Another half-moon bed, facing the west, is planted with *Coleus Verschaffeltii*, surrounded by *Centaurea candidissima*, edged with *Sempervivum californicum*. There is also near this a pretty circular bed with *Zamia Lehmanni* in the centre, and *Dracæna terminalia* dotted over a groundwork of the variegated *Dactylis glomerata*.

In a serpentine bed fitting a recess on the right there is a fine mass of *Canna purpurea spectabilis*, having broad, dark-purplish bronzed leaves, with a wavy outline, and in another bed on the same side *Canna Prémice de Nice* is noticeable for its fine yellow flowers and soft green leaves. This variety resembles *Canna Annei* in general appearance, but its flowers are very much larger and of a brighter yellow. *Canna nigricans* is used as an edging to this, and the whole is surrounded by *Veronica incana*, a very compact, hardy, frosted-leaved plant. On the opposite side of the walk, dotted over the lawn, are nice plants of *Scaforthia elegans*, *Aralia macrophylla*, *Astræa Wallichii*, and some other plants of large growth, whilst nearer the eye there is a long oval bed filled with

Coleus aureo-marginatus in the centre, having a very rich appearance, the other plants employed being *Golden Fleece Pelargonium* and *Centaurea candidissima*, with a very effective margin of *Sempervivum californicum*. An adjoining circular bed is occupied by a splendid group of *Erythras*, the well-known *E. crista-galli* being in the centre, and *E. ruberrima* outside. Both are in fine bloom, but the latter for size and colour of flowers is the more conspicuous. Some plants of the variegated *Acer negundo*, 6 or 7 feet high, form with their snowy foliage a pretty background.

Turning to the other side of the walk we find in front of a bed of Cannas a small circle of the variegated Japanese Honey-suckle edged with a new *Tropæolum*, which, whether from the heat of the season or other causes, has not been successful, and surrounded with *Knaphalium lanatum*. Another circular bed near the last-named has in the centre a plant of *Musa ensete*, the ground being carpeted with Ice plant, surrounding which are rings of *Lantana Faviola* and *M. Rougier-Chauvière*, the one pink and white, the other red and orange, the whole having a margin of *Alternanthera paronychioides*. The *Lantanas* just mentioned are two of the best for bedding purposes, and there can be little doubt that those who have seen these and other fine *Lantanas* well bloomed will be inclined to employ them more extensively than hitherto in their bedding-out arrangements. They certainly deserve to be more generally grown. We next come to a long bed of Cannas, consisting of *C. peruviana*, one of the best of the large-flowered kinds, about 8 feet high, with the dark-leaved *Canna expansa* in front, the whole being very prettily edged with a bright silvery variegated Ivy. The variegated New Zealand Flax is growing close by, and is remarkable for the beauty of its variegation and the lines of intense orange on the margins of the leaves and the under sides of the midribs.

The next bed we come to is an oval, planted with the variegated *Vitis heterophylla*, edged with the Japanese Honey-suckle. The highly ornamental character of the latter plant is well known, but the *Vitis* deserves to be employed for ornamental purposes much more generally than it now is, not only on account of its variegated foliage, but the light elegant appearance which it presents. This bed, it may be remarked, was not in such good condition as it had been some time before, but now that the drought has passed away it may be expected to resume its former aspect.

(To be continued.)

ORCHARD HOUSES.

I SUPPOSE by this time all intelligent gardeners have about made up their minds that Peaches ought, except in the most favoured situations, to be grown under glass.

There are a few who do not believe it possible to grow good Peaches in pots. I wish they had been here this season and seen mine. I would have shown them both Peaches and Apricots that would have rather astounded them. Mr. Barron, of Chiswick, said when he saw them that he never ate such Apricots in his life, and that the Peach trees were superb. Well, I must say this was very agreeable to hear; I felt flattered; as people say, "it felt to go down warm and make one feel comfortable." And really when I looked at young Apricots with an average of from twenty to thirty fine fruit, and many Peaches with fifty or sixty, I felt a little proud of my cultivation.

Alas! all this self-complaisance was destined to be quickly taken out of me. I received a letter from Mr. A. Bass, Moat Bank, Burton-on-Trent, to say he could challenge all England with his orchard house. I started at once to see them, and was obliged to acknowledge myself beaten. I never saw so regular a crop or one so regularly good. In passing the door of the butler's pantry I saw a great meat dish covered with Peaches, which, if a fair sample of the crop, was a tolerably good intimation of what I had to expect. In the orchard house was Mrs. Bass gathering a large basket of the finest Peaches to send to her friends, and really it was worth going a long way to see such a houseful of fruit, and the perfect satisfaction of the owners. "It is such a pleasure," said Mr. Bass, "to give away such fruit." What a pity we do not all seek pleasure in this manner, thought I to myself. The trees were perfect pictures; there was not one with too large a crop, and there was hardly one you would have wished fuller; and when I looked at the size of the fruit and the regularity of the crop I was obliged not only to confess myself beaten, but to say it was the best crop I had seen. "I am glad to hear that," said

Mr. Bass, and then he quickly added, "but we are your pupils, Mr. Pearson, you know, and you may tell anyone to come and see our orchard house who would like to see it."

Those who have seen the mixed expressions of vexation and pride depicted in the face of the old man when beaten at draughts by his grandson, will understand my feelings. If I do not beat him next year it shall not be my fault.—J. R. PEARSON, *Chilwell*.

NEW AND NOTABLE FRUITS.

MR. RIVERS, who has added so largely to our collections of new fruits, has forwarded us specimens of some seedling Peaches and Nectarines which have not yet acquired publicity. Unfortunately when they arrived they were a good deal bruised outwardly, so that we are somewhat in doubt as to the exact colouring of them. The flavour of all was excellent, that of Peach S. 89 unapproachable. They are all decided acquisitions. We append the following brief descriptions of each:—

Peach S. 42.—Fruit of medium size, round, flattened; skin light and delicate, with slight flushes of pink; flesh exceedingly white, juicy, tender, rich, and pleasant. Raised from Belle Beauce Peach, and ripening ten days before Grosse Mignonne. A very excellent Peach. The flowers are large, and the glands round.

Peach S. 187.—Fruit of medium size, roundish; skin soft, of a pale yellowish colour; flesh yellowish white, very tender, melting, and juicy; flavour peculiar but surpassingly rich and luscious, a combination of the flavour of its parent, Rivers's Orange Nectarine with that of a Peach. Flowers large; glands kidney-shaped. This is the richest-flavoured Peach we have ever tasted. A very decided acquisition.

Nectarine S. 189.—Fruit of medium size, of a pale greenish colour like the Stanwick; flesh yellowish, tender, and juicy; flavour rich but peculiar, partaking of that of the Peach. Flowers large; glands small, kidney-shaped. Raised from Early Albert Peach.

BENTLEY PRIORY.

THIS magnificent place was at one time the residence of the Marquis of Abercorn, and is now that of John Kelk, Esq. Around it there is much to interest not only the townsman bent on a few hours' rural enjoyment, but also those whose lot is cast amid the pleasant scenes frequently to be met with within a few miles of our great metropolis. Strolling through the cool and pleasant groves of Bentley, one calls to mind that it was here the good Queen Adelaide spent some of the later years of her life, and that here, amid noble scenery, she breathed her last. Her kindness to the poor is still recounted by many of the aged people in the neighbourhood, who remember with pride and gratitude her virtues and the benefits which she bestowed. The present owner, too, as if inspired by the spirit of the place, is ever ready to relieve distress with a liberal hand, and to promote with his influence and purse every scheme likely to conduce to the advancement of his poorer neighbours.

To one who, like myself, has known this fine old place both before and since Mr. Kelk became its owner, a visit is doubly interesting and instructive. I hope, therefore, to communicate to the reader a portion of the pleasure and interest I felt on visiting the beautifully kept gardens, which, by the liberality of Mr. Kelk and his taste for horticulture, have within the last ten years been brought to their present state of excellence. Much credit is also due to Mr. Rutland for the care and thought which he has bestowed upon their improvement during the last three years.

I was much gratified on a late occasion to find the Priory looking so well in such a trying season as the present. The terraces presented a mass of floral beauty (but of these I shall speak more fully hereafter), the crops in the kitchen gardens were looking remarkably well for such a hot, dry season, the houses were also in keeping with the rest of the place. All this is owing to the forethought displayed by Mr. Rutland in providing an ample supply of water for all purposes; this he did by making last winter a large reservoir at a considerable elevation above the gardens. From this reservoir pipes are laid to convenient parts of the gardens, and thus an abundant supply of water has been obtained throughout the late excessively dry weather. Had it not been for the forethought of providing a supply of water to meet any requirement that

might occur, the consequences would have been disastrous; for the greater portion of the magnificent evergreens, such as Rhododendrons and Portugal Laurels, which give such character to this fine old place, must inevitably have perished. As it is, many of them looked in a very deplorable state; and had the Priory been in the hands of any one who had not sufficient means to constantly employ a large number of labourers in watering during the long drought, the general appearance of the place must have been spoiled for a great number of years. It was also threatened with another danger, which appeared likely to at one fell stroke to have swept away all the beautiful trees and shrubs on the north-east side of the house. As we pass up the main road from the romantic village of Stanmore, towards Bushy and Watford, after ascending a very steep hill we come upon a level piece of road, bounded on the north by a considerable extent of waste land, called Stanmore Common, which is thickly covered with large patches of furze, and many of the spaces not clothed with furze are in summer occupied by gipsies. Nothing but the turnpike road divides this mass of furze from the wooden park fence which encloses the Priory on the south side of the road, and which is surrounded both inside and out by large masses of inflammable matter, such as dry fern and dead brambles for nearly a mile. This state of things existed until a late occasion, when the furze on the north side was found to be on fire, and in consequence of the excessively dry weather was being consumed with great rapidity. Fortunately the wind was blowing from the south at the time, for nothing else could have prevented the destruction of the magnificent trees and shrubs which cover some scores of acres on the north side of the Priory. Such a disaster would have completely spoiled this noble place, and robbed it of its shelter from the north-east winds, which sweep with such force across Stanmore Common; but, as I have remarked, the wind blowing from the south, and prompt measures being resorted to, the fire was soon subdued. How it originated no one could tell, but it was conjectured that the furze had been set on fire by the carelessness of the gipsies, who were encamped close at hand at the time. Every means has been resorted to both before and since to prevent these people from encamping there, but without success.

The Priory when seen from the London and North-Western Railway, shortly after leaving the Harrow station, has a most beautiful appearance. The building, with its magnificent conservatories, is seen just in the eye of the south, and surrounded by large masses of fine trees, giving at once an idea of affluence, peace, and happiness. Directly opposite, and on the right of the railway as we journey from Harrow to London, is to be seen the beautiful church and spire of Harrow-on-the-Hill and its classical surroundings, the scenery on every side being all that an admirer of Nature could desire.

Bentley Priory is situated on the south side of a beautiful range of hills about twelve miles from London, and is well sheltered from the east, west, and north by slight projections of the hills on each side, thickly covered with great masses of trees. From the high ground on the north-west of the Priory a splendid view is obtained of the fertile grain-growing county of Herts. From this point of view, as on every other, the view is extremely fine. Beyond, in a westerly direction, a fine view is obtained of Windsor Castle in clear weather, the towns of Watford, Elstree, and the neighbourhood of Moorpark, Cashio-bury Park, The Grove, and many other places of interest to the lover of horticulture and of fine natural scenery.—J. WILLS, F.R.H.S.

(To be continued.)

NOTES AND GLEANINGS.

J. RUSSELL REEVES, Esq., F.R.S., of Woodhayes, Wimbledon, has presented the following valuable works to the LINDLEY LIBRARY—viz., Thornton's "Philosophy of Botany," four vols.; Curtis's "Flora Londinensis," five vols.; Kämpfer's "Amœnitatum Exoticarum," one vol.; Nees Von Esenbeck, "Genera Flora Germanica," seven vols.; Thornton's "British Flora," five vols.; Withering's "Botanical Arrangement of British Plants," four vols.; "Flora Medica," two vols.; Siebold's "Synopsis" (Japan), one vol.; Raspail, "Physiologie Végétale et Botanique," one vol.; Gartner, "De Fructibus et Seminibus Plantarum," four vols.

— THE GARDENS of the ROYAL HORTICULTURAL SOCIETY, at South Kensington will be open free on August 26th, from 10 A.M. to 6 P.M., as usual, in commemoration of the anniver-

sary of the late Prince Consort's birthday; but in consequence of disorderly persons abusing the privilege on former occasions, the Council have decided on reserving to themselves the right of excluding any persons from entering the Gardens whom they think it would be undesirable to admit. The Council appeal to the visitors on this occasion to assist them in preserving order and preventing destruction to the Society's property.

— MR. RICHARD PEARCE, formerly one of Messrs. Veitch's botanical collectors, and the discoverer of many of the plants introduced by that firm, died of fever at Panama on the 19th of July. He only arrived there with the view of collecting objects of natural history, on the 7th of the same month, and a week afterwards was attacked by the malady which proved fatal to him, thus adding one more to the long list of those who have lost their lives in enriching our natural history collections. He had married just before leaving England.

— It is our painful duty to announce the death of MADAME ELIZA VILMORIN, widow of the late M. Louis Vilmorin, and mother of the present M. Henry Vilmorin, of Paris, which took place at the family château at Verrières, on the 3rd inst. For upwards of a century the name of Vilmorin has been closely associated with the rise and progress not only of the horticulture but the agriculture of France. At an early age it was her lot to become the wife of one of the most accomplished of that talented family, and the readiness with which Madame Vilmorin at once identified herself with the scientific pursuits of her husband, enabled her to contribute in no small degree to the success of the numerous experiments carried on at Verrières. Of late years the Strawberry formed her more particular subject of study; and numerous articles from her pen were supplied to illustrate the plates of that splendid work of M. Decaisne, "*Le Jardin Fruitier du Muséum.*" Since the death of her husband Madame Vilmorin was the head of the extensive and widely-known house of Vilmorin-Andrieux, et Cie., perhaps the most extensive in Europe. Those whose privilege it was to know this highly-gifted and accomplished lady will regret to read this announcement, and those whose advantage it was to enjoy her friendship will keenly feel the loss of one whose friendship was of no ordinary kind.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Asparagus, this is now swelling-off a heavy crop of seeds, which cannot fail to exhaust the plants very much. If attempts were made to clear off the fruit, the chances are that more harm than good would be done by breaking and bruising the young shoots and leaves. The next best plan, therefore, appears to be to soak the beds well with rich liquid manure three or four times before the growth is over. *Celery*, earth-up the plants as they advance in growth, but leave the hearts uncovered until the final soiling. In the case of the early plants this should be applied about a month before they are wanted for use. Earth-up only when the plants are dry. Some growers defer earthing-up until the plants have nearly attained their full growth, and complete the work at once. I prefer doing it at intervals as the plants advance, believing that this renders the crop more tender and crisp. In earthing-up hold the leaves carefully together to prevent the soil getting between them. *Cardoons*, these must be blanched before they are fit for use, and the early crop should be tied and earthed-up as soon as the plants are sufficiently strong. This is usually done by gathering the leaves together, winding haybands closely round the stems, and then covering with soil. *Onions*, as soon as the bulbs are properly matured, which will be known by the decay of the foliage, take them up, spread them out in an airy shed, or sunny situation in the open air, until thoroughly dried, and then store them in a dry, cool place till wanted for use. The Lancashire method of wintering Onions is, perhaps, the best. There the bulbs are tied up in what are called ropes, and hung on an outside wall not facing the sun, and protected from wet by placing a board against the wall overhead. They keep sound longer by this than in any other method. It is a never-failing rule to keep the ground well stirred between rows of young crops. *Spinach*, *Peas*, *dwarf Beans*, and late-planted *Cauliflowers* are the only young crops now to be looked to in this respect.

FRUIT GARDEN.

Peach trees now ripening their crops stand as much in need of water as *Asparagus*, but pond water is strong enough for them. Fork the border as far as you expect the roots to reach,

pour a dozen or so of large watering potsful all round, according to the size of the trees, and then put over the roots a thin layer of short grass. The old wood of the Raspberry may be cut out as soon as the fruit is off, and also a few of the weakest of the young shoots; this will strengthen the roots and let the air have free access to the next year's canes. From this time to the middle of September is the best time to prune Currant and Gooseberry trees, by thinning and topping the branches, to allow a free circulation of air, and, indeed, all sorts of fruit trees that are at all unhealthy or of a tender constitution; it is also a good preventive against canker. The reason is that late autumn growths are avoided, and then no unripe wood remains to be injured by frost; the buds on the remaining branches will be more prominent by the force of the ascending sap being thus checked, and the edges of the wounds made by the pruning knife are healed over before winter. For these reasons and others which might be adduced, September is the best time to cut hedges. Proceed with making fresh plantations of Strawberries, choosing well-rooted runners, or such as have been taken up and pricked out in beds previously. It matters little whether they are planted in beds or in rows, provided the plants have sufficient room. The ground should be well trenched and manured, and if the soil is of a stiff nature, the addition of a considerable quantity of gritty matter will be of advantage by keeping it open, as no spade ought to be inserted among Strawberry plants until they are finally dug down.

FLOWER GARDEN.

Before the propagation of bedding plants is proceeded with to any material extent, it is as well that proper arrangements should be made as to what number of plants will be required next season. To keep up the interest of a garden, especially if planted on the grouping system, some considerable skill and forethought are requisite, so as to vary the scene in each succeeding year, and prevent the arrangement becoming monotonous. Thus, if warm colours prevail to any material extent this season, it would be as well to introduce a majority of cold colours next season, and to edge each bed of the latter with its complementary warm colour. Indeed, the system of edging beds with contrasting colours imparts a highly interesting feature to the flower garden, and more especially to such beds as may be distributed over the lawn without any methodical arrangement. For these purposes no plants are so well adapted as those which have variegated foliage, and for that reason a large stock of variegated *Pelargoniums* should be provided. The best of these are Mrs. Pollock, Mangles's Variegated, the common and Golden varieties, and the different Ivy-leaved *Pelargoniums*.

GREENHOUSE AND CONSERVATORY.

Pelargoniums that have been struck from cuttings early last March, and planted in the reserve garden early in June, should now be fine plants for flowering late in autumn. Their first attempt at blooming in the open ground has been checked of course, and now, as their second flower buds are well formed, they may be taken up carefully and repotted. Some people commit a great error at this stage, by placing such plants in heat at once. This should never be done; the great point is to keep the leaves as free from excitement as possible until the roots take hold of the new soil. A cool close frame covered with canvas is the best place for them, but in the absence of this the north side of a wall or hedge will do. Sprinkle them over the leaves twice a-day, and in ten days they recover from the check without losing a leaf. *Chrysanthemums* and all other plants that are planted out for a summer's growth—a very excellent practice, should be treated in this way, and should not be allowed to remain in the ground too late. The different species of *Begonia* are well suited for flowering in the conservatory and in rooms through the summer; they are enabled to resist the dry atmosphere in such places by the succulence of their stems and foliage.

STOVE.

Almost all the softwooded stove plants that can be formed into large specimens by one or two seasons' growth, like *Pelargoniums*, may be conveniently treated like that popular tribe of plants. Cut them back after they have ceased flowering, keep them dry for a week or ten days, and then shake them out of the soil, shorten their larger roots, and pot them in light rich compost in as small pots as their roots can be got into. This is a good time to look over a collection for this purpose. Where a large conservatory is to be kept gay all the year round, this class of stove plants is the most useful to cultivate, as you can always winter them in little room, whereas fine woody plants

will soon become too large, and take some years before they are fit to appear in a good conservatory. Another great advantage is that as soon as these plants are established in the new pots they will require only to be kept in that condition throughout the winter, and therefore will not require more than 50° of heat for three or four months.

PITS AND FRAMES.

There are many of the new Verbenas that will force admirably through the winter with a little heat; this is the time to procure a supply for the purpose. The Veronicas force well for early spring, and although nearly hardy will stand as much heat as *Ixoras*. *Pentas carnea* and *Manottia bicolor* will answer likewise, and all lovers of the lovely Chinese *Azaleas* who can afford it ought to have the new varieties of them. The old *Luculia* is as much sought after as if it were a plant of recent introduction. It flowers freely in loam, but for pot cultivation and, by beginners, hardly any loam should be used. Equal quantities of good leaf mould, peat, and sand will keep it in good condition for many years.—W. KEANE.

DOINGS OF THE LAST WEEK.

We have since writing last had several refreshing showers not enough to wet our much-dried soil, but enough to refresh the foliage and cool the atmosphere, doing great good to Dwarf Kidney Beans and Scarlet Runners, and enabling us to sow Turnips, and plant out young plants and Cauliflowers with better prospects of success. But for the dread fly we might go on better, but that has sadly riddled all our young plants, except the last or rather the first sowing of Cabbages, which was protected until the showers came with old sashes. The fly has made such a wreck of some crops, that we dug down several pieces of Turnips, as there was not enough of green foliage to feed the roots, and planted with Lettuces and Endive. In sowing the Turnips the ground was still so dry that we drew drills and soaked the rows before sowing, and if untouched by the fly and other enemies the crop will yet be useful.

We find that, contrary to expectation, many fields sown with Turnips, and which have looked like a desert for the last six weeks or two months, are now showing plenty of young plants. Some farmers are becoming convinced almost against their will, that even the quickly-germinating Turnip seed may remain a long time safe in the ground if not presented with a sufficiency of moisture to swell it, and thus induce the first processes of germination. Early-sown Turnips have less chance of coming up now, as there was then almost enough of moisture to cause them to germinate, though not enough to give them strength to show themselves much, and if they did appear the fly pounced on them and had them at once. Even green tops without large tubers will be a blessing. It is disheartening to manure land well and obtain nothing in return. Could Wheat be sown on the land intended for Turnips, the crops next season might be expected to be better than those of this season, for the quantity and quality of which in general we have reason to be grateful. There is a vast amount of happiness within the reach of the man who has learned to look on the bright side of all things.

The work in the kitchen garden has been so much a repetition of that performed in previous weeks, and doing what the weather would allow us to do, that we shall advert to two things as connected with the prime necessity of water in gardening.

One of our best kitchen gardeners, even though not destitute of water supply, but having it in abundance, was forced to come to the conclusion that watering as generally practised was next to useless. The fly having been more merciful to him than some of his neighbours, he had better and stronger plants of winter vegetables than were common in his neighbourhood, and anxious to get them into the ground occupied by Peas, &c., he did not wait to dig or trench, but marking out the rows, made holes with a crowbar the day previously, and filled them with water, which softened and mellowed the ground a little round the holes. The plants were put in firmly in the usual way and watered again, and then left to themselves. He insists there is no better plan of obtaining fine Broccoli, &c., than planting them in this manner, as the roots delight to penetrate into soil that rather resists their progress. We could bring to our recollection many facts as corroborative of this. What say some of our more experienced practical men? We never thought of the matter much before, but it is just possible that we may stir the soil too much for some kinds

of autumn-planted crops. We are aware that for putting leggy vegetables well into the ground in such a season as this, the crowbar will be a great assistant.

In order to give somewhat stunted Cauliflowers a better chance, we will prick them out before transplanting into rich soil, leaf mould, &c., and then plant with the trowel.

The other matter we would refer to is the means of securing a water supply for garden and farm purposes. We have frequently alluded to saving all water that comes from clean roofs, and adverted last week to the best means for conveying that to reservoirs. We also instanced cases where water was very scarce, and had been made plentiful by taking the drainage of parks and fields into large reservoirs. We have just been told of a simple yet most effective mode of securing a good supply of water. A mercantile firm had a brickmaking yard as part of their business, and this being situated on rather high ground, the procuring and carrying of water in summer cost them between £100 and £200. They no doubt calculated how many inches of rain fell in a season on a given spot in ordinary years, and on these data they proceeded to secure water in an economical manner. They set apart half an acre of ground, had it levelled and firmed, with a regular descent to one end, and at this end they dug out a pond or reservoir. The ground was roughly asphalted with coal tar and gravel, and left with a smooth surface through which the water would not percolate. The sides of the reservoir, sloping obliquely so as to stand well, were first puddled with its own clay, and then covered with a home-made asphalt of tar and gravel; and during the whole of this hot summer the water collected on that half-acre of ground has kept the firm well supplied. Our informant stated the rough asphalted did not cost much, and therefore we cannot say how much the outlay would be for tar, gravel, and labour; but these once secured, the annual outlay for a good supply of water would only be 15s., the usual rental of land being 30s. per acre.

It would be some time before water thus collected would be fit for gardening purposes in-doors, or even for the supply of cattle, but the effects of the tar might be much modified by a rough concreting on the surface, or even by a slight surfacing of fine gravel firmly rolled. Even from that amount of ground well levelled, sloped, and gravelled, with a little powdered lime or fine clay mixed with it, and firmly rolled when wet, a great quantity of water could be obtained without any unpleasant taint whatever, as we know from one of our reservoirs, which is chiefly supplied from what falls on a piece of hard road, which we had levelled to suit our purpose. The simple fact of this brickfield may serve in many ways as a hint to gardeners and farmers. We would have passed an easier summer had we had such a reservoir to fall back upon, as even a little tar scent would do little or no harm to plants out of doors, whilst it would keep grubs and other enemies at a distance. A farmer who keeps a large head of stock has his chief reservoirs of water supplied from what falls on a neighbouring road, and he could easily have much more if the water did not overflow into the adjacent ditches. What would be the expense to him of the loss of half an acre, or even an acre of ground, and the rough-forming of a larger reservoir, compared with the pound a-day which it has cost him for months in driving water three miles or so from his homestead?

FRUIT GARDEN.

The work has been much the same as in previous weeks. Apples are swelling better than we expected, though some continue to fall before they are ripe. Wasps and flies have not troubled us much as yet, and all nests known have been taken. The gauze netting has kept them out of our orchard houses, and until we can exclude them thoroughly we give little front air to our vineries.

Most of our dwarf fruit trees have been deprived of superfluous shoots, as now the chief things are to let the sun to the fruit, and sun and air to the wood and buds for next season. There is more danger of having too much than too little. In thinning it is a mistake to leave Apples and Pears too much exposed. It is apt in such a season as this to render them hard and dry, and if sweet, rather sweet than juicy. Even as respects Peaches and Nectarines, a little shade from leaves is rather in their favour until they are swelling freely and beginning to colour, when the removing of laterals, placing leaves aside, and even cutting them in two so as to admit more light, does much to give high colour and flavour. We have not unfrequently found, however, that a Noblesse comparatively colourless from being slightly shaded was more rich in flavour than one well coloured from full exposure to a bright sun.

Grapes will generally be best flavoured when slightly shaded by their own leaves, and when the rays of light reach them in a broken and flickering manner rather than directly. This season Grapes out of doors are generally good, and may be expected to ripen for something better than inferior wine. The abbots and friars of the olden time must have been cleverer than we, or had better seasons, though even then we suspect their best wine was imported from the more sunny south.

Strawberries.—Proceeded with placing Strawberries in their fruiting pots. We should have liked to have been a fortnight earlier, but before the showers came we felt it was useless to pot unless we could hope to water, and that we saw no prospect of doing. If we had waited until we had rooted runners we could not have potted now. As to layering in pots the little runners that showed themselves, that would have been next to useless, as watering them thus scattered would have been out of the question. All our pet theories about second runners being more fruitful than the first-formed ones had also to go to the winds. We were glad to secure even a semblance of a runner. We will enter into some details respecting these Strawberries as a guide to others as much dried-up as we were.

As soon as we could take hold of some runners not rooted, but just having formed the joint with a few little leaves, and showing where the roots would come from on the lower side of the runner, we cut the little new plant off with about 4 inches of the runner attached; that part of the runner being useful to hold by, and fix by, and also for a short time, from the sap contained in it, acting as a wet nurse to the young plant. Part of these small runners, the best of them, were fixed in small pots (60's), in rich lightish soil, and were set closely together in a frame with some old sashes over them, and were watered, shaded from the brightest sun, and syringed overhead two or three times in the hottest days, giving them only a little air at night. These pots are now filled with nice healthy roots, the plants are vigorous, and being fully exposed for some time have been turned into 6-inch pots and placed on a hard bottom fully exposed to the sun.

To save the time of thus potting in small pots, a good many were pricked into a bed in rich light soil, the connecting stem of the runner helping, as above, to hold them more securely; and these, too, were assisted with shading, syringing, &c. We could thus manage to keep these little plants growing with very little water; in fact, a pint syringed over them would do as much under these circumstances as a gallon would have done in the open air if the little runners had been layered in pots there. We felt the more anxious to forward these plants, as observing how late and how small the runners would be with us, we had resolved to pot over again some old plants in pots not turned out, but we found they were too much injured by want of water, even though we had partially shaded them with dry litter. The pricked-out plants may now be lifted with good balls, and will be just a little behind in point of time those potted at once in small pots.

It may be only a prejudice of ours, but we have a partiality for this sort of double-potting. Some people secure very fine plants by layering the runners in the open ground in 6 or 7-inch pots at once, and only cutting the thread of the runner when the plants are well established, and then removing them to a suitable place to become matured. We ourselves have had fine plants and fine returns from plants so treated; and in ordinary seasons, besides the moving of the large pots there is not so much trouble, as the very size of the pot and the bulk of the soil render the young plant more independent of the water pail. With the drought and the scarcity of water, we could not have managed these so well as by having the young plants all put closely together, and then depending more on the syringe than on the water pail. Our prejudice, however, was not solely owing to the scarcity of water supply. In layering in a large pot at once the roots have a tendency to run to the outside of the pot; and we have frequently noticed that when the rootlets have matted there the inside of the ball was comparatively free of rootlets. Now we like the ball to be firm with rootlets—a mass of them, in fact, right through, so as to occupy every portion of the soil; and this we think is more effectually secured by using a small pot first, having that well filled with roots, and then, after ruffling with the hand the outside of the ball, to let the roots freely progress, transferring the ball to a larger pot in which to produce fruit. Many of our readers may judge this to be mere fancy, but others may think over the reasons given, and then act according as their own judgment prompts.

Having said so much we may add a few words more. First,

as to pots: These should be washed clean, inside and outside too, but especially inside, and nothing is better than warm water. Nothing thrives well in a dirty pot, and even dry rubbing will bear no comparison to the water pail, or rather tub, or barrel, for it is as well to fill the tub and let the pots soak before scrubbing them. The hotter the water the sooner the pots will dry, and they should be quite dry before being used. Then as to size: For small sorts we prefer large 48-sized pots, and for very early work we prefer what are called 40's, as these are sooner crammed with roots, and the buds are, consequently, sooner matured. For general crops under glass we prefer pots (32's), 6 or 7 inches across, and provided we could obtain runners early and good, we would not have many in smaller pots, as the size renders them convenient for watering. When we use larger pots, as 24's, we generally have two plants in a pot. The size of the pot is of less consequence than the maturing of the buds, and just sufficient strength to cause the production of good trusses of fruit. Great luxuriance is not to be aimed at, as that with immature buds will be anything but an advantage.

Then the potting, though simple, is a matter of importance. We seldom use much drainage to take up the room of the pot. One crock over the hole, two or three little pieces above it, then a sprinkling of moss, and on that a slight sprinkling of soot, a small handful of rough pieces of fibrous loam—say from the size of a bean to that of a walnut, with as much of the soil as will enable the ball to stand high enough for the collar or bud to be about level with the rim of the pot. We then fill round with rich fibrous loam, rather stiff than otherwise, and make that as firm as possible, not only with the fingers but with a blunt stick as a rammer, to within half an inch or so of the rim of the pot. That will allow of free watering, and permit of top-dressing afterwards. This firm potting does much to secure the whole of the soil being filled with rootlets.

After potting the best position is a hard bottom fully exposed to all the sun that will come, and if flagging threatens at first, that must be prevented by shading or syringing to arrest evaporation. Plants prepared as above generally manage to hold their own.

Then as to watering. That is not done so as to saturate the new soil before the roots fill it. Before the roots reach the sides of the pot we think it best to use common soft water; after that we prefer manure water, and that to be varied, and if not suitable then we sprinkle the surface of the pots with soot, superphosphate, guano, or any sort of dung, renewing it as it is washed away.

Watering when required will be nearly all the plants need, except giving them room and taking off all runners and weeds that appear, until it is time to secure them for the winter, after the buds show they are tolerably well matured.

ORNAMENTAL DEPARTMENT.

The slight showers have given a greenish tint to the brown lawn, so that in a week or ten days we expect the lawn will add to instead of detract from the beauty of the flower beds. The Colens has done well with us this season. We have several times alluded to the fine bed at Woburn. Mr. McKay, jun., reminded us of what we first heard alluded to by Mr. Chater, of Cambridge—namely, the exceeding brilliancy of the colouring of the plant after a thundershower. No other watering would produce nearly the same gorgeous colouring as that which the plant exhibited under such circumstances. We have noticed the same phenomenon the only day in which we had a little thunder this season. Have others observed the same striking result? On that day the Coleus had a beauty all its own.

We must begin propagating for next season; but we are unwilling to interfere with the fullness and uniformity of the beds, and more especially as but for thick planting the plants would not have been so close together as usual. However, with little water and all drawbacks they have done better than others we have seen and heard of, and might have been better still if all seed and decayed flowers had been more constantly picked off. Many forget that even Scarlet Pelargoniums are more distressed by allowing large heads of seed to swell and ripen than they would be by producing three or four times the number of trusses of flowers. If time cannot be spared to pick beds over, this furnishes a good reason for having fewer beds to manage. A large garden is often a large mistake. A single flower bed well managed is more satisfactory than a dozen or a score in a tawdry state. We could specify scores of flower gardens and pleasure grounds where it would be a comfort and a source of

pleasure to all concerned were the attempt at good keeping confined to one-half or one-third of the space.

Many of the hardier stove plants, as Begonias, &c., that do well in a conservatory, may now be propagated and kept in small space during the winter. In such cases as the Coleus, intended for the flower garden, it is best to keep a few plants in a warm place during the winter, and then propagate in a hotbed in March.

Proceeded with propagating, pricking-out, potting, and fresh arranging houses, as detailed in previous numbers. Dentzias and other plants intended for early forcing should now be exposed to the sun, and the sooner the earliest bulbs are potted the better.—R. F.

TRADE CATALOGUE RECEIVED.

William Paul, Paul's Nurseries, Waltham Cross, London, N.—*Bulb Catalogue.*

COVENT GARDEN MARKET.—AUGUST 19.

We have now a fair supply of Peaches and Nectarines from the open walls, the flavour of which is good, but the fruit generally small. Plums are also sufficient for the demand, but good vegetables are very much in request and command high prices. Several cases of Potato blight have come under our notice.

FRUIT.

	s. d.	q.	d.		s. d.	q.	d.
Apples ½ sieve	1	6	0	Melons..... each	2	0	5
Apricots doz.	0	0	0	Nectarines doz.	3	0	6
Cherries lb.	0	0	0	Oranges 100	12	0	20
Chestnuts bush.	0	0	0	Peaches..... doz.	4	0	8
Currants ½ sieve	4	0	0	Pears (dessert) .. doz.	2	0	0
Black do.	0	0	0	Pine Apples lb.	3	0	5
Figs doz.	1	0	3	Plums ½ sieve	3	0	6
Filberts lb.	0	9	1	Quinces doz.	0	0	0
Cobs lb.	0	9	1	Raspberries lb.	0	0	0
Gooseberries .. quart	0	0	0	Strawberries.. per lb.	0	0	0
Grapes, Hothouse.. lb.	2	0	5	Walnuts..... bush.	10	0	15
Lemons..... 100	8	0	12	do. per 100	1	0	2

VEGETABLES.

	s. d.	q.	d.		s. d.	q.	d.
Artichokes doz.	3	0	6	Leeks bunch	0	4	0
Asparagus 100	0	0	0	Lettuce per score	2	0	4
Beans, Kidney ½ sieve	4	0	5	Mushrooms pottle	3	0	4
Beet, Red..... doz.	2	0	3	Mustd. & Cress, punnet	0	2	0
Broccoli bundle	0	0	0	Onions per doz. bchs.	6	0	0
Brns. Sprouts ½ sieve	0	0	0	Parsley per sieve	3	0	4
Cabbage doz.	1	0	2	Parsnips doz.	0	9	1
Caepiciums..... 100	3	0	0	Peas per quart	0	9	1
Carrots..... bunch	0	6	1	Potatoes bushel	4	6	0
Caulliflower doz.	0	0	0	Kidney do.	4	0	7
Celery bundle	1	6	2	Radishes doz. bunches	0	0	0
Cucumbers each	0	4	1	Rhubarb bundle	0	0	0
Endive doz.	2	0	0	Sea-kale basket	0	0	0
Fennel bunch	0	3	0	Shallots lb.	0	8	0
Garlic lb.	0	8	0	Spinach bushel	0	0	0
Herbs bunch	0	3	0	Tomatoes..... per doz.	1	0	2
Horseradish .. bundle	3	0	5	Turnips bunch	0	6	1

TO CORRESPONDENTS.

* * We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjunctifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Books (R. S. S.).—You can have the new edition of "The Cottage Gardeners' Dictionary" free by post from our office for 7s. in postage stamps. (J. Anderson).—Rivers or Pearson on Orchard Houses would suit you. The former may be had free by post from our office for 3s. 6d. in postage stamps, the latter for 1s. 7d.

BACK VOLUMES (Maria).—Vol. II. is the only volume of our new series which you cannot obtain complete. All the rest may be had for 8s. 6d. each, with the exception of Vol. III., which is 12s.

AMERICAN AGRICULTURE (J. Walker).—Apply to Trübner & Co., Paternoster Row, London.

GLASS (A Subscriber).—Small-sized panes for bothouses may be pro-

cured from the glass merchants who advertise in our pages. We cannot recommend one dealer in preference to another.

CUCUMBER (Tassel).—Your Cucumber, which is of the smooth Lion House section, although very good and useful, has no particular merit attached to it. It is inferior to others that are already in cultivation—namely, Pearson's Long Gun and Robinson's Telegraph. It is too long in the neck, nearly one-fourth of the largest fruit being uneatable.

PLANTS GROWING WHEN INVERTED (B. B.).—It is quite true that vegetable tissue permits either gases or liquids to pass through with equal facility upwards or downwards, so the tissue offers no impediment to a cutting being planted in an inverted position. Why that cutting at once proceeds to emit roots and to establish a movement of the sap in the direction contrary to that of its original growth is one of the phenomena of vegetable life as unexplained as is the phenomenon that you may turn a Polypus inside out, and that it adapts itself to the revolution as if no such change had taken place.

SOIL FOR ROSES (R. S. S.).—"I rubbed into powder the specimen of loam sent, and there seems to be much sand in it. If it were lightly manured with decayed manure, and a Turnip crop sown and dug in, it would probably grow Roses. Manure Roses are best for poor soils. A fine clayey Rose soil looks brownish and is greasy after rain. Perhaps the best of all soils is calcareous clay, which we here call 'white land.' There are only two small patches of it in this county. I never saw a failure of any crop in this soil. By calcareous clay I mean half chalk and half clay. Unless the clay from which parti-coloured bricks are made is marly, I should not think it good for Roses. It might do good to sandy land by making it more retentive of moisture.—W. F. RANCLIFFE."

FORMING A COLLECTION OF ROSES (G. H. M.).—"I advise you to accumulate good sorts rather than purchase five hundred varieties, as they are called. One hundred sorts will comprehend all that are really good. Forty-three Roses are named for me to approve of or reject. I will first name those which you may buy. These are:—Alfred Colomb, Charles Lefebvre, John Hepper, Leopold Premier, Madame Victor Verdier, Marie Laumann, Mrs. C. Wood, Senateur Vaisse, Annie Wood (shows an eye), Antoine Ducher, Black Prince, Charles Verdier, Francois Treyve, Abel Grand, Horace Vernet, Thorin, Charles Rouillard, Miss Margaret Delbrain, Prince de Portia, and Marguerite de St. Amand. With regard to the others, I do not know them, or they are bad. If Mdlle. Jeanne Marix opens well it will be a good Rose. It is not yet fully proven. I had Sophie Coquerelle when it came out; it did not grow well. Madame Derreux Douville is worthless. Try in its place Madame Alice Dureau. Among the Roses that I do not know, I should think Mdlle. Marie Rady, Hypolite Flaudrin, and Frederick Biborel likely to be good.—W. F. RANCLIFFE."

ROSE FOR A LONDON GARDEN (A New Subscriber).—We think Gloire de Dijon would be one of the most suitable for a garden within two miles of the General Post Office. It has a good constitution, flowers at intervals throughout the season, and is deliciously scented; but do you only require one Rose?

CLIMBERS FOR A LONDON GARDEN (Idem).—The best climbing plants for your south wall would be the Wistaria sinensis, the Virginian Creeper, and Aristolochia siphoc.

TREATMENT OF LILUM LANCIFOLIUM AFTER FLOWERING (Idem).—Keep your Lilium in any shady place; do not allow them to suffer from want of water, and as soon as the flower stems dry off, the bulb should be repotted and placed in a cold pit or frame.

TURF PITS (H. V.).—As you have no grass land or common from which you can take turf, we can only recommend you to apply to some one in your neighbourhood who deals in turf, loam, and gravel, who will know where to go. Fine turf, such as is used for lawns, is not required.

INSECT (M. H.).—From your insufficient description we suppose it possible that the caterpillars on your Scotch Firs are those of Nectna piiperida, which sometimes does much mischief in young plantations.—W.

CUCUMBER BED (W. S.).—A depth of 12 inches of soil will be sufficient putting a layer of sods, grass side downwards, over the rubble. A moist bottom heat is most suitable, but the moisture must not be excessive.

FORCING STRAWBERRIES (Idem).—To ensure success in Strawberry forcing, secure plants with good crowns, and well established in pots by autumn. The plants should be kept in a cold frame or cool house after the middle of October, until they are required for forcing, which may be in January or February, introducing them into a cool house, and placing them on shelves near the glass. Water should not be given too liberally until the plants are coming into flower, then water freely. They cannot have too much air, and the temperature until they come into bloom should not exceed 50° or 55° at night. When the fruit is set and swelling well, give water freely and weak liquid manure copiously; they can hardly have too much water at this stage. The temperature may be from 55° to 60° at night; that of a vinery in which forcing is commenced at the same time as the Strawberries are put in will answer well.

KEEPING PASSION-FLOWERS OPEN (A Constant Reader).—We do not know of any other means of keeping the flowers open except placing the flower stalks in water.

ORANGE TREE MANAGEMENT (H. D.).—Your present mode of treatment could not be improved upon, only after the tree has been in the frame in spring and a good growth has been made and well hardened off, it might be placed out-doors at the end of June, to be taken to the hall window about the end of September. This will be more suitable than keeping the outside matted up, which we do not think good or safe. Placing the tree out of doors in summer will destroy the scale and black fungus. Your plan of washing the leaves is good. The plant should have a shift into a larger pot next spring before being placed in the frame. Good drainage should be given, and a compost of loam from rotted turves is suitable, adding sand liberally if the loam does not contain it in sufficient quantity.

DESTROYING INSECTS (C. A. J.).—You would see an advertisement in last week's number.

PRUNING VINES (W. H. G.).—Those advising you to prune your Vines as soon as the Grapes are cut, in order to swell the eyes, know nothing of what they advised. Let the Vines remain as they are until the leaves

have all fallen, or are in such a state that their removal by hand will do no harm—that is, when they are quite brown, and within a fortnight you may prune to one or two eyes. The only thing you can now do is to thin and shorten the laterals, and by degrees remove them; and by thus exposing the wood to increased light its maturity will be promoted.

RAPHANUS CAUDATUS COOKING (E. S.).—The pods require to be gathered when about 9 inches long, and boiled in the same manner as Asparagus. They are boiled until tender, and then served on toast with melted butter.

RED SPIDER ON VINES (Idem).—Yours is a bad case, but the wood being ripe we do not think any serious damage has been done. When the Grapes are cut, syringe the Vines with 2 ozs. of soft-soap to 1 gallon of water at a temperature of 140°, which will be reduced to about 120° by the time the solution reaches the foliage. Repeat the syringing, and give all the air you can, keeping cool and dry. Do not prune until the usual time. After pruning give every part of the house a thorough cleaning, and dress the Vines with a composition of 8 ozs. of soft-soap to a gallon of tobacco water, which may be made by pouring the water on 4 ozs. of the strongest tobacco; then cover, and let the liquor stand until cool; strain, and bring the tobacco water holding the soft-soap in solution to the consistency of paint by adding flowers of sulphur. With this mixture paint every part of the Vines, rubbing it well into the cracks and corners, but take care not to rub off any of the eyes.

CULTURE OF MARÉCHAL NIEL, NARCISSE, AND GLOIRE DE DIJON ROSES (An Ignoramus).—They all succeed against a wall with a south or south-west aspect, the latter being the best situation. The best time to plant them is in November. Let the soil be composed of two-thirds loam neither very heavy nor light, but intermediate between the two. If the top 3 inches be taken from a pasture all the better. Chop up with a spade, and well mix a third of rotten manure with the loam. The soil should be taken out to a depth of 2 feet, and to a distance of 3 feet from the wall. A little fœcal soil may be used to plant in, and after planting and watering make the ground about the plants with 2 or 3 inches of short littery manure. Do not prune them at all in autumn, but in spring, if the shoots are long, cut them to within 1 foot of the soil. In summer train in the shoots at 9 inches or 1 foot apart on the wall, removing those not wanted. Water copiously in dry weather, and syringe with water in the evenings of hot days. They will need a top-dressing of manure in autumn, which should be neatly pointed-in with a fork during the spring, and in March merely cut off the points of the strong shoots, and remove any weak shoots where they are too close together.

GALVANISED WIRE FOR ROSE ARCHES (M. A. B.).—We have used galvanised wire extensively for arches, and have not found any injurious results from it. The kinds you have are not probably climbing Roses. Wells's White or Madame d'Arley and Rivers's Queen, hybrid climbing Roses, will probably suit you.

CLIMBERS FOR SUMMER HOUSE UNDER TREES (J. W. K.).—We fear none of the plants you name will succeed under large Sycamore and Elm trees, except the Virginian Creeper. Roses are out of the question, and the others need sheltered situations. No plants that we know will suit so well as the Ivies, and these are what we advise.

VINES INFESTED WITH SCALE (A Subscriber).—The leaf sent us was smothered with brown scale. Dryness at the root has nothing to do with it. Your only remedy this season is either to pick off the insects with the point of a knife, or paint the leaves where the insects are with gum water, using 8 ozs. of gum arabic dissolved in a gallon of water, and applying it with a brush. It should be allowed to dry on the leaves, and must be syringed or washed off with a sponge within forty-eight hours. Then the leaves as they become yellow and fall off ought to be gathered and burnt. Then strip off the loose bark and wash the stems and every part with a brush, using soft-soap and water at a temperature of 140°; 8 ozs. of soft-soap should be employed to one gallon of water, and the house ought to be thoroughly cleaned.

PINE APPLES (Idem).—It is now too late to put in Queen Pine Apples for fruiting this season, as they would not fruit until late. We should keep them back for early summer fruiting.

KEEPING SEED POTATOES (W. Turner).—We shall have some remarks next week.

COVERING THE BACK WALL OF A VINERY (Sutton).—Your clothing the back wall with Muscat Vines, Peach trees, or anything else will depend on the light you allow to reach the back wall. If there is an opening between every two Vines up the rafters, the Muscats, Peach trees, or Fig trees will do tolerably well, but not if the roof is thickly covered with foliage.

PINE PIT AND CUCUMBER HOUSE COMBINED (Jersey Subscriber).—There is no difficulty to your proposed arrangements, only that the main flow and return pipes must pass under the pathway of the house so as to present no obstruction. For this purpose, the boiler must be placed sufficiently deep. We would advise two 4-inch pipes for each bed, and two pipes on each side for top heat. The two pipes below each bed will make the bed equally heated, but it will be advisable by means of valves to give bottom heat and top heat independently of each other. For a house 120 feet long, it would be best to have the boiler in the centre of the house; then take your piping right and left, and make one end the Pine house and the other the Cucumber house. We have often said how that may be done. Two pipes, one from the top and one from the bottom of the boiler, will enable you to give bottom and top heat as desirable.

GRAPES SHRIVELLING AND SHANKING (A Subscriber, Thornhill).—We have no doubt that owing to the age of the Vines the roots have either gone down too deep, or the border is in an unhealthy state from defective drainage. For another year, we would try what opening a deep drain in front would do. We would remove all the surface soil that could be removed, and add a few inches in depth of fresh loam covered with a little horse dung; and if the fibres rose we would add more fresh compost. We would, as you propose, force little next season; and we would by litter, thatching, or other means keep most of the winter rains off the border. As the Vines are fair for strength, we think you will overcome the shanking if you take a moderate crop.

FRAME FOR PROTECTING BEDDING PLANTS (J. J.).—Your narrow frame we would make from 20 to 24 inches high at back and 12 inches high in front. This, made of 1½-inch timber, will keep out as much frost as a brick wall; but in severe frost neither is to be trusted, and the safest plan is to place an inch in thickness of straw against them, or let mats hang down over the walls. Of course you must protect the glass. We approve of your firm bottom of coal ashes higher than the surrounding ground. No doubt the 6-feet wall behind will so far protect your frame. Why not make that wall the back of your frame, or make a brick pit at once? Then you might have a stove or a fire in winter, and save trouble in covering. However, the frame will do well if looked after in bad weather. Spill as little water as possible all the winter.

FUCHSIAS LOSING THEIR LEAVES (Joshua).—We can only suppose your plants have lost their leaves through an attack of red spider, which is very prevalent this season, many plants besides yours having lost their foliage from the same cause. The only preventive is to keep the plants well supplied with nourishment and water at the root, and to frequently syringe the foliage.

BLAIRH ROSE NOT FLOWERING (H.).—We think it has not been sufficiently vigorous for blooming. It is of vigorous habit, well adapted for pillars, and as a standard should be trained as an inverted cone, which will generally ensure an abundance of bloom. Pruning should be confined to thinning out the old wood and slightly shortening the shoots that are left.

BARKING LARCH TREES (B. B.).—If the trees are small, or such as two men might carry, we do not think removing the bark can do any harm, but, on the contrary, it may do good, when the timber is used for outdoor purposes, by the wet running off much more easily; but for large timber trees a more qualified opinion must be given, as it is possible the tree may part with more resin when cut in the full flow of the sap than when cutting is done in midwinter. We know that there is some difference of opinion as to the propriety of taking the bark off; but of late years, in consequence of the small price given for Larch bark, it has not repaid the removal. It would appear to us that stripping off the bark of small trees would be amply repaid by the better appearance they have when used for fencing or other purposes, but for large trees intended to be cut up for building, the difference of winter and spring-cut timber ought to be taken into consideration—still we believe this difference to be much less than many believe.

CONIFERS FOR QUEENSLAND (K. M. H.).—We hardly expect the Pines of Northern Europe and America will endure the droughts of Darling Downs, as we have seen more than one place where the Wellingtonia has shown signs of distress during the present dry season in England. You might try most of the Araucarias, as Bidwilli, excelsa, Cunninghami, brasiliensis, lanceolata, Ruloi, and others, some of them no doubt natives of Queensland. Thujiopsis borealis, Thuja gigantea and Lobii, the Cryptomeria, Pinus inaequalis and others, Picea Webbiana, most of the Dammars and Dacrydiums, Torreya grandis and humilis, Retinospora leptoclada, pisifera, and obtusa; Cedrus deodara, the Cedar of Lebanon, and many other plants. Most of the Cupressus as well as Abies family like a moister soil. The common Yew, however, might be tried, and some other trees. Seeds of most if not all of the above are supplied by the seedsmen advertising in our pages.

BIGAREAU CHERRY APPARENTLY DYING (Juvensis).—Your Cherry tree, like many other fruit trees, is probably suffering from the extremely dry weather, but we do not think any good will arise from cutting it in any way. If the tree is not too old, it may possibly become healthy when rain comes, but in the meantime if you could give it a good sound watering that might do much good; and by-and-by, as the summer advances, you will be better able to judge what it is best to do with it. In general the Cherry is very impatient of the knife, and we would not advise any mutilation until the dead parts (if there be such) fall off themselves. In looking over an extensive orchard of mixed trees a few days ago, we saw Apple, Plum, and Pear trees apparently suffering from the continued drought, the fruit being exceedingly small and the foliage shrivelled up, while close to them were other trees in tolerably good condition.

BONE DUST (Idem).—Manure-dealers and many nurserymen supply this, or you might inquire of those who deal in silver sand, peat, and similar substances. If you have any dealings with a nurseryman, most likely he would obtain it for you if he does not keep it in stock.

DRIVING EVERLASTINGS (S. B. W. B.).—The flowers should be gathered before they are fully expanded and kept in a warm dry room.

BLOIGHTED ROSE TREES (C. B., Godalming).—Your question was answered by the Rev. W. F. Radclyffe in page 294, and again in page 461 under the initials "C. B."

BACK NUMBERS (W. W.).—Being incomplete they would not be saleable.

SEEDLING NECTARINE (Major-General Studd).—Your Nectarines when they reached us were so much bruised and decayed that no correct opinion could be formed of their merits. A small portion of one only remained which tasted somewhat austere. They were well packed.

NAMES OF FRUIT (J. Cutbush).—Chapman's Prince of Wales Plum. (L. S. W.).—Duchess of Oldenburgh Apple, suitable either for kitchen or table use.

NAMES OF PLANTS (F. D.).—A plant was named under your initials in the number for July 9th, as Stachys betonica, and this, as far as we recollect, was the same as that to which you refer. The slice of Gourd arrived during a short absence from London, and on our return presented anything but an inviting appearance. (C. Hall).—It is impossible to name plants from such dried-up scraps. We could just make out the leaf of the well-known Japanese Honeysuckle, Lonicera brachypoda reticulata, and barely that. (J. Burley).—1, Gymnogramma ochracea; 2, Polypodium punctatum; 3, Orychium japonicum? (too young); 4, Polypodium rugulosum; 5, Gymnogramma tartarea; 6, Blechnum occidentale; 7, Cystopteris fragilis; 8, Pellaea rotundifolia; 9, Nephrolepis cordifolia; 10, Pellaea hastata. (F. E. H.).—4, Asplenium (Daria) Belangerii; 5, Nephrodium odoratum. (E. A. L.)—Diplacus glutinosus.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending August 18th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 12	29.660	29.612	73	51	65	66	S.	.00	Fine, brisk wind; overcast; cloudy, very dark.
Thurs. 13	29.543	29.442	73	46	65	65	S.E.	.14	Dull and cloudy; heavy clouds; densely clouded.
Fri. ... 14	29.694	29.679	73	54	64	63	S.E.	.00	Cloudy; clear and fine; heavy clouds, overcast.
Sat. ... 15	29.793	29.735	75	53	65	63	S.	.09	Very fine; fine, very clear; overcast, starlight.
Sun... 16	29.734	29.658	71	66	65	63	S.	.24	Cloudy, heavy rain; cloudy, showery.
Mon... 17	29.674	29.573	69	60	65	64	N.	.62	Overcast; heavy showers; heavy rain at night.
Tues. 18	29.534	29.408	72	60	67	65	E.	.46	Heavy clouds; cloudy; showery, very dark, heavy rain.
Mean	29.662	29.581	72.68	55.71	65.14	64.14	..	1.50	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

THE WEATHER AND OUR CHICKENS.

THAT "preux Chevalier," Sir Roger de Coverley, drew many and admirable morals from things that in the lives of ordinary men appeared trifles. His lessons were good and to the point. To us individually and collectively the break in the weather is all-important. To some of us who live at a distance from cab-stand, omnibus route, or Underground, it brings an *argumentum ad hominem* in the shape of the necessity of umbrella or light waterproof according to choice. To others who rejoice in a garden large enough for a croquet ground, the rainfall is a subject of pleasant conversation, and engagements are made for future contests, that hitherto had been postponed until next season on account of the drought. As we honestly believe all men to be more or less selfish, we will at once admit that the tender point as regards the weather and ourselves was, the relation in which the change stood to our chickens—the chickeus which would, we fondly hoped before the drought, add honour to our name; the hope died when summer heat became our ordinary temperature. The rain when it came, and the appearance of our gravel paths as it fell, brought to our remembrance the medallion and motto of the Royal Humane Society, and the faint spark of hope was rekindled. Fancy a poultry-yard of one-fourth of an acre well peopled with well-bred, fast-growing chickens. Visions we have of first and second prizes; third and highly commended we do not care for. The sale of our extra stock we look forward to. But the heat! it continues! it increases! Our chickens flag; in spite of extra care, extra feed, and much vexation of spirit on the part of the feeder, they seem to grow lighter, the feathers do not form and harden, and any progress they may make is, as Pat has it, backwards.

But there is, at last, a change in the weather. The atmosphere becomes heavier, and by instinct the chickens begin to peer about, in and among the hedges and bushes, for the gnats and insects that they know should be there before a shower. Whether they are successful or not we cannot say, but the first two or three heavy drops seem to startle them and they scatter for shelter. Soon the sweet, fresh, earthy smell arises from the parched ground, and some adventurous chicken tempted by it ventures forth. The example is contagious, the others follow and enjoy it, and when feeding-time comes they return draggled and dirty; but, as the man says who looks after them, "They be more piert," and their appetites show that they, in common with everything, benefit by the change. They come down from roost in the morning fresher, brighter, end earlier, and spread over the extent of their range hungrily, eagerly, and with a spirit that has long been lacking. We now look at them again with complacency, and while thinking at which show we should most wish to distinguish ourselves, we mutter, "Ah! the rain was just in time for the chickens!" We may all hope and think, that it came just at the right time for farmer, gardener, and fancier.

HESSLE POULTRY SHOW.

(From a Correspondent.)

THE third annual Exhibition took place at Hessele, near Hull, on the 12th inst. The entries for poultry and Pigeons were numerous. Great praise is due to the Honorary Secretary, Mr. Hood, for the way in which the arrangements were carried out. There was some dissatisfaction as to the judging. The most noticeable misjudging was in the Spanish and Silver-pencilled Hamburg classes. In the former the first-prize pen contained a cock with a drooping comb; and although

art had left its mark in trying to improve upon nature, it had not succeeded in the attempt. The best pen in the class was unnoticed. In the Silver-pencilled Hamburg pen the cock had a comb that should prevent him from taking a prize at any show.

Some excellent Pigeons were exhibited, and I noticed in more than one prize pen the prevailing fashion of showing two cock birds instead of a cock and hen. The following is a list of the awards:—

- GAME.—First, W. Boyes, Beverley. Second, H. M. Julian, Hull.
- SPANISH.—First, G. Hoyle, Hessle. Second, G. Holmes, Driffield.
- COCK.—Prize, G. Holmes.
- DORKING.—First, D. White, Driffield. Second, A. Hopper, Tranby.
- COCK.—Prize, O. A. Young, Driffield.
- COCHIN-CHINA (Buff, Cinnamon, or Partridge).—First, R. Loft, Woodmansey. Second, G. Holmes. Cock.—Prize, R. Loft.
- ANY OTHER VARIETY.—First, S. Smelt, Beverley. Second, R. Loft.
- COCK.—Prize, R. Loft.
- GAME (Black-breasted or other Reds).—First, H. M. Julian. Second, W. Boyes. Cock.—Prize, G. Holmes.
- GAME (Any other variety).—First, W. Boyes. Second, H. M. Julian.
- COCK.—Prize, H. M. Julian.
- POULTRY.—First and Second, E. Procter, Hull. Cock.—Prize, E. Procter.
- HAMBURGS (Golden-spangled).—First, G. Holmes. Second, O. A. Young. Cock.—Prize, G. Holmes.
- HAMBURGS (Golden-pencilled).—Prize, G. Holmes. Cock.—Prize, G. Holmes.
- HAMBURGS (Silver-spangled).—First, G. Holmes. Second, C. Richardson. Cock.—Prize, G. Holmes.
- HAMBURGS (Silver-pencilled).—First, O. A. Young. Second, G. Holmes.
- COCK.—Prize, D. White.
- GAME BANTAMS.—First, R. Robson, Wold Carr. Second, Mrs. Wilde, Hull. Cock.—Prize, W. Hardy, Hessle.
- BANTAMS (Any other variety).—First, Miss E. Rudston, Hull. Second, Mrs. T. Wilde. Cock.—Prize, Mrs. T. Wilde.
- EXTRA STOCK (Any distinct variety).—First, R. Loft. Second, H. Lawson, Spring Cottage Farm. Cock.—Prize, R. Loft.
- DUCKS (Aylesbury).—First, O. A. Young. Second, H. Lawson.
- DUCKS (Rouen).—First, O. A. Young. Second, G. Holmes.

PIGEONS.

- CROPPERS.—First, F. Key, Beverley. Second, A. Bannister, Hessle.
- DRAGONS.—First, H. Taylor, Newland. Second, J. W. Thompson, Wellington Lodge, Hull.
- TRUMPETERS.—First, Messrs. Pickering & Marshall, Driffield. Second, C. Lythe.
- JACOBS.—First and Second, C. Lythe.
- FANTAILS.—First, R. J. Bell, Hull. Second, H. Payne, Cottingham.
- TUMBLERS.—First, F. Key. Second, S. Ellington, Woodmansey.
- BARBS.—First, N. Key. Second, G. W. Cawson, Hull.
- NUNS.—First, Messrs. Pickering & Marshall. Second, R. Moll, Hull.
- ANY OTHER VARIETY.—First, Messrs. Pickering & Marshall. Second, J. W. Thompson.

- RABBITS.—Lop-Eared.—First, P. Ashton, Drypool, Hull. Second, P. White, Hull. Any other variety.—Prize, G. Tennyson, Hessle. Heaviest.—Prize, Miss Herbert, Hull. Young.—Prize, J. Fletcher, Hull.

BADMINTON POULTRY SHOW.

THIS Show was held on the 7th inst., in connection with the Badminton Farmers' Club and for the first time was under the direction of the General Committee, to whom and their able Secretary Mr. Lloyd great praise is due for the completeness of all arrangements connected with the Show. There was a good collection of birds, but they did not show to that advantage we should like to see, the pens being far too small and not nearly high enough. We believe this is to be altered another year. The following is the prize list:—

- DORKINGS (Any variety).—First, Rev. A. K. Cornwall, Epscombe, Uley. Second, G. Hanks, Malmesbury. Chickens.—Prize, Rev. A. K. Cornwall. Highly Commended, G. Hanks.
- GAME (Any variety).—First and Second, G. Hanks. Highly Commended, J. S. Maggs, Tetbury; J. Goulter, Acton Turville; T. Arnold, Wickwar. Chickens.—Prize, Duke of Beaufort, K.G., Badminton. Highly Commended, J. S. Maggs. Commended, A. Whiting, Badminton.
- BRAHMAS (Any variety).—First, J. S. Maggs. Second, G. Brown, Badminton. Chickens.—Prize, J. S. Maggs.
- COCHINS (Any variety).—First, J. S. Maggs.
- SPANISH (Any variety).—First, Messrs. Tonkin & Tuekey, Bristol. Second, G. Brown, Badminton. Chickens.—Prize, W. Parsley, jun., Bristol. Highly Commended, Tonkin & Tuekey.
- HAMBURGS (Any variety).—First, Rev. R. H. Mullens. Second, J. S. Maggs. Chickens.—Prize, J. S. Maggs. Highly Commended, J. Ashbee, Hillsley.

BANTAMS (Any variety).—First, Tonkin & Tuckey. Second, W. Paraley, jun., Bristol. Highly Commended, J. S. Maggs.
DUCKS (Aylesbury).—First, Duke of Beaufort, K.G. Second, Rev. G. F. Le Mesurier, Tormarton. *Ducklings*.—Prize, G. Hanks.
DUCKS (Rouen).—First, G. Hanks. Second, Rev. R. H. Mullens. *Ducklings*.—Prize and Highly Commended, Rev. R. H. Mullens.
DUCKS (Any other distinct variety).—First, Second, and Highly Commended, Rev. R. H. Mullens.
GEESE.—First, G. Hanks. Second, J. Thompson, Badminton.
TURKEYS (Any variety).—Prize, Rev. F. Le Mcaurier.
GUINEA FOWLS.—Prize, Rev. G. F. Le Mesurier.
PIGEONS.—*Carriers*.—Prize, T. Jones, Malmsbury. *Dragoons*.—Prize, Tonkin & Tuckey. *Pouters*.—Prize, T. Jones. *Fantails*.—First and Second, Tonkin & Tuckey. *Tumblers* (Short-faced).—First, T. Jones. Second, Tonkin & Tuckey. *Tumblers* (Baldheads).—Prize, T. Goulter. *Barbs*.—Prize, S. Summers, Didmorton. *Runts*.—Prize, J. Goulter. *Jacobins*.—First and Second, Todkin & Tuckey.

Mr. H. Lane, of Bristol, was the Judge.

HETTON POULTRY SHOW.

THE Hetton Collieries Horticultural and Poultry Society held its ninth annual Exhibition on the 12th inst., in the Hetton Hall grounds, the seat of Lindsay Wood, Esq.

The show of poultry was not large. Mr. G. H. Procter, of Durham, deservedly gained the first and second prizes for a *Cochin-China* cock and two hens, and also for a *Cochin-China* cockerel and two pullets, and Mr. J. Harrop, of Bishopwearmouth, Mr. W. Whitfield, and Mr. T. Rodham, exhibited some very fine birds. The *Pigeons* were a fair average class.

SPANISH.—First, J. Harrop, Bishopwearmouth. Second, J. Cain, Harrington Hall. *Chickens*.—First, R. Hawkins. Second, J. Harrop.
DORKINGS (Coloured).—First, D. Rutter, East Rainton. Second, J. Bell, Hetton-le-Hole. *Chickens*.—First, D. Rutter. Second, T. Rodham.
COCHIN-CHINA.—First and Second, G. H. Procter, Market Place, Durham. *Chickens*.—First and Second, G. H. Procter.
HAMBURGERS (Silver-pencilled).—Prize, W. Whitfield, Hetton Station. *Chickens*.—First and Second, W. Whitfield.
HAMBURGERS (Golden-pencilled).—Prize, J. Pearson, Elemore Cottage. *Chickens*.—First and Second, T. Rodham.
HAMBURGERS (Silver-spangled).—First, T. Rodham. Second, W. Whitfield. *Chickens*.—First, D. Cheyne, Bedlington. Second, T. Rodham.
HAMBURGERS (Golden-spangled).—Prize, W. Whitfield. *Chickens*.—First and Second, W. Whitfield.
POLANDS.—First and Second, W. Whitfield. *Chickens*.—Prize, W. Whitfield.
GAME.—(Any variety).—First, R. Just, Middlesborough. Second, H. Hawkins, Seaham Harbour. *Chickens*.—First, R. Hawkins. Second, J. Bell.
GAME BANTAMS (Black-breasted and other Reds).—First and Second, J. Harrop.
GAME (Duckwing and other Greys).—Prize, J. Harrop.
BANTAMS (Any variety).—Prize, R. Hawkins.
ANY VARIETY.—First, D. Hunter, Sunderland. Second, J. Harrop.
DUCKS (Aylesbury).—First, R. Just. Second, T. Rodham.
DUCKS (Rouen).—First and Second, T. Rodham.
PIGEONS.—*Carriers*.—First, A. Buglass, Carville. Second, W. Williamson, Belmont. *Pouters*.—First, W. Whitfield. Second, W. Williamson. *Tumblers*.—First and Second, W. Williamson. *Fantails*.—Prize, A. Buglass. *Trumpeters*.—First, A. Buglass. Second, W. Whitfield. *Barbs*.—First, W. Williamson. *Turbits*.—First, W. Williamson. Second, A. Buglass. *Jacobins*.—First and Second, W. Williamson.

ALDBOROUGH AND BOROUGHBIDGE POULTRY SHOW.

THE eighth annual Show of the Aldborough and Boroughbridge Floral and Poultry Society took place on the 14th inst. on the grounds of Aldborough Manor, by the kind permission of Mr. Lawson. The show of poultry was larger than on any previous occasion, there being 193 pens. Every class was well represented, especially *Dorkings*, *Spanish*, and *Hamburgh*. There was a large collection of *Pigeons* of every variety. The weather was all that could be desired, and there was a large attendance of visitors. The Committee and Secretaries have all done their duty in a manner which cannot but result in increased patronage to this thriving Society. The following is a list of the awards:—

DORKINGS.—First, G. Holmes, Driffeld. Second, H. S. Thompson, Kirby Hall. *Chickens*.—First and Second, C. Triffitt, Cattal.
SPANISH.—First, G. Holmes. Second, W. & F. Pickard, Thorne.
GAME.—First, C. Triffitt. Second, J. Watson, Knaresborough. *Chickens*.—First, J. Watson. Second, G. Carter, Aiskew, Bedale.
COCHIN-CHINA.—First, J. Malthouse, Ripon. Second, Rev. J. G. Milner, Bellerby. *Chickens*.—First, W. Barnes, Thirsk. Second, J. Malthouse, Ripon.
BAHMA POOTRA.—First, J. Walker, Haya Park, Knaresborough. Second, Miss Graham, Aldborough. *Chickens*.—First, — Taylor, Langthorpe House. Second, Miss Graham.
HAMBURGERS (Golden-spangled).—First, J. Walker. Second, W. Bearpark, Ainderby Steeple.
HAMBURGERS (Golden-pencilled).—First, F. Horsman, Boroughbridge. Second, W. Bearpark.
HAMBURGERS (Silver-spangled).—First and Second, J. Walker.
HAMBURGERS (Silver-pencilled).—First, J. Walker. Second, W. Bearpark.
POLAND.—First, C. Walker, Boroughbridge. Second, W. & F. Pickard.
GAME BANTAMS.—First, J. Walker. Second, W. Shaw, Boroughbridge.
BANTAMS (Any variety).—First, C. Andrews, Aldborough. Second, T. Bailey, Sowerby.

ANY OTHER VARIETY.—First, J. Walker. Second, Rev. J. G. Milner.
FARMYARD CROSS.—First, I. Moorey, Mulwith. Second, C. Triffitt.
TURKEYS.—Second, I. Moorey. *Poultis*.—Prize, J. Walker.
GEESE.—First, J. Walker. Second, Mrs. Smith, Humberton. *Goslings*.—First, Mrs. Smith. Second, G. Renton, Ox Close, Ripon.
DUCKS (Aylesbury).—Prize, J. King, Boroughbridge. *Ducklings*.—First, J. Stubbs, Boroughbridge. Second, J. Cuthbertstone, Aldborough.
DUCKS (Rouen).—First, Miss Graham. Second, J. Mason, Rooker Hill, Boroughbridge. *Ducklings*.—First, Miss Graham. Second, A. S. Lawson, Aldborough Manor.
DUCKS (Any other variety).—First, J. Walker. Second, N. Taylor, Norton-Le-Clay.
GUINEA FOWLS.—Prize, J. Mason, Rooker Hill.
SELLING CLASS.—First, G. Carter, Aiskew, Bedale. Second, M. & R. Gray, Boroughbridge.
PIGEONS.—*Pouters*.—Prize, G. Sadler, Boroughbridge. *Carriers*.—Prize, G. Sadler. *Trumpeters*.—Prize, J. Mason, Rooker Hill, Boroughbridge. *Jacobins*.—Prize, T. Rutherford, Thirsk. *Fantails*.—Prize, T. Rutherford. *Tumblers*.—First, J. Walker. Second, G. Sadler. *Barbs*.—Prize, F. Horsman, Boroughbridge. *Nuns*.—Prize, J. Mason. *Turbits*.—Prize, G. Sadler. *Any other Variety*.—First and Second, J. Mason. *Selling Class*.—First, H. J. Farish, Boroughbridge Hall. Second, M. & R. Gray.
RABBITS.—*Buck*.—First, W. Wilson, Middlesborough. Second, T. Slade. *Doe*.—First, W. Wilson. Second, L. Slade, Boroughbridge. *Heaviest*.—Prize, The Masters Lawson.
EXTRA STOCK.—First, H. S. Thompson. Second, C. Andrews.
JUDGES.—Mr. E. Hutton, of Pudsey; Mr. G. V. Darby, of Derby.

ANTWERPS: THEIR POINTS AND TRAINING.

SINCE writing my last article respecting Antwerps, which appeared in the Journal of July 30th, I have been requested to give a further exposition of my views on the subject. I have been a fancier of Pigeons of all kinds for at least twenty-seven years, and during that time I flatter myself I have gained some knowledge of their habits, breeding, training, and other matters concerning them.

I have kept Antwerps about twenty-three years. The strain of birds which I obtained have often returned from Goole to Antwerp. The first I received were young, but when moulted and a few months old had, as "A FOREIGNER" describes, heads like the Bullfinch, with the carriage of a Dragoon. There is another class of Antwerp fancied—the Long-faced birds, rather longer in head, with the bill not so thick, and with the eye a nice distance from the latter.

My opinion as to classing Antwerps is as follows:—The Dun and Red Chequered, the Blue and Blue Chequered. Offer these two classes prizes, and it will be found that in a short time the Pigeon classes; the above colours, also, will be found in numbers and match equal to any other kinds shown.

Of late years I have had too much upon my hands to give proper attention to the training of Pigeons. In 1850 we formed a club in this town (Wakefield), for the purpose of training Pigeons to fly from the Great Exhibition of 1851, I being the only keeper of Antwerps at that period. My brother fanciers had the Long-faced Beard, the Dragoon, Horseman, and the Long-faced Baldhead and Beard crossed with Dragoons, and any kind of mongrel Pigeons suitable for flying. I had but few pairs—say ten, and six of the cock birds belonging to each party were marked at the commencement of our training, none other being eligible to compete. The birds were to be tossed up in July in Hyde Park, to fly for a sweepstakes. Several of the parties were in the habit during training of sending their birds in numbers, and few returned. As the time advanced, and though only 114 miles had been completed, all the birds were lost, with the exception of four out of a batch of sixty; the four consisting of two Red Chequered Antwerps, a Blue Beard cock, and a Beard and Dragoon cock. Three of these were sent from Peterborough to Hitchin, and were all lost. Thus the only bird left in the club was my Antwerp cock, which was sent to Hitchin, and returned; he was, however, afterwards sent to within twenty miles from London, but was lost: therefore not one bird out of the sixty returned from London.

In practising Antwerps to fly I never allowed them to alight upon the roof of a house or cote, but kept them flying until they alighted upon the landing board; if they attempted to alight upon the roof I had a supply of round sticks, about 18 inches long, which I threw at them until they alighted on the landing board and took the bolting wires. I only flew about six or eight birds at a time; part of them, young to practice, returned to the cote quickly. Evening is the best time. I practised flying young birds when eight or ten weeks old to learn them the locality, about an hour being so occupied every morning. You might see them go miles both east or west, north and south. I afterwards practised them in homing by sending them off a few miles at a time. I have had young

birds with nest-feathers upon their heads and neck, which came thirty or forty miles. Young birds on their return should not be allowed to remain on the roofs, but must be driven in as soon as possible. If, however, there is any difficulty in doing this, turn out an old bird or two, and the young birds will follow their example, and enter the cote immediately. After the birds are all well practised never let them out more than once a-day, as thus treated trained birds will return home much more quickly for forty or fifty miles, although they may not have been let out for weeks.

I have described the favourite colours of the Belgian Smerle, there being two varieties as stated; I always found as a rule that the short thick-headed birds when turned up rise in the air the highest, and take the best way home. The long-headed birds seldom rise so high, and in windy weather skim in their flight much like the Dragoon, and waste time on their way by plunging and rising.

Some fanciers consider flying long distances a matter of instinct; this I hold is not correct, homing and flying being, in my opinion, simply a question of training and observation on the part of the birds. If you send a young bird fifty miles you seldom see it again; they must be trained to fly from short to long distances gradually, as a bird thus trained will not alight until it reaches its own landing board, unless benighted. I never yet tossed up a properly-trained bird that attempted to alight either in town or country. I should recommend birds not to be flown any long distance from October to March, as the best-trained birds have been lost in foggy weather.—JOHN CROSSLAND, JUN.

THE KOEHLER SECRET REVEALED—A NEW MODE OF PROPAGATING LIGURIANS.

[MR. KOEHLER has recently made his process public in the following article, which appeared in the German Bee Journal.—A DEVONSHIRE BEE-KEEPER.]

Now as to the operation itself. It is founded on my observation, that during many fine forenoons and afternoons the air is still warm enough for queens to fly out when drones usually have not commenced flying, or have ceased to take wing. Until, therefore, the young queens become fertilised we must compel the Italian queens and drones to go forth at such times as the German drones cannot possibly be abroad. The time during which drones are on the wing seldom extends with us to later than 4 or 5 o'clock P.M. If, therefore, we have one or more colonies, with young queens which we know to a certainty have not yet been fertilised, we place these hives for three, four, or five days in a perfectly dark and cool cellar, and with them also the stock which contains the Italian drones. Whenever a very warm and sunny day occurs we watch the German stocks until the drones have ceased their flight. As soon as this occurs we restore the hives containing the Italian queens and drones to their accustomed stands, and set them at liberty after giving to each a cupful of their liquid honey. The queen and drones being ardent, and having been unable to fly for days, the bees excited by the honey and their previous confinement, become so eager after flight, that all play as if mad, and fertilisation follows. We must, however, be careful to return to the cellar in the evening every colony the queen of which has not been seen to return with the sign of fertilisation, and repeat the process until it is certain that the desired result has been attained. This is essential, because it is well known that under ordinary circumstances some queens take flight several times before they succeed in meeting with a drone. How much more, therefore, must this be the case under the foregoing management, whereby the number of available drones is limited to those only which exist in the few Italian stocks?

You will, even before testing it, be satisfied as to the efficiency of this process; but as practice surpasses precept, you will, doubtless, try the experiment and report the result. No one to whom Italianising his stocks is of consequence but will willingly contribute half a florin* in order to avail himself of a process which promises him such great advantages and so much pleasure.

But now I will make a second communication, which will certainly also be agreeable to you. I do not know whether you give the preference to natural or to artificial swarms. My practice combines both, as by it I obtain natural swarms by an artificial process, and can at the same time with one good Li-

gurian stock Italianise a dozen colonies with the least possible trouble. The process is as follows:—We take a hive from which a swarm has just issued, and put it in the place of another very populous colony. After nine days, by means of the population received from the removed hive, it will certainly swarm again. If it is now shifted to the stand of another strong stock it will, after two or three days, swarm again. We continue this process as long as we can hear queens piping in the hive of an evening. Under favourable circumstances we may in this way obtain ten to twelve swarms, as the first hive supplies the queens and the others the bees. If, therefore, we have one or two Italian stocks, and feed them well early in the spring, say from the 20th of March, especially if they are well supplied with pollen, we may be sure that these hives will swarm first. By transposing them in this way with German stocks we shall obtain swarms with Italian queens and German bees.

The advantages offered by my system are very great. In the first place we secure early swarms with young queens, and these queens are generally larger and better than those which bees hatch by compulsion. How quickly also can we Italianise a hive; for it is only changing places with two hives and the work is done. We can also put the swarms in any place we choose, which is less trouble than with artificial swarms, which we cannot always establish where we would wish to have them. We know also the day and the hour in which to expect a swarm, for the second appears in nine days after the first removal, the third three days after this, the fourth on the next day, and so on. If we still hear queens piping after the last removal, the stock will swarm to-morrow, and if we convey it into a dark cool cellar in the evening, we can cause it to swarm at any hour we please by bringing it out into the light and sunshine, and feeding it moderately.

It follows, as a matter of course, that the foregoing method can only be practised with single hives, which can be moved from place to place although they may have fixed combs. Those who have bee houses can, however, adopt it, because they can transfer their hives from one place to another.

I have still to add one remark:—The process for securing pure fertilisation can only be relied on early in the season, and not towards the end, for it often happens that certain stocks which have hatched young queens will as soon as they are fertilised begin to expel their drones, as I have observed to be the case this year. In such instances the drones do not cease flying so punctually as usual, but often continue on the wing from early in the morning until quite late in the day. We must not, therefore, be too late in breeding Italian queens, and liberal and judicious feeding is and will be the surest means of expediting it.

In the hope that you will be enabled to make experiments, the results of which may not be marred by any unforeseen accident, and desiring that you may be satisfied by experience of the value of my method.—I am, &c., KOEHLER.

HONEY HARVEST IN THE NORTH.

OUR Northumberland general flower-honey harvest is at an end, and a poor one it has been. The few swarms we have will mostly be required to make up our store stocks, and few bees have put anything in their supers; but now all are out on the moors; the hives are about one-fourth of the usual number, and only about five to the score are young hives. There is a fine bloom on the heather, and the weather being fine, our prospects are good for the heather-honey harvest. On the return of our hives the bees will not be much troubled with their enemy the wasp, as I cannot bear of a single wasp's nest in the neighbourhood, although queen wasps were numerous in the spring.—G. WILSON, *Whalton*.

ECCENTRIC SWARMING.

A BURT of bees in this neighbourhood swarmed last June in the following manner:—On the first day a swarm issued from the hive in the usual way, and alighted in an orchard about 20 yards off, but returned to the parent stock before it could be shaken.

On the second day another swarm issued and went to the same place as before. When the woman who was watching it returned to procure a hive in which to shake it, she was shown another swarm which had issued subsequently from the same hive and had settled outside the garden hedge. Both were

* About eighteen-pence English.

afterwards shaken. No. 1 was a good swarm, but in the evening the hive was found deserted. No. 2 was very small; it remained, however, in the hive, and has done tolerably well since.

On the third day another swarm issued, went again to the orchard, was shaken as usual, and has since done well.

The two swarms on the second day must have been from the same stock, as there was but this one stock in the garden, and a swarm was seen to come out from that stock by a person standing near.—S.

[The following is the probable explanation of the eccentricities described by our correspondent:—

The first swarm either issued without a queen, or that indispensable functionary fell on the ground and was lost. The second issue owed its dual character to the bulk of the bees clustering, as if from habit, on the spot where they had settled before, whilst the minority with the queen sought a new resting place. The third issue would under these circumstances be in reality an unusually strong second swarm. It is almost unnecessary to add, that a queenless swarm returns to its parent hive.]

BEEES IN AMERICA.

It would seem that swarms have been quite as scarce during the past season in America as in this country, for the Rev. L. L. Langstroth, in a letter which I have recently received says:—"This season in the Ohio valley has been a poor one for swarms. Some apiaries of nearly a hundred colonies have not had a single swarm." Mr. Langstroth also states that he has used indiarubber bands for fastening combs into frames for nearly two years.—A DEVONSHIRE BEE-KEEPER.

MANAGEMENT OF FERRETS.—No. 2.

The female Ferret (or gill as I believe she is called), should be put into the breeding-hutch before she brings forth her young, in order that she may become settled.

The time of gestation is six weeks, and during that period she should be supplied with milk morning and evening. If milk cannot be had, water may be substituted. Some people think that Ferrets do not require drink, but I find they will drink very freely. Mine much enjoy a little new milk given warm from the cow.

The number of young produced at a birth varies from one to eight. I think nine has been the largest number mine have had, but I have been informed that the mother will sometimes have twelve and rear them all. They are very small at first, and quite blind, but rapidly increase in size. When they are about nine days old they begin to crawl from the nest into the hutch. At three weeks they begin to eat, and it is very amusing to watch them running about eating their food and lapping milk with their eyes closed.

At the end of the fourth week, or the twenty-eighth day, the eyes begin to open, and by the thirty-fifth day are fully open. The young Ferrets should now have nice sweet bread and milk twice a-day, or if much meat is given, milk alone. The vessels used for food should be of earthenware and kept clean, and the milk should not be left to become sour.

As regards food, small pieces of meat, dead chickens, Pigeons, Rabbits, or an old hen now and then, will be very good diet. Where there is not a poultry-yard, more bread and milk may be given. I never give stale food of any description. They should be accustomed to the voice of the person who feeds them, and will then always come when called. The mother is always looking out for nice little pieces to store up for her young. From their birth she carries food into their nest-box, and places it in one corner of the compartment. This should be frequently removed until the young ones can eat. The little creatures squeak and grow, the noise resembling that of mice. The mother will provide for them for many weeks, and as soon as food is put into the hutch will continue to carry it away.

The young Ferrets are easily tamed, they may be called, taken out, and allowed to run on the grass. They soon detect the difference between the hand of the feeder and their food. It is best to handle them early and they will become very gentle.—LOUISA B.

OUR LETTER BOX.

HASLINGDEN POULTRY SHOW.—I advertised a pen of my Light Brahma chickens as being highly commended at Haslingden, from the fact that I

received a card to that effect with one pen of my birds when returned, and a second prize with the other. In your report of the Show and prize list, I saw that the second pen of Mr. Pares was highly commended. Having ascertained from the Secretary that the honour belongs to Mr. Pares and not to me, I trust you will give this a space in your Journal, as I do not for a moment wish to mislead any one. My pen was advertised as highly commended on the faith of the card I received, evidently by mistake.—D. CAUSER, Erdington, Birmingham.

AN ADVERTISER'S GRIEVANCE.—"I wish all advertisers would agree to let it be understood that, except in known cases, no answer would be returned to letters of inquiry unless accompanied by a stamped directed envelope. I find that no sooner does one advertise any stock than a host of letters pour in, asking all sorts of questions, many of which are often already answered in the advertisement; and you are put to the inconvenience as well as expense of answering these, or else are likely to appear wanting in courtesy. I am sure I am within the mark when I say that two-thirds of these inquirers never mean to be purchasers. They all seem to want you to let them have a bird that has perhaps cost you three guineas, for half-a-crown or thereabouts. Pray give these people a hint through your columns that it would be well to enclose a stamp, and that no letters are likely to be noticed that do not contain one.—T. C. HOSE."

BLACK POLAND COCKEREL WITH CROOKED TAIL (St. Edmunds).—Crooked spines are common to all Polands, both cocks and hens. A crooked tail sometimes exists with a perfectly straight spine. From whatever cause the defect may arise, we strongly advise you not to breed from him.

POINTS OF GOLDEN-PENCILLED HAMBURGS (An Old Subscriber).—In hens and cocks it is essential to have perfect combs—well shaped, firm on the head, and with the pike turning up behind. The cock's tail should be well bronzed, but the bronzing should not predominate. The hen's hackle must be as clear as possible, and the tail well marked in every feather. The pencillings should be distinct on every feather, in order that patches of colour, or, as they are called, "mosses," should not appear. They should have blue legs.

GOLDEN PHEASANTS AFFECTED WITH ROUP (Thaumalea).—Stimulants will best answer your purpose, and you may feed on bread and ale. Golden Pheasants are subject to roup, but they get over it. Put wormwood in their water, and camphor. Peas and small Heligoland Beans are excellent for the plumage. Canary, hemp, and Indian corn are all bad, as they make soft feathers.

SEPARATING CHICKENS OF DIFFERENT BREEDS (H. C.).—It is difficult to lay down one rule applicable to all. Cochin-Chinas and Brahmas will require to be separated earlier than Dorkings and Spanish, and autumn chickens may run together longer than those hatched in the spring. Where there are conveniences for it, the easiest plan is to make two runs, putting the pullets in one, the cocks in the other, till the time that the walks are made up. As a rule, Cochins and Brahmas should be separated at four months old, and other breeds at five, if they are March, April, or May birds; if they are autumn birds they may remain longer together.

JACOBINE'S EYES (A. A.).—Jacobins should have pearl eyes. Both cocks and hens should be alike, and it is not well to breed from old birds. Buy them wherever you can obtain them good.

CANARIES PLUCKING EACH OTHER (S. D. K.).—"I said in my notes on Norwich Canaries that it did not take long to reduce a well-feathered young bird to a state of nudity if the old ones were disposed to pluck it. You will be able to endorse this. The young birds in question have been plucked by their parents. Take them away, and haag them in a nursery cage in front, and allow the old ones to feed them through the wires, or their nice little juicy tails will go next. Give plenty of green food.—W. A. BLARSTON."

CANARIES DYING (Whitey Brown).—"I have never met with the symptoms mentioned. Have you not mistaken that swelling which we all like to see, a full crop, for some unfavourable sign?—W. A. BLARSTON." With regard to the Red-collared Bengalis, we are promised some information next week.

SAFFRON FINCH.—"What is a Saffron Finch? I can find no description in Bechstein or in any other ornithological work. I have one which I have been trying with a Canary hen, or rather half a dozen, for he does not stand upon trifles as to the number of his mistresses, but there is no issue in any case. Can males be bred from one? If so, with what?—GINGER."

DESTROYING BEES (L. M.).—Moch depends upon the locality, but we should think that in most districts no farther increase of stores can be looked for. We are not acquainted with the best mode of killing bees, but this we do know, that it is very easy to drive and unite them to other stocks in the way described in page 60 of the seventh edition of "Bee-keeping for the Many," just published at this office, price 4d., and that they will well repay any little extra trouble which may be caused by the operation.

FALLEN COMB (J. G. A.).—We do not deem the accident of much importance, but it would be well to replace the comb as soon as you can manage it.

POULTRY MARKET.—AUGUST 19.

IN our quotations this week we shall have to mention Grouse, an annual remembrance that another season has arrived. According to present appearances they are unusually scarce. The early parcels made 9s. each. We are unable to average the prices till our next number.

	s.	d.	s. d.		s.	d.	s. d.
Large Fowls.....	4	0	4	6	Pheasants	0	0
Smaller do.....	3	0	3	6	Guinea Fowls.....	0	0
Chickens	1	9	2	0	Hares.....	0	0
Goslings	0	6	5	6	Rabbits.....	1	4
Ducklings	2	0	2	3	Wild do.....	0	8
Pigeons	0	8	0	9	Grouse.....	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	AUG. 27—SEPT. 2, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rise.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.		Day of Year
			Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	h.	
27	TH	Reading Horticultural Show.	73.5	49.2	61.4	12	6	47	56	af	6	49	af	3	9	1	14	240
28	F	Falkirk Horticultural Show.	72.9	49.7	61.3	19	8	5	51	6	31	4	25	af	0	10	0	241
29	S	Shotley Bridge Horticultural Show.	71.3	47.6	59.4	15	9	5	52	6	10	5	16	1	11	0	39	242
30	SUN	12 SUNDAY AFTER TRINITY.	74.3	48.0	61.2	11	10	5	49	6	45	5	12	2	12	0	21	243
31	M	[and General Meeting.]	71.5	47.1	59.3	17	12	5	47	6	14	6	11	3	13	0	2	244
1	TU	Royal Horticultural Society Fruit, Floral,	70.7	47.7	59.2	21	14	5	44	6	49	6	12	4	14	after		245
2	W	Royal Caledonian Autumn Show.	70.9	47.3	59.1	18	16	5	42	6	4	7	16	5	0	36		246

From observations taken near London during the last forty-one years, the average day temperature of the week is 72.1°; and its night temperature 48.1°. The greatest heat was 87°, on the 27th, 1861; and the lowest cold 32°, on the 29th, 1850. The greatest fall of rain was 1.50 inch.

BEDDING PELARGONIUMS.



EW varieties of bedding Pelargoniums, as well as of other flowers, are being continually introduced, and it is well to pause occasionally, and calmly endeavour to ascertain what progress is being made, and what plants of recent introduction are really superior to older and well-tried varieties—in a word, to see if novelties have anything beyond the fact of their being such to recommend them.

How frequently do we find that the plant whose qualities have been set forth in such glowing colours proves on trial to be very poor indeed. Now, when this happens it is certainly to be deplored, for the effect on the mind of the disappointed cultivator must be one of disgust, and these disappointments must act as a check to horticulture. Still, despite such drawbacks as this, great advances have undoubtedly been made in all classes of bedding Pelargoniums; for, from amongst hosts of second-rate Pelargoniums, there will now and then crop up such "joys" as Stella, Cybister, Mrs. Pollock, Rebecca, and Flower of Spring, varieties that will hold their own against all comers for many a day.

The season through which we are now passing has been most trying for all classes of bedding plants, the dry heat causing some plants, after a faint attempt at display, to gradually pine away, and this even when regularly assisted by water; but although this has been the case in some instances, it has not been so with the Pelargonium; on the contrary, the intense heat and long-continued drought have only tended to establish all the more firmly its superiority as a bedding plant over all others.

Nearly all kinds of Pelargoniums have done well this year, and although the summer has undoubtedly been in favour of the stronger-growing kinds, yet many varieties of less growth have been most beautiful, and have almost "bloomed themselves to death." Minimum Nosegay was never so good, the beds of it have been one blaze of bloom, so beautiful and so even; yet at what a cost has this display been obtained! Now that the mass of blossom is passing away, and the plants themselves are once more becoming visible, it is perceived that they have made hardly any growth, but I have no doubt the refreshing showers now falling will encourage them to make fair growth yet. The blossom of Christine was tolerably good in the earlier part of the season, but it has suffered much of late; the trusses have come small, and the colour has been very pale. In pleasing contrast to this sad behaviour of our excellent old favourite, Rose Rendatler has been very beautiful, its large and abundant trusses rendering it a very conspicuous object.

Amongst SCARLET NOSEGAYS Cybister has shown forth pre-eminent, a bed containing about two hundred plants of it has been such a gorgeous mass of rich colour as to be quite dazzling, and so far as I can see, the only merit which Lady Constance Grosvenor possesses over Cybister is in having a somewhat better habit of growth. Its flower trusses are certainly not larger—in fact, I should say they

are hardly so large. Of other varieties in this class, Christine Nosegay comes quite up to the description under which it made its appearance last year; it is of very compact growth, and produces its bright cheerful blossoms most abundantly. Waltham Seedling, though darker than Black Dwarf, is not so compact a plant; both are excellent varieties. Then, again, Magenta Queen is of a brighter shade of colour, and its individual blossoms are more elegantly shaped, but it has not so large a truss, nor does it form so good a mass of colour as Amy Hogg.

Of SCARLET ZONALS, Lord Derby is very beautiful in pots, nothing can be finer than its exquisitely-shaped petals of rich-glowing scarlet, but I have not seen enough of it planted-out to be able to form an opinion. The Clipper is good, both in pots and in the open beds. Dr. Lindley is also a splendid pot kind. Provost, described as a salmon rose scarlet, is a magnificent bedder, and has been most beautiful. Rebecca, too, is a most beautiful and distinct sort, but unfortunately the intense heat has caused the delicate shading of its petals almost entirely to disappear. Adonis is rightly named, both as regards its foliage and flowers, and its dwarf and very compact growth renders it useful for many purposes. Glow is also a very good sort, having well-shaped scarlet blossoms produced in the greatest profusion.

Gloire de Nancy is a good double kind, and this dry season has well suited its strong growth and peculiar blossoms, but it is to be feared that it would not be so good in a damp moist summer, as its crowded trusses would be very apt to rot off if subjected to a continuance of wet.

Amongst VARIEGATED sorts, Flower of Spring is one of the best; its habit of growth is very compact. Its handsome trusses are of a soft and pleasing shade of scarlet, and the broad creamy margin of its foliage has a most beautiful effect, especially when viewed from a distance of a few yards. An entire bed of it offers a warmth of colour to the eye that is unsurpassed by any other variety in its class. Italia Unita is good, and the foliage has retained its colour well, but it is rather a slow grower.

GOLDEN TRICOLORS.—Perhaps no Pelargoniums have suffered so much from the effects of the combined heat and drought as the Golden Tricolor varieties; the leaf tints of Mrs. Pollock have not been so bright as usual. This variety is not so effective in a mass as some of the Gold-leaved kinds. I have frequently heard it remarked that Golden Chain is very much brighter and more effective when thus planted. Lady Cullum has borne the heat tolerably well, better, in fact, than most other sorts; but L'Empereur, fine as it is when grown in pots, has lost much of its rich markings in the open border.

Of the GOLD AND BRONZE section, some kinds have suffered very much from the effects of the burning sun. Of those which I have found to be really good for bedding, Vandyke, with its shaded white and salmon or pinkish blossoms, is a useful kind. It bears the heat well, and is a compact plant. Bronze Shield is a fine robust variety, with a good bold truss of scarlet flowers. I have not grown more than eight or nine varieties of this section, and out of these have only found four worth keeping for bedding pur-

poses. I hope soon to see some notes from others who may have cultivated this class more extensively, as I believe it contains many excellent sorts well worthy of cultivation. Before leaving this part of my subject I may add that Luna is a charming variety; very bright, and of an excellent dwarf spreading habit.

L'Elegante, a white-variegated IVY-LEAVED kind, is very useful; it also forms a handsome object in a pot when well trained.

Of GOLD-LEAVED kinds, Crystal Palace Gem, with its fine, bold, handsome foliage, and sturdy compact growth, will, I hope, quite take the place of Cloth of Gold, which, though very good in the shade, cannot be depended on when fully exposed to the sun.

Having thus particularised a few of the most notable varieties, I will now proceed to add a choice list of sorts which I have found to possess many superior qualities over other varieties in each of their respective classes.

SELECT BEDDING PELARGONIUMS.

SCARLET.—Lord Derby, The Clipper, Etua, Dr. Lindley, Fanst-Herald of Spring, Provost, Empress of the French, Rebecca, Roi d'Italie, Indian Yellow, and Rubens.

DWARF SCARLET.—Adonis, Glow, Little David, President, and Reveil.

PINK.—Christine, Rose Rendatler, Helen Lindsay, still unsurpassed for the decoration of vases or for bouquets, Maid of Kent, Mrs. W. Paul, and Wiltshire Lass.

SALMON AND WHITE.—Amelina Grisau, and Madame Rudersdorff.

NOSEGAYS.—Stella, Cybister, Lady Constance Grosvenor, St. George, Salamander, Le Grand, Mimimma, Duchess of Sutherland, Lord Palmerston, Amy Hogg, Magenta Queen, Black Dwarf, Waltham Seedling, Christine Nosegay, and Orange Nosegay.

GOLDEN TRICOLORS.—Mrs. Pollock, L'Empereur, Lady Cullam, and Howarth Ashton.

SILVER TRICOLORS.—Italia Unita. Several varieties of this class under trial, I hope to notice on some future occasion.

GOLDEN VARIEGATED.—Golden Chain, and Crystal Palace Gem.

SILVER VARIEGATED.—Flower of Spring, Bijou, Jane, Perfection, Alma, Lady Plymouth, Manglesii, and Stella albo-marginata.

GOLD AND BRONZE.—Beauty of Oulton, Luna, Vandyke, and Bronze Shield.

IVY-LEAVED.—L'Elegante, Peltatum elegans, and Old White, good, but rather a shy bloomer.

The foregoing list may, perhaps, be considered by some to be too extensive, and yet how small it is in comparison to the number of kinds one is obliged to grow in order to arrive at a proper understanding as to what is good, bad, or indifferent. I venture to hope these notes will induce others to take up this subject, for I believe I am right in saying, that no class of plants is more popular at the present time, and none more justly so, for what would flower gardens have been without the Pelargonium in the dry hot summer of 1868.—EDWARD LUCKHURST, *Egerton House Gardens, Kent.*

THE GOOSEBERRY.

The observations made by Mr. Robson, in page 71, on this popular fruit are interesting and well deserving of consideration.

The present season has truly been a dry and scorching one, and is, therefore, excellent for testing the capabilities of certain plants and fruits as to their powers of endurance of heat and dryness. "What, then, has been its effects on the Gooseberry?" Mr. Robson asks. "Has the fruit been deficient in flavour?" Mr. Robson believes it has. I am inclined to think not. No. I have fancied that Gooseberries have been even higher-flavoured than usual, and the reason I had assigned for this was the brighter and more pure and bracing air that we have been favoured with this season, with an absence of that heavy mugginess of the atmosphere which, I think, is more prejudicial to the Gooseberry than anything else; and, lastly, the greater dryness of the soil, which prevented the fruit from becoming gorged with too much water, as they generally are in this district, which is near London. Yes, I am of opinion that the Gooseberries of this season in the south were equal to the average as regards flavour. The crop was abundant, the fruit smaller than usual, and they ripened early—much earlier than in ordinary years. They were, in truth, soon ripe and soon rotten. During the time that the Gooseberries were ripening, up to the second week of July, the day temperature, although high, was not very exceptionally so, and the nights were often cool, just such weather as we like for the ripening process. The fierce sun heat was at times too strong

for the fruit; some were almost parboiled on the plants, and the whole soon became "coddled" and sour; yet with all this hastening to maturity and decay, I am sure I tasted sweeter Gooseberries this season than usual.

It is a well-known fact—well known, at least, to all "northerners" who have come south—that the Gooseberries of Scotland are far far superior in flavour to the same varieties when grown in the south of England. The difference has even been noticed as far as Yorkshire; midway in distance, midway in flavour. Probably the finest districts for this fruit are those of Perth and Aberdeenshire. Aberdeen is also famed for its Strawberries; immense tracts of land are devoted to the cultivation of this fruit for the supply of the London and Dundee confectioners, some hundreds of tons being sent to London every season. Gooseberries are, however, the popular fruit of the district. They are known there and spoken of as "the berries," just as if there were no other berryed fruits in cultivation, the Strawberry being quite in the background. In London just the reverse of this is the case; the Strawberry is the favourite, while the Gooseberry is voted a coarse fruit, and is mainly used for tarts, &c.

Now, let us consider what is the reason of this superiority in flavour. Is it owing to the climate, soil, or cultivation? To the climate chiefly. The air of Scotland is of a much more bracing character. The sun may be powerful and hot during the day, yet the nights are generally cool, although in summer very short, and there is an absence of that close moist mugginess of the atmosphere which is so oppressive here, but which is so beneficial to vegetation in general, although not to the Gooseberry. Then soil and cultivation have some influence as well. The richest Gooseberries that I have ever tasted have been grown on very poor sandy soil not more than 6 inches in depth; the subsoil, if it can be called so, the rotten granite stone. From 6 to 12 inches is the average depth of the cultivable soil in many parts of Aberdeenshire, below that it is either clay or stone. Now, in soil like this it is easy to understand that there very seldom is any superabundance of moisture; in fact, it is there nearly always what it has been here in the present summer—that is, the ground is dry and parched. The Gooseberry there makes very little young wood. It is pruned on the close-spur system, all the young shoots being cut closely in to the old stems, on which are situated the buds which are to bear the next season's crop, very little fruit ever being produced on the young shoots. Now, if we here prune the Gooseberry after the same fashion we obtain no fruit, nothing but a forest of leaves and shoots. The Gooseberry with us bears best on the young shoots, so that all we dare do is to thin-out these shoots in order to secure a full crop. I believe that we err by growing the Gooseberry in too rich soil; we strive too much for size of berry, forgetting that that is generally obtained at the expense of flavour. Plant the Gooseberries in poorer soil, in any exposed situation; keep the shoots thin, and allow the wind to whistle through them, and I think it will be found that the fruit will be improved in flavour, although the sun may be a trifle too hot for them at times.—ARCHAMBAUD.

HYACINTHS.

The announcement that the Dutch growers have offered special prizes to be competed for at the Spring Exhibition of the Royal Horticultural Society will, doubtless, give a stimulus to Hyacinth-growing; and it is to be hoped such an equitable arrangement of the prizes shall be made as will make it acceptable to all classes of amateurs and growers for sale. It may be as well, then, to say a few words as to varieties, which may be a guide to some who may wish to compete. An erroneous notion prevails with some that it is absolutely necessary to have the high-priced varieties. A reference to the prize lists at any of our exhibitions will show how unfounded such a notion as this is. Of course exhibitors like Mr. Cutbush and Mr. William Paul can and do exhibit these high-priced varieties, but by the amateur they are unneeded. This mistake is somewhat fostered by the injudicious plan of offering prizes for new Hyacinths. Nothing can possibly be more fallacious; for if the variety is worth anything the price immediately is raised by the Dutch raisers, and for years no more is heard of it—and, indeed, in nine cases out of ten it would be of very little consequence if they were never heard of.

I have for a good many years had the opportunity of carefully going through the collections of some of the largest growers when in bloom, and have also grown for the same length of

time a collection of the best varieties, and give the result of my own experience. I have divided the selection into two classes—the higher-priced, varying from 2s. 6d. up to 7s. 6d. each, and the lower-priced ones, which can be procured at 10s. or 12s. a-dozen.

FIRST SERIES.

DOUBLE RED.

1. Noble par Mérito 2. Prince of Orange

DOUBLE BLUE.

3. Van Speyk

SINGLE RED.

4. Cavaignac 8. Macaulay
 5. Florence Nightingale— 9. Madame Van Tuyl
 This is not the same as 10. Mrs. Beecher Stowe
 a poor variety of the 11. Princess Charlotte
 name which appears in 12. Princess Clothilde
 some lists. 13. Solfaterro
 6. Howard 14. Von Schiller
 7. La Prophète

SINGLE LILAC.

15. Haydn

SINGLE WHITE.

16. Alba Maxima 18. Paix de l'Europe
 17. Mrs. James Cutbush 19. Snowball

SINGLE BLUE.

20. Argus 22. Marie
 21. Blen Aimable 23. Pieneman

SINGLE BLACK.

24. Duc de Malakoff 25. Ida

SECOND SERIES.

DOUBLE RED.

1. Duke of Wellington

DOUBLE BLUE.

2. Garrick 3. Laurens Koster

SINGLE RED.

4. Amy 9. Ornement de la Nature
 5. Cosmos 10. Princess Beatrice
 6. Duchess of Richmond 11. Sultan's Favourite
 7. Lady Sale 12. Victoria Alexandrina
 8. Madame Hodgson 13. Von Schiller

SINGLE WHITE.

14. Elfrida 18. Grand Vedette
 15. Gigantea 19. Princess Helena
 16. Mont Blanc 20. Queen of the Netherlands
 17. Grandeur à Merveille 21. Tabiflora

SINGLE BLUE.

22. Baronne Von Tuyl 26. Leonidas
 23. Charles Dickens 27. Lord Raglan
 24. Couronne de Celle 28. Raphael
 25. Grand Lilas

SINGLE BLACK.

29. Mimosa 30. Prince Albert

SINGLE YELLOW.

31. Anna Carolina 32. Heroine

It will be seen that there are very few double varieties named, and for this reason, that the single are greatly to be preferred both for decorative purposes and for exhibition.—D., Deal.

THE MANETTI STOCK FOR ROSES.

HAVING adopted this excellent stock for the last three or four years, I am induced to give a short account of my experience of it during this exceptionally dry summer, and I hope it may serve as a hint to young amateurs like myself.

At the end of April I wrote to a nurseryman in Sussex, to ask him if he could supply me with two hundred Manetti stocks for budding this summer. His reply was, that he could do so with young plants struck last autumn, but would advise me to wait two or three weeks till they were better rooted. The plants arrived packed in damp moss on June 7th, and were immediately planted out, and watered once daily for ten days. The intense sun had then completely shrivelled and dried up nearly every leaf. I then left them to their fate, but to my great satisfaction, a short time afterwards they recovered, and began to grow so rapidly, that on August 7th I commenced budding them. In a few more days the budding of the whole of them will be finished, and there are not ten out of the whole number which have not proved to be admirable stocks. Such

I consider is another striking instance of the superiority of the Manetti stock.

Mr. A. H. Kent has been to see them, and expressed very strongly his confidence in the result. He will probably adduce some further evidence regarding this stock in due time. I might also mention that my first experience of the Manetti stock was in Mr. Kent's garden, at Bletchingley. He induced me to try it, and I have now discarded the Briar, except for a few Tea and Noisette Roses. That the Briar was doomed was not unknown to myself and other readers some time ago, and Mr. Kent and the Rev. W. F. Badelyffe were those who took the lead, and they deserve the thanks of amateur Rose growers.—A. B.

THE EARLY PEACHES OF 1868.

THE crop of these in our orchard houses is quite at an end, and the midseason and late varieties alone remain. As the open wall furnishes an abundance during parts of August and September, it is only a waste of space to have such in our houses. The early crop has been immense, and very remunerative.

Of course in such a season where water was tolerably well at command, a general advance in the periods of ripening was to be expected. In some cases, for no visible reason, this has not been the case. Why some late Peaches bloom before some very early ones is a question to be asked. How is it that, in a climate like this, one of whose characteristics it is that the range of the night temperature is so little comparatively below that of the day, mildew should appear repeatedly during tropical nights on even third growths? Only when these last rains had lowered the whole scale, and introduced humidity into the atmosphere did these attacks of mildew cease on Peach trees in the open air. On the other hand—owing here, I think, to the current of air—mildew has somewhat increased on glandless varieties in-doors. I greatly doubt if we really know much as to the causes of this disease, perhaps only so far, at least, that any unequal balance between the moisture at the roots and that about the leaves seems always to promote mildew. An abrupt diminution of heat may in either case add materially to the danger. The application of powdered sulphur as an efficacious remedy for this vegetable parasite requires faith on the part of the grower. It is quite as easy, and somewhat more favourable to appearances, to wipe off the fungus as soon as it appears on such parts as we cannot remove. Of course the mildew generally shows on the tender shoots and leaves, which can be readily pruned away. A thin wash of some kind of size, or even of oil with a very little white lead, to thicken it only, will give a thin coating which evaporation will shortly remove, leaving no clog or trace. Wiping the stems of in-door trees after syringing them I always found very useful. Mildew is a very disagreeable check to trees. Only vigorous growers recover if no notice be taken of this pest.

As to aphides we never saw less, and of red spider remarkably little. In fact, the trees are pictures of fertility and health.

Our earliest Peach ripened on the 5th of July. As Early Beatrice has done as much for several seasons at Sawbridge-worth. I expect it to become ripe here soon after midsummer. It did not fruit here this season from accident.

A seedling Nectarine ripened on the 8th of July, being the earliest on record here. It was extremely high-coloured, like Rivers's Orange, but mottled.

Some of my old favourites—Canary Peach, for instance—have not reached a high standard for two seasons. Perhaps the safest to cultivate of these earlier yellow-fleshed fruits is Early Crawford. It is not very early, but generally colours well, and has the Apricot aroma, which is the most striking good quality of yellow Peaches, without the too often bitter reminiscence which such kinds leave on the palate.

I am a great admirer of distinctness of colour in Peaches and Nectarines; such kinds, too, are generally well flavoured. Sorts of which the ground colour is a clear green, melting under the sun into a bright yellow, mottled and specked with brown, are always pungent and aromatic, and, when well matured, first-rate. The Stanwick Nectarine and its numerous descendants are examples. Other Noblesse kinds which have a regular pale pink skin delicately starred with rose spots, are juicy and rich. The Royal George colours almost to a black brown in favourable localities, and, though coarse, is yet a great favourite with many. The Peaches whose flesh is of a dark purple are also juicy and piquant in general. A bright uniform yellow also indicates a racy fruit. Pavie de Tonneux is a

magnificent specimen of colour, and very good of its kind. The same holds good as regards Nectarines, as is well known.

But here let me protest against too many sorts whose merit consists entirely in their extreme juiciness. This juiciness, though a necessary good quality, is not by any means the chief excellence in Peaches or Nectarines. Indeed, to find little but the stone remaining between our fingers, with, perhaps, a spoonful of juice in the mouth, while the rest has slipped to the ground, is an unsatisfactory ending to a year's expectations. Why should this melting flesh be so valuable in these Peaches? Some of our most highly prized table fruits—the Pine Apple, for instance, are firm in texture and highly aromatic in flavour. What Nectarine surpasses the Red Roman, which is a firm-fleshed clingstone, not always, however, easy to ripen well? In certain soils clingstones are preferred by the best judges. The Stanwick is a Nectarine of well-known excellence. The flesh of this sort has a certain delicious fibrousness, which holds the rich juice well, and allows its flavour to be realised slowly. This is a model Nectarine, and well deserves the use made of it by that most judicious raiser of new sorts, Mr. Rivers.

Among early Peaches the Early York is still a standard. One like this, not more melting, as well coloured, but of full size, and even earlier, we may yet obtain by crossing. Early Rivers is much praised. My own tree here was accidentally prevented from ripening its fruit this year.

It is to a race of these very early fruits that we must look for the best future orchard-house culture. They are for many reasons by far the most remunerative when no fire heat is used. Whenever, however, pipes are employed to hasten the ripening, slow-growing and large varieties generally afford us better results. The absence of the sun's rays at an early season requires that the growth should not be unduly promoted, or flavour must suffer. There are well-known sorts which force well, and which in consequence are generally depended on for early exhibitions.—T. C. BRÉIAUT, *Richmond House, Guernsey.*

CONVOLVULUS MAURITANICUS.

I HAVE great pleasure in seconding the recommendation of this plant which the Rev. H. Harpur Crewe has given in page 97. With me *Convolvulus mauritanicus* has done well all through the dry weather, and promises to continue in good condition for some time. It is quite hardy, having withstood the winter of 1866-67, as well as that of 1867-68, and by its habit I should think it an excellent basket or vase plant, but it appears to be also good for covering a bed, being compact, of a uniform height of about 8 inches, and the flowers all appearing at the top, and when expanded being of a pretty pale blue colour. Even when closed they have a less crumpled appearance than those of the annual *Convolvulus*. As a plant for decorative purposes it certainly deserves more attention than it has yet received.—J. RONSON.

ROOT-PRUNING VINES.

IN answer to your correspondent "C. B. R.," who asks for my opinion, I may say I do very little root-pruning.

If a fruit tree grows so vigorously that it makes no fruit-bearing wood, as is often the case with a Pear tree on the Pear stock, it may be advisable to cut its roots. If a tree is planted over a bad subsoil, and is likely to suffer when its roots have descended into such soil, it is quite necessary either to prevent their descending or to cut them off.

If a tree is required to bear fruit in a small space, or earlier than it would naturally bear, it may be advisable to cut its roots. In nature, to grow first and bear afterwards is the rule. If we wish to check growth and hasten fruit-bearing we must bring a tree into the state it would naturally attain when the powers of growth are weakened by age. Such a result may be attained by root-pruning.

Like many other fashionable customs, root-pruning seems now to be carried to a ridiculous extent. Trees which do not grow too fast—which are, in fact, not vigorous enough to bear well-developed fruit, are root-pruned without mercy, as if roots were unnecessary appendages. Vines growing above good dry subsoils are prevented, at great expense, from making roots where they would naturally form them. Trees which have borne a good crop of fruit are removed or root-pruned for fear they should not bear again. To grow strongly and yet be fruitful is perfection. Why not let well alone? If a Vine makes a great deal of wood, let it carry a heavier crop of fruit

next season, at the same time encouraging plenty of foliage, and taking care that the young growth is well ripened. A well-ripened Peach tree will bear fruit, at any rate blossoms. Keep its shoots thin enough, stop those inclined to be too vigorous, and keep the soil in which it grows firm and solid, and it will require all its roots to provide for the crop it will carry.

The border in which my best Peach trees are growing has neither been dug nor forked for ten or twelve years, and is as hard as a garden path. To prepare a rich border for Vines, and then cut their roots to prevent them occupying it, would be very stupid practice. Is it not equally stupid to manure highly a piece of land, plant it with Raspberries, Strawberries, &c., and then every year destroy as many roots as possible by digging amongst them?—J. R. PEARSON, *Chilwell.*

POTATO CULTURE.

WOULD "UPWARDS AND ONWARDS" give us his experience on the following points?—

Will Potatoes that have spered in the ground be fit for seed, and will they keep? What would be the best way to treat them?

What is the best method of preparing seed in ordinary cases when spering has not taken place?

As we have been so far wrong about the lifting, perhaps we may be also wrong in exposing to the sun Potatoes intended for seed, or in greening them in the shade.

What is the influence of the size of the sets?

Which is the best system of planting as to depth, distance, earthing or not earthing, taking different kinds of ground into consideration?

What is the best time of plauting? How should manure be applied? These points have already been discussed in the Journal, but I should like to have the opinion of such an experienced grower as "UPWARDS AND ONWARDS."—H. C., *Ripley.*

[With regard to the first question, I know a man who a few years ago made a large sum of money by keeping for seed Potatoes which had supertuberated. He left them in the ground to take their chance, they ripened, were separated at the lifting, and all that required it were "spurred." They answered well for seed in the following season. This year his Potatoes are supertuberating, and he intended to adopt the same practice. Not so the Potatoes; they are throwing up green tops by way of a change, and the grower will lose £30 in consequence, unless he immediately disbud and unspear them, and then they would keep perfectly, and answer for seed next year by being spread out very thinly in a dry, rather dark place, having a temperature of about 40° during the winter, and never allowed there to sprout and exhaust themselves. In the end of March they would have to be deprived of their buds, or eyes, by scooping these out to their very foundations with a penknife, with the exception of one, or two at the most on the strongest tubers. Never cut these tubers into sets. The immature tubers that I dug up on the 11th of July, 1867, to exhibit as young Potatoes in my collection at the Royal Horticultural Society's Show at Bury St. Edmunds, had their skins so tender when taken from the ground that they would scarcely bear handling without disfigurement. I brought them back with me, and gave them the treatment just described, and noted particularly when I planted them amongst the sets dug at a more matured stage, and they are bearing quite as good crops as these, if not, in fact, a little better.

Experimentally I am led to conclude that Potatoes reared from whole sets produce a greater bulk of crop, and are more able to contend against all evils than those raised from cut sets. I always procure my seed Potatoes from light land of a different nature from my own soil, which may be termed an artificially-made, dark-coloured loam, and I take care that they are selected from healthy crops. I choose middling-sized sets at taking-up time, and since I have been thus particular I find my permanent sorts considerably improved in constitution. A medium-sized Potato when taken from the soil may be termed scarcely ripe, which is a great recommendation to it as a set for planting. Again, my seed may be spoken of as undergoing a perpetual preparation, although causing comparatively little trouble, for as soon as it is taken out of the ground it is laid in the sun for a day or two at most, and turned. Never allow seed Potatoes to lie exposed to the sun longer, otherwise they will become blackened, blistered, and affected with a sort of dry rot, which will completely destroy them. This I have

frequently proved. I always prefer to green my seed Potatoes slightly, but it is not absolutely necessary, and they are then disposed in single layers upon shallow wooden trays, made of slabs or old doors, with a rim of wood tacked all round, and are placed secure from damp or frost in an underground cellar having a temperature of about 40°. A fair twilight is admitted through a dirty glazed aperture measuring 3 feet by 1 foot. I take especial care that the first shoots which push from the sets are not maimed or bruised, and according to the size of the set I allow one or two eyes to grow. If an excess of these form they are rubbed off in their first stage, and I follow up this disbudding process till, by planting time, the proper number of shoots which were allowed to remain have become robust, sturdy, and strongly attached to the tubers, plainly pointing out the advantage gained over the old enervating method of allowing shoots to be produced merely to be cut off. Nothing is lost to the Potato; whatever nourishment has been taken from it remains stored up in the strong young shoot or shoots, and the seed Potato is ready to be committed to the soil with its energies unimpaired, with incipient leaves ready to expand and compete for the light of day, and which begin to exercise their functions immediately.

It should be remembered that each succeeding series of shoots consequent on disbudding is weaker than its predecessor, and that when disbudding has been done three or four times the leaf buds are destroyed. Who, then, can wonder at the constitution of the Potato having become weakened, and at the great loss of crop likely to ensue through the destruction even of the first shoot? But, as I have stated, it is not the top of the young shoot alone, but with it goes a quantity of food intended to nourish the sprout until roots are emitted to cater for it. Besides, it is tolerably well understood that the crown of the Potato bears the shoots which produce the heaviest produce, and this end generally buds first. The consequence is, that instead of one or two original stems, we have in their place a host of sprouts of inferior powers, and the result will be that in lieu of a superior produce, there will only be a very inferior weakly sample. Under the system of carefully protecting the one or two first shoots, in all probability these will become monopolisers, and the result will be that the weaker eyes will not be able to push, and, consequently, a superior-sized even quality of tubers, not only for the market and home consumption, but also for feeding pigs, which, I imagine, will prefer and thrive better on good, sound, fair-sized Potatoes than on those which are watery and undersized.

Having thus disposed of the second question, under which I have included my answer to the third, I will now endeavour to take collectively the other points on which my opinion is asked.

With regard to planting, the good old plan like the "good old times," I have my doubts about. I never adopt it now. This is how I used to plant Potatoes:—The whole of the ground was entirely dug over about the beginning of May, and a line stretched between its extremities from north to south. The soil was next cast out about 4 inches deep with a spade, which was made to bear against the line longitudinally, then raw manure was placed in this narrow trench, and the cut sets were put, about 9 inches apart, immediately on the top of the dung. The line was then shifted 2 feet, or 2½ feet at most, and the soil removed was cast over and made to cover the first row of sets, and so on. "Caffings," or hoeings, and right-angled mouldings-up followed in due time, mangling the roots, and served to cast off the moisture from their remaining fragments. It was a very expeditious plan, and served to destroy the stamina of the Potato about as effectually as any that could have been adopted, especially taken in conjunction with the previous treatment of the seed, which had probably been kept in masses, heated, forced into vegetation, and deprived of the long premature shoots over and over again, till almost all the strength of the tuber was sacrificed, and then the seed Potato was cut to pieces, and placed in a mass of dung as above. Avoid the practice as you would the plague.

My present system of growing Potatoes in this garden, and I have pursued it for about fifteen years (I have cultivated the Potato on the same site twenty-two years), is on what I call the ridge-and-trench plan. It is admirably adapted for rich soils, and more especially for mine, as this ground is very much overshadowed by trees, which have been very badly managed.

In the first place I never use raw manure at the planting of Potatoes. I prefer quicklime, wood ashes, or mortar rubbish spread over the ground, and slightly worked in just before planting, at the end of March or the beginning of April, according to the weather. To insure its economical working, it

is best to divide the Potato ground into three parts, two-thirds to be bastard or half-trenched as soon as convenient—by the middle of March—as the Cabbage tribe is cleared away, and to apply the lime to the surface. The other third, which has been cropped with, say, early Potatoes and Cauliflowers, and Grange's Broccoli in the trenches, may then be thoroughly trenched during dry weather in the autumn. I well manure it in the following manner. We hear much about earth closets and house sewage, as if they were something new, but one of our sewage tanks and our earth closets here have been in use for more than twenty years. The sediment from the tanks is cleared out once a year, and mixed with road scrapings, along with the contents of the earth closets, in a large opening dug in a backyard for the purpose. To all this are added the contents of the mixen, consisting of the refuse from the garden, a decayed-leaf hotbed, and all the sweepings and refuse that are collected from a house and grounds in the country. This mixture is wheeled on to a third part of the Potato ground every autumn, and well worked-in during the trenching. I am never afraid of my ground becoming exhausted. Talk of emigration and England not being large enough for its population, why, not one-fourth of the country is cultivated as it ought to be! I prefer to apply the quicklime to the surface of this portion of the ground for its next spring dressing, at the rate of about seventy bushels per acre, to attack the stubborn, slow-decaying remnants of the refuse, and then to plant with the second-early short-topped store Potatoes.

For all light soils worked upon this principle, I recommend the flat system of planting, with this difference: plant, at the end of February or the beginning of March, quite 6 inches deep, slightly hoe the land to keep down weeds and let in air, never mould-up at all, and allow fully 3 feet 6 inches between the rows for store Potatoes.

For rich garden soils I decidedly recommend the ridge-and-trench plan, and this is how I practise it. The first week in April is time enough to plant, at least I find it so. For first early Potatoes allow 36 inches between the rows, and for store sorts quite 42 inches, and do not be afraid of these distances; premising, of course, that the ground has been trenched, and half-trenched, and that lime, old mortar, or wood ashes have been applied. Measure out the ground, stretch two garden lines where two rows of sets are to be, and then place the seed tubers upon the surface of the soil along the lines, 1 foot set from set for the early kinds, and at least 15 inches apart for the late sorts. Then readjust the lines between the two rows of sets, and an inch or two wider than the spade, so as to mark out a trench between the two rows of Potatoes. Force down the spade to its full depth rather slopingly between the lines in order to leave the sides of the trenches even, and cast out every spadeful of soil alternately to the right and left, not directly over the sets, but as far from them as the edges of the ridge will allow, so that the seed Potatoes may appear as if lying in a hollow. The crumbs that are afterwards shovelled out may take the central position upon the sets without injuring the young shoots. Now, instead of finishing-off these ridges at once (for a superincumbent weight of earth, in consequence of the ground being recently trenched and loose, might cause a troublesome displacement of their sides), cast part of the "crumbs" only from the trenches upon the sets, and bury them merely 3 inches or so. In another fortnight, when the ridges have become settled, or the young green tops of the sets are seen just peeping up, then is the time to shovel over them the remainder of the crumbs from the trenches, forming a good 6-inch-broad apex, and the ridges may be "left to themselves," though the mind of the worker must at once think about how the trenches are to be occupied with the Cabbage tribe, of which none can be better for the purpose than Brussels Sprouts or early spring Broccoli. The ground in which these are grown should be well drenched occasionally, as soon as the crop is off, with sewage from the tanks; and along the centres of the ridges, between the Brussels Sprouts, rows of Early Stone Turnips may be sown, immediately after the Potatoes are off, with a fair chance of securing some good sweet Turnips before hard frost comes.

The Brussels Sprouts, Broccoli, or other plants of the Cabbage tribe may not appear quite so stocky and even as when planted on a piece of ground specially prepared, but they soon become strong and improve in appearance. As the Broccoli grow shovel the ridges of soil to their stems, which answers the same purpose as laying them down with their heads to the north in order to protect them from the severity of the winter.

I have as yet only referred to garden cultivation, but "H. C."

requires me to take "different kinds of ground into consideration." Well, suppose a correspondent "B" said, "I intend to plant sixty acres of Potatoes on the ridge system, as I am certain it will prove the right plan. The question is, How? Your garden method is, of course, out of the question. We find the assistance of manure requisite for a good crop, and the width of the ridges must necessarily be determined by the width between cart wheels, which in most cases is 5 feet, hence 2½ feet must be the width of each ridge. This I contend is not a fair trial, as there is not a sufficient width of earth on the top to secure room for a large quantity of good tubers. Supposing, however, that it is so, or is made so by deep cultivation between the ridges, and moulding-up twice, then how would you plant the sets? On the manure would not be safe. Besides, it would be too deep if ridged-up with the plough (8 to 12 inches). Would dibbling by hand on the top of the ridge after the plough do? Again, Supposing 5 cwt. of guano per acre were sown broadcast and the ridges closed-up at once from the winter 'till,' the guano would all be there, and the ridges might be made of any width. How would the dibble do then? Is a width of 4 feet too much for field cultivation?" I answer, It is according to my judgment radically wrong to apply raw manure in the drills when planting the Potato. It must be bad practice to place a pulpy tuber in a mass of corruption. Even should the sets escape injury, when in a poor soil dung is used after the guano under the idea of making the most of it, the young plants may grow very freely at first, but as the roots lengthen they strike into barren soil, constituting in fact an abundance of machinery with a scarcity of raw material, just when the formation of young tubers and the advancing state of the growth of the plants require an extra supply of nourishment. The start they had at first secured a vigorous foliage, to become unfruitful for lack of sustaining nourishment.

But B finds "manure necessary," whereby, I presume, his land is very light. I would, therefore, advise twenty loads per acre to be spread and ploughed in, and well worked into the body of the soil in October or the beginning of November; and if 3 cwt. or so of superphosphate of lime were sown broadcast just before the land is ridged-up in February, so much the better. If the land is well drained, and would allow of the subsoil plough being used to the depth of 18 inches or 2 feet, so as to make the soil accessible to the warmth and moisture of the atmosphere, I should consider that equivalent to an application of dung if it were coupled with a top-dressing of lime or guano at planting time. Lime is especially favourable to the growth of the Potato, and in some form is generally present in plants. Light lands require it in less proportion than heavy soils, though even light soils are rendered more compact in consequence of the lime attracting moisture powerfully from the air. It cannot be otherwise than beneficial in a clay soil, for it not only destroys the myriads of insects to which moisture is congenial, but speedily converts to vegetable mould the stubborn fragments of previous crops. It also acts upon the substances brought up by the subsoil plough, and renders a large amount of inorganic substances available as food for plants. I will not believe in the earth becoming barren from the exhaustion of its vegetable mould so long as there remains a soil to be trenched, half-trenched, and trenched again—a subsoil to be brought up every few years and exposed to the action of a winter's frost, and then to the action of a dressing of lime fresh from the kiln. To a stiff clay I would apply from seventy to eighty bushels of quicklime per acre, procuring it fresh from the kiln and spreading it, not over-slacked, on the surface of the land just before ridging-up. If on a light soil ridges and guano should be decided upon, I would sow broadcast just before ridging, at the rate of 10 or 15 cwt. per acre.

The manner in which I have said I would apply the dung, &c., obviates the necessity of trundling cart wheels between the ridges, and of the plough to split the ridges again for the purpose of covering the dung. I should not like to trust to a 30-inch-wide ridge on good ground; 3 feet in that case for the field culture of medium-topped kinds of Potatoes, such as Daintree's Seeding (round), would do very well. For the very large-tubered and branching sorts, such as Paterson's Victoria, Dawe's Matchless, York Regents, or Old Grammars, I should prefer a 42-inch base for my ridge to rest upon, and to have it 1 foot wide at the top, which could be eventually done by passing a light roller over the tops of the ridges. In Shropshire, where they manage these things better—at least as far as regards the cultivation of the Swede Turnip, I think—than in any other county I have seen, except, perhaps, some parts of

Forfarshire, they would put a horse to a double mould board, and finish off between ridges as straight as a gun barrel almost as fast as a man could walk.

Whether upon the ridge or on the flat, the dibble with a blunt point should be employed in planting Potatoes in a field; the sets should be placed 7 inches deep, and I would be entirely opposed to after-mouldings. By hoe and by hand I would keep down the weeds, and I would pick off the blossoms, for from them we may anticipate seed, the formation of which taxes the energies of the plant to the detriment of the tubers. Of these in due time I would guarantee a crop on the ridge system far surpassing that obtained on the old moulding-up plan, so long practised.—UPWARDS AND ONWARDS.

CRYSTAL PALACE AUTUMN SHOW.

August 25th to 27th.

No one could expect that any autumn show held during this memorable season could be at all equal to those which are usually held at this time of the year; and although, if at any place, a gathering might be expected at the Crystal Palace, so liberal is their schedule, and so anxious are they to induce growers to exhibit with them; yet not even they could overcome the terribly trying nature of the season that we have had. It was not only that we have experienced a drought such as none of us who have attained middle life can remember, but that on Saturday last we were visited by such a storm of wind and rain as utterly destroyed all hopes that might have existed of making a good show. From east and west, north and south, came lamentations that Roses, Gladioli, Dahlias were so battered to pieces, that the growers could not possibly fulfil their promises; and so, many a sad blank occurred in the generally well-filled tables in the Crystal Palace. It was otherwise with the fruit, which was very fine; and I think the astonishment was not that there were so few cut flowers exhibited, but that there were so many; not that the quality was so poor, but really that it was so good. One wondered where Mr. Hawke got his Hollyhocks, or Messrs. Kelway & Son their Gladioli. Roses, of course, nothing could save, and they were nearly all so much out of character that they call for no especial remark. Some of the Gladioli shown were very fine; notably those exhibited by Messrs. Kelway and Son and Messrs. Downie, Laird, & Laing. The stand of twenty-four, exhibited by Mr. Kelway, contained Princess Frederick William, Mr. Kershawe, Napoleon III., Fulton, very fine; and Arabella Goddard, Le Penasin, Marina, Felicien David, Eurydice, very fine; Le Quintinie Molière, a grand flower; Adolphe Brogniart, magnificent; James Veitch, Norma, very fine; Etendard, splendid spike; Ulysses, very good; Meyerbeer, grand; Mathilde de Landeovoin, Cassandra, MacMahon, Le Dante, and Madame Basseville. Messrs. Downie & Co. had Seeding No. 2, Duchesse de Padone, Princess Frederick William, Seeding No. 3, Marie Dumortier, Madame Vilmorin, Meyerbeer, very fine; Mathilde de Landeovoin, Le Dante, Molière, very good; Stella, Oscar, John Waterer, Madame Furtado, and Noemie. Some of these spikes were very long and fine. Messrs. Bunyard & Son, of Ashford, were third with some nice flowers; and Messrs. Paul & Son equal third.

The only exhibitor amongst amateurs was the Rev. H. H. Dombrain, of the Vicarage, Westwell, Ashford, to whom was awarded first prize. His box contained La Fiancée, new, a fine white; Norma, new, white, lightly tinged with lilac; Molière, new, a fine flower; Semiramis, new, lovely pink, but somewhat narrow in the lip; Stella, new; Princess Alice, beautiful shade of lavender; Mrs. Dombrain (Stanish), rich mauve-shaded flower; Madame Pereire, Eurydice, MacMahon, Meyerbeer, Lord Byron, Sir Joseph Paxton, Galilée, Thunberg, a new and fine flower; Edalia, Belle Gabrielle, &c.

The Rev. Edward Hawke's Hollyhocks, as usual, were magnificent, and, indeed, he was the only exhibitor. The individual flowers were of great size, and wonderfully clean. His class of twenty-four contained Exhibition, Charles Eyre, Octavia (seedling), Gem (seedling), Willingham Defiance, Willingham Model, seedling El Dorado, Rose d'Amour, seedling Edward Speed, seedling Ruby Queen, Mrs. Downie, and Queen of Yellows. In twelves he had Ruby Queen, Nonpareil, George Keith, Charles Eyre, Edward Speed, Willingham Defiance, seedling Queen of Yellows, Amber Queen seedling, and Willingham Model.

Mr. Perry's Verbenas fully sustained his usual character as the foremost raiser and grower in England. His stand of twenty-four contained Spot, seedling James Birbeck, Kate, Mrs. Jorlean, Mazappa, Little Clara, Leah, Startler, Foxhunter, Annie, Harry Law, Chieftain, seedling Interesting, Madame Stenger, Rose Imperial, Lord Leigh, seedling Magnificent, Apollo, Lilac King, H. Ward, Wonderful, and Géant des Batailles; and amongst his seedlings were Mrs. Pochin, fine pink, first-class certificate; Kate; Mrs. Reynolds Hole, fine white; Spot, pink with deep eye, first-class certificate; Florence Fideau, Excellent, and Little Dove. Some of these were very fine, and nothing could exceed the purity of the white of Mrs. Reynolds Hole.

Such are the most notable features of these classes, and I can only hope that another season with more propitious weather one may see the Crystal Palace Autumn Show what it usually is. Arrangements

have been made to hold a special *Gladiolus* exhibition, which will, we feel, be full of interest, especially if I can get M. Souchet and other foreign growers to exhibit. Thus closes another season of Crystal Palace Shows. They have been successful ones, and no small share of this success is owing to the kindness and courtesy of Mr. Wilkinson; and all who have to do with the shows in any way bear testimony to the great pleasure afforded them at this delightful place of amusement.—D., *Deal*.

Of the flowers not noticed above the Dahlias are the most important in numbers, although very far from forming such a long array as in more favourable years. Still, those exhibited were remarkably good considering how long a period of heat and drought we have just passed through.

In Class I, forty-eight blooms, Mr. May, of the Hope Nurseries, Bedale, is first with very fine blooms of Vice-President, Lord Derby, Jenny Austin, Octeroon, White Perfection, Mr. C. Waters, James Bennett, Yellow Perfection, Coronet, Polly Fawcett, James Backhouse, John Kirby, Salamander, Matilda, Lotty Atkins, Miss Henshaw, Charlotte Dorling, Foxhunter, Sir A. Smyth, Volanteer, Mrs. Boston, Golden Drop, George White, Lady L. Paulett, Lady Jane Ellis, Sam Naylor, Sir J. Douglas, Master of Arts, Albion, Rosy Circle, Yellow Boy, Favourite, Lady G. Herbert, Lady Elcho, Fair Imogene, Goldfinder, Lord Palmerston, Hero, Peri, Leah, British Triumph, Andrew Dodd, Earl Russell, W. Dodd, Criterion, Ellen Potter, and Leopard. Mr. Keynes is second; Mr. Draycott, Hamberstone Nursery, third.

In the class for twenty-four, Mr. Keynes and Mr. May change positions. Mr. Keynes being first with Andrew Dodd, Yellow Boy, Purple Gem, Queen of Whites, Miss Dombraun, Juno, Lightning, Memorandum, Seedling C, Gazelle, J. Donnington, Mrs. Brunton, Lady G. Herbert, Baron Tannton, Lady J. Ellis, Leah, John Hunter, British Triumph, E. Spary, Caroline Tetterell, John Kirby, Sam Bartlett John Bunn, and Lady of the Lake. Mr. Draycott is third, Messrs., Kelway fourth.

The best twelve Fancies come from Mr. May, and consist of Gem, Sam Bartlett, Mrs. Wyatt, Chang, Prospero, Queen Mab, Ehor, Prince of Wales, Mrs. Dorling, John Brown, Coquette, and Leopard. Mr. Keynes is second with J. Bunn, Sportsman, Mrs. Wickham, Attraction, Startler, Bessie Wyatt, Lightning, Sam Bartlett, Chameleon, Fanny Sturt, President, &c.

In the amateurs' classes Mr. Charles J. Perry is first, Mr. Draycott, gardener to T. Paget, Esq., M.P., Hamberstone, Leicester, second, and Mr. T. Hobbs, third, for twenty-four blooms. For twelve Mr. Draycott is first, Mr. Burditt second, Mr. Hopkins, of Brentford, third, and Mr. C. J. Perry, fourth; and the last-named gentleman is first for twelve Fancies, Mr. Beck, Wimborne, Dorset, being second. Several seedlings are shown, which receive certificates. The most noteworthy are John Dix from Mr. Hobbs; and Miss Dombraun, John Hunter, and Queen of Whites from Mr. Keynes. Mr. Hopkins had a second-class certificate for Gipsy Queen.

Among miscellaneous subjects Messrs. Downie, Laird, & Laing exhibit an excellent group of subnitric and other plants, including Cannas, Coleuses, new Caladiums, Pelargoniums, and Phloxes. For this a first prize was awarded; Mr. Tanton, of the Epsom Nursery, taking the second with a magnificent Allamanda, named "Hendersoni, true of Wardle," and the correct name of which has yet to be decided.

FRUIT.

The Fruit is the great feature of the Show, and although the quantity exhibited is not quite so large as usual, the quality is generally excellent, and some of it, especially the Grapes, is of the highest merit.

The first prize for a collection of fruit was taken by Mr. Miles, gardener to Lord Carrington, Wyeombe Abbey, with a Providence Pine Apple, Bailey's Green-fleshed Melon, three good bunches of Black Hamburg Grapes weighing 9½ lbs., three of Buckland Sweetwater weighing 7½ lbs., Noblesse Peaches, Elruge Nectarines, Brown Ischia Figs, and Washington Plums, all of which were very good. Mr. Kemp, gardener to the Duke of Northumberland, Albury Park, Guildford, Surrey, is second with a small Queen Pine, good bunches of Black Hamburg and Muscat of Alexandria Grapes, fine Brown Turkey Figs, Green Gage Plums, Royal George Peaches, Violette Hâtive Nectarines, and two Melons. Mr. Clark, gardener to Earl Cowper, Panshanger, is third. An extra prize was awarded to Mr. Miller, gardener to Lord Craven, Combe Abbey, for a splendid collection, which would have been first but for its not containing a dish of Figs, on which account it was disqualified. The schedule, after enumerating the dishes required, stated "(one dish at option of exhibitor)," and Mr. Miller understood this to mean that he might substitute one dish of any other fruit for one of those named. His collection consists of magnificent bunches of Black Hamburg Grapes with large and beautifully ripened berries, Golden Hamburg also very fine, Stoneleigh Abbey Pine Apple, Combe Abbey Hybrid Melon, Stirling Castle Peach very fine, excellent Violette Hâtive Nectarines, Late Duke Cherries, and Goliath Plums.

Pine Apples are not numerous, but for the most part good. In the class for three of any variety Mr. Ward, gardener to T. N. Miller, Esq., Bishop Stortford, is first with three finely grown fruit of Smooth-leaved Cayenne, very even in size, and each weighing 7 lbs. or upwards. The prize for the best Queen was awarded to a good fruit from Mr. Laing, gardener to P. W. Flower, Esq., Tooting Common, Mr. Harrow

being second. The best fruit of any variety except the Queen was Smooth-leaved Cayenne, weighing 8½ lbs., from Mr. Ward; Mr. A. Wright, gardener to C. Roberts, Esq., Regent's Park, being second with a Providence weighing no more than 6½ lbs.

Grapes, as shown by Mr. Meredith, of Garston, Liverpool, and Mr. Miller, of Combe Abbey, are the finest we have ever seen. The former took the first prize for the best basket with Black Hamburgs, which, for size of berries and beautiful colour and bloom, could not be surpassed; whilst Mr. Miller, who is second, has the same kind also in splendid condition, and with berries of the largest size. Mr. Ward is third, and Mr. Osborne, Finchley, takes an extra prize, both with excellent Black Hamburgs. The same kind, also very good, comes from Mr. Frost, of Maidstone; and among other kinds shown are Muscat of Alexandria and Buckland Sweetwater, the latter very good, from Mr. Excell, gardener to J. Hollingworth, Esq., Maidstone.

The class for the best three bunches of Black Grapes is, however, that in which the two most remarkable exhibitions are produced; indeed, we have never seen finer anywhere. The bunches of Black Hamburg from Mr. Meredith, who is first, are the finest we have ever seen him exhibit, magnificent as were the specimens which he produced in previous years. The centre bunch is of enormous size, with large shoulders, and it is supported on each side by a large and finely-shaped bunch. The berries are immense, in size more like Plums than Grapes, and are covered with a beautiful bloom. Mr. Miller, gardener to Earl Craven, Combe Abbey, was awarded the second prize for three splendid, compact, symmetrical bunches, remarkably equal in size, and with berries of enormous size and beautifully coloured. These, too, were such as we have not seen surpassed, and are a convincing proof of Mr. Miller's skill as a Grape-grower, though his success in previous years renders proof of that fact unnecessary. Mr. Thomas, gardener to Mrs. Child, Whetstone, is third, and good bunches are also shown by Mr. Osborne, Mr. Sage, and others. Messrs. Lane have excellent bunches of Alicante, but not sufficiently ripe.

In the class for White Grapes, Mr. Osborne, of Finchley, is first with fine beautifully-ripened Muscats, and Mr. Laing, gardener to P. Flower, Esq., second, with large bunches of Canon Hall; Messrs. Lane & Son, of Berkhamstead, are third with Trebbiano, fine. Mr. Miller, Mr. Carr, and others also send good bunches of Muscat of Alexandria, and Mr. Aedy, gardener to Mr. Wright, has Buckland Sweetwater perfectly ripe, being of a deep amber colour. Mr. Keen also has good bunches of the same kind.

The first prize for the largest bunch of any variety was taken by Mr. R. Keen, gardener to J. G. Sheppard, Esq., Wickham Market, with Buckland Sweetwater, weighing 4 lbs. 12 ozs.; the second prize going to Mr. Douglas, gardener to F. Whitbourne, Esq., Loxford Hall, Ilford, for Black Hamburg weighing 3 lbs. 13½ ozs.; and the third to Mr. R. Laing for a bunch of Canon Hall of 3 lbs. 5½ ozs.

Peaches chiefly consist of Royal George, Violette Hâtive, and Barrington, but are not remarkable for size. Mr. Douglas is first with fine fruit of Exquisite, a very large yellow-fleshed American variety. Mr. Miller is second with a very fine dish of Padley's Seedling; Mr. Sage, gardener to W. Leaf, Esq., Streatham, taking a like award for Téton de Venus; and Mr. Rose, Acton, is third with Barrington.

Nectarines, with the exception of the prize dishes, are small. Mr. King, gardener to R. Loder, Esq., Slaugham, is first with large and fine fruit of the Violette Hâtive. Mr. Miller is second with Murrey, large and finely coloured; and Mr. Douglas third with Pine Apple, very fine. Pitmaston Orange, of which the last-named is an improved variety, Downton, Hunt's Tawny, Elruge, and Imperatrice are the other kinds principally shown, and G. F. Wilson, Esq., of Weybridge, sends good-sized fruit of the Stanwick from an orchard house.

Melons are shown in considerable numbers. The first prize for green-fleshed was awarded to Mr. Richbell, Tadworth Court, Epsom, for a fruit unnamed; the second to Mr. Bailey, Sbardeloes, for Bailey's Green-fleshed; and the third to Mr. Gibson, Westerham. Mr. Carson has a fruit of Carson's Nonsuch weighing 13 lbs.; and among other kinds are Golden Perfection, Bromham Hall, King's, Heckfield Hybrid, and Golden Gem. In the scarlet-fleshed class Mr. Bailey is first with Scarlet Gem; Mr. Clark, Panshanger, second with Malvern Hall; and Mr. Hutley, Epsom, third with Pizetaker.

In Figs there is scarcely any competition. The best two dishes are Brown Turkey and White Marseilles from Mr. Willmore, gardener to the Misses Jones, Maidstone; Mr. O. Goldsmith, gardener to Sir W. Farquhar, Bart., Polesden, is second.

Of Cherries likewise there are very few, as might be expected so far on in the season. Morello and Belle Magnifique, both very fine, from Mr. Clark, Panshanger, are first; Morello and Black Tartarian, the latter small but of the deepest black, from Mr. Sage, Ashridge Gardens, are second; and Morello and Late Duke from Mr. Goldsmith third.

Plums are very numerous and good, and consist of Kirke's, Pond's Seedling, Magnum Bonum, Denyer's Victoria, Goliath, Purple Gage, Jefferson, Washington, Coe's Golden Drop, and Mitchelson's. Mr. Jackson, gardener to G. W. Gower, Esq., Tisbury Park, is first; G. F. Wilson, Esq., second with Coe's Golden Drop, Hulm's Superb, and Transparent Gage. These were grown in an unheated orchard house till all danger from frost was over, and then ripened out of doors. R. Webb, Esq., Culham House, Reading, is third with Coe's Golden

Drop, Magnum Bonum, and Jefferson; Mr. Bailey, Shardeloes, being fourth with Princes of Wales, Victoria, and Washington.

Of Apples, the collections are very numerous, and some of the specimens shown are very large, although the season has been unfavourable to the attainment of large size by fruit generally. For four dishes of dessert kinds Mr. W. Holder, Springfield, Maidstone, is first with very good examples of Kerry Pippin, Pennington's Seedling, Cox's Orange Pippin, and Summer Pearmain. Mr. Webb, Reading, is second with Ribston Pippin, Cox's Orange, Newtown Pippin, and Red Quarrenden, all of which are very fine. Mr. Willmore is third with Sam Young, Red Quarrenden, Ingram's Seedling, and Red Astrachan. Dr. Cooper, Slough, is fourth; and Mr. Jones, gardener to E. Purser, Esq., Carshalton, takes an extra prize.

For Kitchen Apples Mr. C. Chaff, gardener to A. Smee, Esq., Wallington, was awarded the first prize for immense fruit of Councillor, Lord Derby, Lord Suffield, and Patt's Pudding. Mr. Geirs, gardener to F. Flight, Esq., Norwood, is second with large specimens of Ribston Pippin, Alexander, Gloria Mundi, and Blenheim Pippin. Mr. Jones, gardener to E. Purser, Esq., is third; Mr. Downing, gardener to T. Grissell, Esq., Norbury Park, fourth; and Messrs. Lane, St. Mary's Cray, fourth.

The best three dishes of Pears come from Mr. Holder, and consist of excellent examples of Gratioli, Beurré Chairgean, and Williams's Bon Chrétien. Dr. Cooper, Slough, is second with Williams's Bon Chrétien, Beurré d'Amanlis, and Duchessed Angoulême; Mr. Holder, Reading, is third. G. F. Wilson, Esq., sends excellent examples of Louise Bonne of Jersey, Marchal de la Cour, and Glou Morceau, grown in an orchard house, and placed out of doors when there was no danger from frost. All three prizes for the best flavoured dishes of Pears went to Williams's Bon Chrétien, the prizetakers being Mr. Douglas, Loxford Hall, Mr. O. Goldsmith, and Mr. Willmore. An extra prize was given to Mr. Elliot, Sydenham Hill, for the same kind.

The heaviest dish of Pears comes from Mr. Samuel, gardener to T. Lucas, Esq., Betchworth, and is King Edward, weighing 7 lbs. 14 ozs. Mr. Rabbitt, gardener to Lord St. John, Melchbourne Park, is second with Grosse Calebasse; and Mr. O. Goldsmith third with Catillac. G. F. Wilson, Esq., exhibits remarkably fine fruit of Triomphe de Jodoigne from an orchard house, and ripened out of doors.

For Vines in pots Messrs. Lane & Son take first for fine examples of these; and Mr. Fraser, Lea Bridge Road, has a similar award for finely fruited Peach trees. Both these exhibitors also take prizes for beautiful collections of pot fruit trees. Extra prizes are awarded to several exhibitors for miscellaneous subjects. Mr. Guyett, gardener to J. Perrott, Esq., Herne Hill, receives one for seven fine bunches of Alicante Grape close together on a portion of a branch. Mr. Webb, Reading, has another for Nuts and Plums; Mr. Bailey, Shardeloes, for a very large finely-netted Melon, called Monarch; Mr. Carr, gardener to P. L. Hinds, Esq., Byfleet, for two Grandillas, two fruit of the Papaw, and Water Lemons (*Passiflora laurifolia*); Mr. Levell, Upper Clapton, and Mr. Sleat, Upper Norwood, for well-grown Cucumbers. Messrs. Lee also exhibited among miscellaneous subjects their Madresfield Court Grape.

ORNAMENTAL AND FLOWERING SHRUBS.

(Concluded from page 113.)

CULTURE OF RHODODENDRONS.—*Soil.*—The Rhododendron, and all shrubs requiring peat soil, succeed well in an open soil, porous, so as to absorb water freely, and yet permit of its speedily passing off when the quantity is excessive. It is essential that the subsoil should be well drained, and if it is naturally of a loose open nature all the better; for the idea that some have of treating the Rhododendron as a bog plant is wholly erroneous, because where there is a bog there is stagnant water, and in such the Rhododendron will not thrive. The plant, though flourishing in a moist soil, does not succeed in one where water remains in the subsoil, for the roots speedily perish in stagnant moisture. The soil most suitable is a fibrous brown peat, containing a large proportion of particles of white sand. Avoid the use of black peat from low ground, which, when wetted, either becomes a spongy mass, or when squeezed in the hand gives out ink-looking water; any soil, except chalk, is better than it. In chalky soils the Rhododendron does not grow well—indeed, they are the worst of all. Some loams, and generally those overlying a yellow clay subsoil, will grow the Rhododendron well, especially when the loam is of a friable nature, stagnant water being carried off by drainage. Light rich sandy soils are not altogether unsuitable, as they may be improved by the addition of turf and leaf mould.

In making the beds or borders, where the soil is a peat of a snitable nature, nothing further will be required than to trench it; but if the soil is unsuitable the bed should be dug out to a depth of not less than 18 inches and not exceeding 2 feet, and the subsoil should be loosened to an equal depth. If the latter is wet a drain should pass under the bed or border to take away superfluous water, and this drain should not be less than 3 feet from the surface, but it will be better if 4 feet deep. The pit thus formed is to be filled with peat, chopped up rather roughly for the bottom, and finer towards the top, making it from 6 to 9 inches above the surrounding ground level, but do not raise the bed high in the centre unless water can be given abundantly in summer, as with the bed raised the plants will be more liable to suffer from the want of a proper supply of moisture in dry periods.

If peat cannot be obtained, and the soil is unsuitable, take out the latter as above directed, loosen the bottom, and secure proper drainage, for it is useless to plant in a soil where water remains stagnant as it destroys the fibres. Then fill up with a compost of turf cut 2 inches thick from a pasture where the soil is a good friable and sandy rather than heavy loam. The first or bottom foot in depth may be turf cut 6 inches square; and the top foot may consist of turf in pieces of not less than an inch square three barrowfuls, one barrowload of leaf mould, a fifth of old cow dung, and if the loam is strong a barrowful of sand. Mix all these ingredients well together, and put the compost in the bed, making it above the surrounding level to allow for settling. A bed thus made will grow fine Rhododendrons. I made some beds in this way several years ago, and the plants are finer than those growing in peat as regards their foliage; those in the peat, however, are more profuse-blooming.

Much may be done to improve soils not unsuitable, even where peat cannot be had. A light sandy loam may be improved by a liberal dressing of turf cut into small pieces, and leaf mould, trenching 2 feet deep, and mixing the turf and leaf mould with the soil. Heavy soils may be rendered suitable for Rhododendrons by adding sharp sand and sandy loam and turf.

In extensive plantations, whether in beds or borders, where peat is obtainable, but not in quantity on account of the expense, I have found it a good plan to dig a good-sized hole, placing a little peat at the bottom, and surrounding the ball with peat soil, covering it entirely, and then filling in with the ordinary soil. When no peat can be had the compost named as a substitute for peat may be employed for placing around the balls of the plants. This plan answers admirably. I have many fine bushes which cannot be distinguished from those in beds wholly of peat, and they have been in this state upwards of four years.

Situation.—In choosing a situation select one which is moist rather than high and dry, and if shaded by trees at a distance it will be all the better. The situation must be open, not exposed to the drip of trees, and out of the reach of their roots, as these are quite as injurious as the drip from the branches. It is also desirable to secure shelter from wind, not that Rhododendrons are tender, but in bleak positions the leaves are so battered one against the other as to be browned and much disfigured, whilst in suitable places the plants have the finest foliage. They are far better away from buildings than near them, as there are always currents of air round them which affect the plants.

Propagation.—This is effected by seeds, layers, cuttings, and grafting. By sowing the seeds there is a chance of obtaining new varieties, and plants can be secured in quantity for shrubberies. Seed may be sown in April, either in pans or boxes, in a cold frame, or in a bed of sandy peat, 6 inches deep. The pans should be well drained and filled to within a little of the rim with sandy peat, a little very fine soil being placed at the top. The surfaces should be made even and smooth and be watered, and the seeds scattered evenly over it and gently pressed in. Cover them very lightly with silver sand. They may also be sown in February or March; in that case the pans should be placed in a frame on a gentle hotbed, and shading from the sun will render watering less necessary than would otherwise be the case. All water should be given through a very fine rose, and to save the trouble of frequent waterings a little moss may be placed on the surface of the soil, taking care to remove it when vegetation commences. If the seed is sown in April place the seed pans in a cold frame, kept close and shaded until the seedlings appear, when air must be admitted freely. When they are large enough to handle prick them out 3 inches apart in a frame, in a bed prepared as for sowing, and keep them close and shaded till they are established; then give air gradually and harden them well off. If sown in heat they must be well hardened-off previous to their being pricked-out. The soil in which they are growing should always be kept moist, but avoid saturating it. Whilst giving abundance of air protect from heavy rain, shade from powerful sun, and shelter from frost by a mat over the sashes. Finally, plant out in the open ground when the plants meet in the bed, placing them in lines a foot apart, and at 6 inches plant from plant in the row.

Layering may be performed in autumn or spring. It requires care, so as not to break the shoots, and is at the best a slow undesirable process. Plants which have plenty of branches near the ground should be chosen, and the branches must be of sufficient length to be bent down and pegged about 2 inches below the surface. The shoots ought to be securely pegged down, and to facilitate the emission of roots copious supplies of water should be given in dry weather. Some make a cut in the shoot or branch layered; others merely layer it and peg it in the soil. I think it desirable to make a cut about midway along the branch, and on the under side of the part laid in the soil. The branches should be made secure above ground, if necessary, by staking and tying them up. In the autumn following the layering the layers should be examined by turning the soil aside, and if rooted they should be cut off immediately below the roots, taken up with as much soil as possible, and replanted. If the branches are not rooted they must remain another year.

Propagation by cuttings is seldom practised, and is not, in my opinion, equal to grafting. Cuttings of the current year's wood should be taken off when the growth is complete and the wood is becoming brown. Cut them off close to the previous year's wood, and trim off

the leaves for 2 or 3 inches, pare the base of the cutting smooth, and insert it in a compost of sandy peat covered with an inch in thickness of silver sand. A moderate watering should be given, and the cuttings covered with a bell-glass, and placed in a frame, the lights of which should be kept close and shaded from the sun until roots are emitted, then gradually admit air, and remove the bell-glasses. The rooting of the cuttings will be promoted by inserting each in a 3-inch pot; and when a callus is formed remove them to a frame on a hotbed, and plunge the pots to the rim in sawdust or tan. The hotbed should then have a temperature of 70°. The young plants from cuttings should be well hardened-off, wintered in a cold frame, and planted out in spring.

Grafting is, perhaps, the best way to obtain a stock of established varieties. The best stock is *Rhododendron ponticum*. The stocks should be slightly thicker than the grafts. Grafting should be performed quite close to the ground; indeed, better below it, and just above the setting-on of the roots, as there is then less liability to produce suckers, and the graft or scion will have an opportunity of forming roots should it be disposed, and thus obtaining nourishment by its own roots.

The stocks, of whatever kind (some using the seedlings of the hybrids, which I do not like, as the growth of the named varieties upon them is tardy), ought to be planted during the autumn or spring, previous to grafting either closely together in beds, so as to allow of their being covered with a frame, or in pots, so that they can be removed to a frame when worked.

The best time to graft is towards the end of August, or early in September, when the young shoots have ripened. The head of the stock should be cut off 6 inches or more from the ground, leaving some portion of the leaves on the stock; and immediately above the setting-on of the roots put on the scion by side grafting, which is just the same as whip grafting, only the head of the stock is not entirely removed. A growing shoot of the current year should be chosen. Secure the graft with matting, and cover it with clay or grafting wax, and if convenient cover the clay or union with soil, sawdust, cocoa-nut refuse, or other material. Place a frame over the plants, putting on the lights, and keeping them close until the grafts have taken. Wedge grafting may also be employed, but I do not think it is so good as side grafting. In spring the head of the stock should be cut off close to the union of the stock and scion. Grafting may also be performed in spring, just before or when the stocks are commencing growth.

Inarching is an eligible mode of propagation, being best performed in May and June. Budding is sometimes practised; it is best performed in August, and is a convenient mode of propagation.

Planting.—The most suitable time to plant *Rhododendrons* is in September, but if they are removed with good balls, it may be done at almost all seasons. Transplanting immediately before flowering diminishes the duration of the bloom, and if performed after the flowering is over it has an injurious effect on the growth. Planting early in autumn or spring is preferable to late spring and summer planting. In taking up preserve as much soil as possible about the roots, for that depends the speedy re-establishment of the plants. Chopping the ball and reducing it by beating is a practice that cannot be too highly discommended, for it destroys the plant's feeders, and until more are formed it remains stationary, even if it does not retrograde.

In planting, do not plant deeply, but merely cover the roots deeper by 3 inches to allow for the loose soil settling. At the same time the plant must not be elevated much, if at all, above the surrounding ground level, for that would in dry weather only tend to deprive the plant of moisture. After making the soil firm round the ball, give a good watering, and afterwards whenever water is required it must be supplied, otherwise the foliage and flowering suffer.

If the beds become overcrowded every alternate plant should be removed, or the whole of the plants must be taken up and replanted in autumn or spring. The latter period is, perhaps, the better of the two, as the plants from crowding will have become somewhat tender, and on planting in autumn at greater distances the foliage is apt to be injured by severe frosts and cutting winds. Replanting affords an excellent opportunity for renewing the soil wholly or in part, and according to my own experience this should be done every sixth year, but where there is plenty of room between the plants, the soil will not require renewal. A liberal top-dressing of equal quantities of leaf mould and cow dung not less than a year old, should, however, be applied every year in March, and in June mulch the beds with short grass mowings. Never put a spade into beds of American plants, but keep them clear of weeds, and lightly point them over with a fork, so as to prevent the surface cracking and becoming covered with moss. Never go so deeply as to disturb the roots. If seed is not wanted the trusses should be removed as the flowers fade, doing so will contribute to a vigorous growth.

When the plants are becoming unsightly any irregular growths may be cut away, and if necessary the plant itself to any extent. This is best done before growth takes place, or it may be deferred till immediately after the flowering. *Rhododendrons* bear cutting quite as well as Laurels.—G. ABBEY.

NEW ROSES.

IN answer to "ROSARIAN'S" question, in page 110, I may state that the following Roses have bloomed well this season,

and will, doubtless, prove good—viz., *Coquette des Alpes*, pure white, cupped, larger than *Baronne de Maynard*; very vigorous. *La France*, very light rosy lilac, very large and globular, free-blooming; very fine. *Impératrice Charlotte*, beautiful delicate rose; a very large and finely-formed flower. *Madame la Baronne de Rothechild*, soft delicate rose colour, very large and cupped; fine habit. *Boule de Neige*, white, medium size; a lovely cupped flower. *Reine de Portugal (Tea)*, is a flower of good form. It is medium-sized, of a bright coppery yellow, very distinct, and should be grown by everyone.

The above I am sure will be worth every Rose-grower's attention, and will prove to be standard flowers. No doubt there are others of the same date which may ultimately prove as good.—JOHN MILTON.

WORK FOR THE WEEK.

KITCHEN GARDEN.

AFTER the heavy rains which, according to all accounts, have been general throughout the country, the ground will be in a fit state for planting out winter crops. Hoe, fork, and dig among advancing crops. *Artichokes*, if any of the rows are seven years old, lose no time in cutting the plants down, and trench the ground as deeply as you find it good; not but that the plants might go on for another seven years, and still bear well enough, but it is bad management to let ground lie out of rotation so long. *Gooseberry*, *Currant*, and *Raspberry* bushes are often left on the ground until they cease producing through sheer exhaustion of the soil. *Cauliflower*, sow for the spring crop. *Lettuces*, if sown now or a fortnight hence in an open, airy space, will often stand the weather better than stronger plants growing in more protected situations. *Mushrooms*, attend to the beds in a bearing state, and continue to make fresh ones. *Radishes*, sow for autumn and early winter use. *Thyme*, *Sage*, *Mint*, and *Tarragon*, that were cut over last month, are now becoming quite bushy again, and in fine condition to be taken up for potting, or to be put in boxes for forcing gently in winter.

FRUIT GARDEN.

The *Strawberry* plants forced last spring and planted out in May, having now done bearing, should be taken up and potted; the main portion of the old roots to be cut away in October, as by that time there will be plenty of strong young roots produced immediately under the surface of the ground. The plants should then be put in a cold vinery for forcing by the end of January, and a third crop will be gathered by the end of the twelvemonth. Cutting off the leaves of *Strawberries* at this time is not a worse practice than digging the beds in winter, as you cut off all those fine roots formed late in the autumn near the surface of the ground. The old plan of covering the beds with a rich compost, leaving only the tops of the leaves above it, is the best winter management after all. As soon as the fruit is gathered from *Raspberries*, clear away all the old wood, and any very strong shoots left at the summer thinning. Tie the young shoots to stakes or rails. Fork in a coating of manure, for, like the *Vine*, the *Raspberry* delights in rich feeding. Attend to the directions previously given about *Vines*; thin out all useless shoots, remove leaves when they are too close together, but, while exposing the bunches to more light, be careful to leave a sufficiency of leaves to shade them from the direct influence of the sun's rays. A number of *Gooseberry* and *Currant* bushes protected by netting might now be enclosed in mats to preserve the fruit longer. One advantage of covering some now is, that the buds will be well ripened for next season. Put the fruit room in good order for the reception of fruit, and gather not only the finer wall fruit as it ripens, but also a portion of the crop of favourite *Apples* and *Pears*, so that by sweating part of them with dry sweet hay, you will be enabled to prolong their season.

FLOWER GARDEN.

The beds here will require particular attention through the autumn, and fingers and knife must be constantly at work thinning, pruning, stopping, and regulating plants, and the outlines of the beds. Every flower which offers to seed should be cut away as soon as it begins to fade. *Dahlias* and *Hollyhocks*, with other tall-growing plants, require to be well trimmed and tied-up regularly to stakes. The hybrid *Phloxes* are particularly gay at this season. *Fuchsia corymbiflora* in rows or single standards will have a fine effect from this time till frost comes. Prepare a piece of ground for sowing a general collection of hardy annuals, which, in late situations, may be sown immediately, but in favourable soils the middle of Sep-

tember will be soon enough. Wallflowers, if they are too close together, must be pricked out into nursery beds for transplanting when the borders are cleared for the winter. Now is a good time to procure any fresh varieties of Polyanthus, so that they may become well established before winter; if plants come from a distance, and are planted in the border, a hand-glass should be placed over them, and carefully shaded. Loam and leaf soil in equal quantities will be found a simple and good compost to grow them in. The soil for potting layers of Carnations when they are ready to take off should be loam, river sand, and decayed leaves, well turned, thoroughly examined, and run through the hand, so that no wireworm nor grub may escape. The flower-stalks when there is no seed may now be cut off close to the surface, and the sticks or supports removed, cleaned, and put away till next season. Planting beds of Pansies for blooming next season ought not to be delayed much longer. The following compost is excellent for securing strong healthy plants, and fine blooms. Two parts fresh maiden loam, one part decayed cow manure, one part road scrapings, one part leaf soil or decayed vegetable matter. This, if well mixed and sweetened by repeated turnings previous to forming the bed, will not disappoint the amateur's expectations. Turn over the soil of the Tulip bed, and if fresh compost is required see to it in time.

GREENHOUSE AND CONSERVATORY.

The management of the conservatory will be more uniform now than in summer. No syringing will be necessary, unless for a plant here and there which may require it for keeping down insects. Where blinds have been in use to keep off the sun, they cannot be dispensed with yet altogether, but use them as little as possible from this time. Let all the watering be done in the morning, and give no more water to stove plants which are brought into this house for their flowers than just enough to keep their leaves from drooping. The few Lantanas which we cultivate in this country are well suited for flowering in this house late in the summer and through the autumn. *Turnera elegans* is a very useful and gay plant; it flowers from April to October in the conservatory, and even out of doors in summer, but it requires a house rather warmer than a greenhouse in winter, and is the first to go off in damp winters. Young plants of it in small pots, well drained, and filled with sandy loam only, might now be put in a spare Melon frame to ripen them off; when they have filled the pots with roots harden them by admitting plenty of air, and in winter place them on a shelf near the glass in a cool part of the stove.

STOVE.

The beginning of September, when slight fires will be necessary in dull or cold weather, is a critical time for stove plants. The house must now be kept more close, air being given in the middle of the day only. An increase of heat by artificial means is more likely to retard the ripening of plants now than if they were left cool and dry. The thermometer, should not, however, be allowed to fall below 60° for the next six weeks, and during this time it is of much importance to keep the atmosphere of the house dry as in the dead of winter. These rules, however, do not apply to plants whose habit is to grow in winter, as is the case with many bulbs, Orchids, and a few other plants. *Clerodendron splendens* is one which grows late in the autumn, and may now be encouraged; it will flower for a long time in the winter, and established plants of it should be forced to grow in the spring or early summer. Like some other plants it requires a long period of rest after flowering.—
W. KEANE.

DOINGS OF THE LAST WEEK.

"It never rains but it pours," is a saying that has held good this week, and coming after refreshing showers, the rain has done much to moisten the soil, almost to as great a depth as the drought had penetrated. Never in our experience had we known the soil to be so dried. In turning up ground after Potatoes, Peas, &c., we found no moisture for fully 18 inches in depth, the soil falling off instead of holding on to the spade, as if it had been as much sand, or burnt clay. What rather surprised us was, that the firmer and less moved the ground previously, the more moist it was when dug up. We do not allude now to cases in which merely the surface of the ground was kept loose and open, and the soil deeper down comparatively firm and unmoved, for in such cases after passing a few inches from the surface the soil was comparatively moist, but we allude chiefly to cases in which the ground had been well

broken for previous crops, and left comparatively open, so that the parching air had more access to greater depths.

In the case of ground with a rather firm surface, though there were numbers of cracks and fissures, and though there would be a free radiation of heat and a free absorption of sun heat, and thus a free evaporation of moisture, there would be no check given to the rising of moisture from greater depths to meet this constant evaporation from the surface. On setting close hand-lights on such firm, apparently dry soil, keeping them on all day, there would often be a plentiful deposition of condensed moisture inside in the morning, and that all the more if the night was starry and comparatively cool, when the air in general was so dry that even a clear starry night could not condense dew from it out of doors. One of the most memorable things connected with the hot dry weather through which we have passed, was the clear, cloudless nights, and yet no deposition of dew, owing, no doubt, to the fact that in many of these nights the thermometer ranged from 60° to 70°. In such cases, in several instances we found that the glass was a better condenser of the vapour in a confined atmosphere, than the blades or rather points of grass and other foliage, of the vapour in the general atmosphere; perhaps owing to the air under the glass becoming hotter than even the open atmosphere.

In the case of mere *surface-stirring* of the soil, we believe that whilst that arrested absorption and radiation of heat, and thus so far modified the evaporation of moisture, it did not greatly interfere with the rising of moisture from beneath; and if so, the more frequent this surface-stirring, so as to break the lines of conduction, the more effectual it would be for preventing the escape of moisture by evaporation; but when the soil was stirred to greater depths, not only would it be dried more effectually by the dry air passing through it, but such a depth—say a foot of open soil, would prevent the free rising of moisture from beneath to supply the place of that so freely absorbed by the dry air. We would be glad if some of our readers would give a better explanation of the facts. As we have endeavoured to explain them, they are in a great measure in unison with the theory and practice of watering to which we have recently alluded. If we are right, the surface-stirring of ground to keep heat out and moisture in, depends more for its effect on the frequency and the shallowness of the stirring than upon its depth; nay, it may be presumed that the greater the depth the less will be the efficiency of the practice, so far as the keeping-in of moisture is concerned. The matter is of importance, as we believe that the heat and dry air were quite as much against our keeping up a good supply of crisp green vegetables, as the want of rain or surface moisture, and for this purpose, as lately alluded to, it would be interesting to know what is the highest temperature in which green succulent Peas, Broad Beans, &c., can be had in the south of Europe and the north of Africa, and where there are no means of watering or irrigation to be resorted to.

The change produced by the rains, and the coolness accompanying them, have acted like the wand of an enchanter. Blue-coloured vegetables are reverting to their bright green. The prophesiers of bad times, who told us there would not be much green grass until about Christmas, are thoroughly astonished. The pastures that cracked under your feet and looked as brown as a highway are now green, and will soon yield abundant forage. Our lawns, brown and more than brown, are now covered with the most beautiful green, showing that the roots had never been much injured. We could scarcely manage some parts with the machine on Friday, the only dry day of the week; and now, after such a soaking day as this of the 22nd, we expect we shall be obliged to mow the longest pieces on Monday.

KITCHEN GARDEN.

Even stunted seedlings of the Cabbage and Broccoli tribes have made remarkable progress during the week. Planted these and whatever we could in open spaces; also, good breadths of Coleworts and the earliest Cabbages, planting so thickly as to move afterwards every other plant—a good plan when watering has to be resorted to.

As our Cabbage ground was not quite ready, and as, unfortunately, the grubs seemed prevalent, we have pricked out a good piece with plants about 4 inches apart in rich soil, and will lift and transplant with the trowel. Prepared also two beds 4 feet wide, and a few inches below the surface enriched almost as much as for Celery, and planted with Leeks, as they will come in when other vegetables may be scarce. Pulled up all the Onions, and will size and string them the first opportunity.

But for the drought, watering being out of the question, our Onions would have been fine; as it is they are smaller than usual, and, therefore, we are pleased with some bushels of fine large ones of last autumn's sowing. The very first planting of these are too large to keep long, but the second planting will keep through most of the winter and be very useful where large Onions cannot well be done without, and on this account we have sown Onions twice, and will sow a few more next month. Such late autumn-sown ones do very well in a moist summer, but in such a dry summer as this the large ones thus obtained are invaluable. When once established and the ground merely surface-stirred to prevent cracking, no drought will prevent these Onions attaining a large useful size. Like autumn-sown Wheat, they take hold of the ground and rather delight in the sunshine. We have traced the roots of autumn-sown Onions 3 feet down from the surface.

Our Mushroom bed in the open shed, notwithstanding all the heat, has done well. We spawned a piece more, and have had the Mushroom house cleared out and will smoke it well with sulphur before whitewashing for the winter, as it is well to do away with all insects and crawling enemies. Young Lettuces are greatly troubled with grubs this season. No doubt these flourished doubly on account of the dry warm weather. The fly has now almost disappeared, at least our young Turnips seem as yet free of it. In reply to a question of Mr. Abbey, we have always forgotten to say that the duty-free tobacco dust that injured our British Queen Strawberry, was applied to the fruit when fruit and foliage were dry, was brushed off after being on some days, and then all well syringed. It did little harm to a few plants of President. There were so few of them that we did not care to smoke or to syringe heavily with any liquid hurtful to the fly, but we will not care to use the powder much for Strawberries again. As a general rule nothing is so searching as smoke, though dusting and brushing are very well in some cases. The great object is to kill the first intruder seen.

This is a good time to make Mushroom spawn for those who use a vast quantity, or who wish to go through the whole process for themselves. For those who use only a bushel, or two or three bushels in the season, they will purchase their spawn much cheaper than they can make it, as after the mere work of making, there is as much looking-after required for two or three bushels as for a hundred or a thousand. Gardeners, if possible, should learn how to do everything connected with their trade; but the doing so in many cases would only be a loss to their employer, and as much behind the times and true economy, as if every family in our cities were to spin and weave, tan and curry, and make all their own clothing and boots and shoes.

FRUIT GARDEN.

Much the same as last week. Owing to the dryness there will be few autumn Raspberries this season, and the sooner the old canes and the very young ones are removed the better. Gooseberries and Currants deprived of their fruit may also be rough-pruned at least, and the shoots shortened. Wherever birds are a pest to buds, the bushes may receive all the pruning that will be necessary until the fruit is fairly set next season.

Apples are swelling well after the wet, and all dropped ones should be picked up. The earliest, as Red Quarrenden, are ready to be gathered.

Peaches and Nectarines out of doors, will in many cases be benefited by a good watering, where the rains have not gone deep enough. Plenty of the engine and clear soot water should be given where the red spider has made its appearance. We have it on two or three trees, because in the hottest weather we could not syringe.

ORNAMENTAL DEPARTMENT.

Managed to pick a good part of our flower beds on the 21st, our only dry day, removing the decayed and seeding flowers as alluded to last week, and even on this the wet day of the 22nd, the difference is very striking between the beds gone over, fresh and gay, and those unpicked, as the faded and seeding blooms look very melancholy. In the case of Pelargoniums, &c., the fading blooms when washed send their dirty colours over other blooms tolerably fresh, and thus spoil the look of those that otherwise would have stood the ordeal of a somewhat continuous rain. We have now a fair supply of water, that will make us tolerably independent for the autumn.

The mowing the now green lawn, the clearing the beds, clipping the edges, and surface-stirring, will be nearly all that will be required, with plenty of sunshine, to give a fine autumn display. Our Pelargoniums were such masses of

flower that we could scarcely obtain cuttings, but we expect to proceed on Monday with propagating for next season, and must be content with small cuttings, so as not to distress the beds. In the wet days, cut down Pelargoniums well hardened out of doors, put in cuttings, potted Cinerarias, Salvias, Ageratums, &c., for winter, potted Primulas, changed plants in houses, potted Balsams, Ferns, Pelargoniums for late blooming, and top-dressed Chrysanthemums, which hitherto we have kept in a shady place to save watering, otherwise we would have had them full in the sun. We shall be able to do so now, and give them manure water plentifully, as soon as they knot for bloom. Many of the hardier stove plants will now and for some time longer do well in the conservatory, and fine-leaved Begonias will do well in a place rather shady; and provided no leaves or other matter fall on their fine foliage, Caladiums will also do in a similar place in a greenhouse until the middle of September, when if at all cool, they will be better transferred to a warmer place to ripen their tubers. These fine-leaved plants often perish because wintered in too low a temperature, and the tubers are green instead of matured.—R. F.

COVENT GARDEN MARKET.—AUGUST 26.

SUPPLIES remain much in the same proportion to demand as last week, prices varying but little. Pears now comprise Bon Cbrétien, Beurré d'Amanlis, Louise Bonne of Jersey, and Gratioli. Apples are Kerry Pippin, Strawberry Pippin, and Nonsuch. Consignments from the Continent are still favourable to the foreigner, and comprise Lettuces, Endive, Cauliflowers, and Carrots, with the usual assortment of Plums and Pears. Potatoe trade steady at last week's quotations.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples ½ sieve	1	6 to 2	Melons..... each	2	0 to 5
Apricots doz.	0	0	Nectarines..... doz.	3	0
Cherries lb.	0	0	Oranges 100	12	0
Chestnuts bush.	0	0	Peaches..... doz.	4	0
Currants..... ½ sieve	0	0	Pears (dessert) .. doz.	2	0
Black do.	0	0	Pine Apples lb.	4	0
Figs doz.	1	0	Plums ½ sieve	3	0
Filberts..... lb.	0	9	Quinces doz.	0	0
Cobs lb.	0	9	Raspberries.....lb.	0	0
Gooseberries .. quart	0	0	Strawberries.. per lb.	0	0
Grapes, Hothouse.. lb.	2	0	Walnuts..... bush.	10	0
Lemons..... 100	10	0	do. per 100	1	0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes doz.	3	0	Leeks bunch	0	4
Asparagus 100	0	0	Lettuce... per score	2	0
Beans, Kidney ½ sieve	4	0	Mushrooms ... pottle	3	0
Beet, Red..... doz.	2	0	Mustd. & Cress, punnet	0	2
Broccoli bundle	0	0	Onions per doz. bchs.	6	0
Brns. Sprouts ½ sieve	0	0	Parsley.....per sieve	3	0
Cabbage doz.	1	0	Parsnips doz.	0	9
Capsicums..... 100	3	0	Peas per quart	2	0
Carrots..... bunch	0	6	Potatoes..... bushel	4	6
Canlidower doz.	0	0	Kidney do.	4	0
Celery bundle	1	6	Radishes doz. bunches	1	6
Cucumbers..... each	0	4	Rhubarb..... bundle	0	0
Endive doz.	2	0	Sea-kale basket	0	0
Fennel bunch	0	3	Shallots lb.	0	8
Garlic lb.	0	8	Spinach bushel	5	0
Herbs bunch	0	3	Tomatoes... per doz.	1	0
Horseradish .. bundle	3	0	Turnips bunch	0	6

TRADE CATALOGUES RECEIVED.

Sutton & Sons, Reading.—*Catalogue of Bulbous Flower Roots, Plants, Seeds, &c.*

Thomas Sampson, Preston Road and Houndstone Nurseries, Yeovil.—*Catalogue of Cheap Flower Roots.*

B. S. Williams, Victoria and Paradise Nursery, Upper Holloway, London, N.—*General Bulb Catalogue, and Catalogue of New and Rare Plants, Fruit Trees, &c.*

Smith & Simons, 1, Buchanan Street, Glasgow.—*Dutch Root List.*

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

HORSFORTH SHOW (*Jas. Hutchinson*).—The schedule states that "no plant will be allowed in the above classes where there is a collection for;" and you were disqualified because you showed a Heath in your collection of stove and greenhouse plants, there being a class for a single specimen Heath. A single specimen cannot be a collection of Heaths, and so you have conformed to the conditions of the schedule. What the Committee evidently meant by the note we have quoted was, that no plant for which there is a separate class, will be admitted in the above classes, but they did not say so. Some competent person should always be employed to prepare such schedules as these, and particularly when prizes of the value of £3 and £40 are at stake. (*A. Z.*)—See the preceding reply.

MILDEW ON ROSES (*E. F. W.*).—"Any ironmonger can supply or pro-

cure for you Parkes's fork. Buy one for strong land with four times, and for light land with five times. Mildew, I hear, is very rife. I see the Hop leaves in my hedges are smeared with it. I hardly know what advice to give, unless I saw the Rose plants. If you have only a few Roses dissolve 2 ozs. of blue vitriol in hot water, add to it three gallons of cold water, and pour it over the affected leaves and stems. Wash out your watering pot well afterwards. Where you see only a spot or two rub it out with your finger and thumb. Cut out all inferior wood affected with it.—W. F. RADCLIFFE."

NEW ROSES (T. M. N.).—Certainly they are raised from seed in the first instance, except a few which are sports.

EXHIBITING TRICOLOR PELARGONIUMS (James Service).—They always look best without their flowers. They should therefore be exhibited flowerless.

SELECT PELARGONIUMS (R. L.).—If you apply to any of the leading nurserymen they would procure you the varieties named. We cannot depart from our rule not to recommend one dealer in preference to another.

STRAWBERRY CULTURE (J. T., Whitechurch).—"The ground having been well manured for Potatoes for several seasons, it will be good enough for young Strawberry plants. The four sorts you name are excellent. Sir J. Paxton is good as an early large Strawberry; Dr. Hogg and Frogmore Late Pine are both first-rate in all respects, and Lucas very good indeed. You will probably not be able to obtain plants of Lucas this season. I advise you by all means to have Cockscomb; the plant never hurns, neither do the berries; it hangs a long time. I finished the season with it, July 13th. I think pig, horse, and cow manure are best for Strawberries, especially the last-named. Guano, blood manure, and soot are also good for them.—W. F. RADCLIFFE."

SUBSTITUTE FOR TURP IN A FERNERY (M.).—We have no faith in the Spargula for making paths in a fernery; but we would remove the grass and substitute gravel, say 4 or more feet in width, and then along the sides of the gravel we would plant the Moss Saxifrage and different Sedums. These we would allow to grow irregularly and cover pieces of the gravel, so that the walks should be anything but uniform in width. All we should want would be merely an irregular space for walking. We know this plan will be picturesque and please you.

BOILER FOR HEATING A VINERY (J. R., Bighton Green).—We have not used Riddell's slow-combustion boiler ourselves, but we have no doubt as to its answering. Do not suppose, however, that any boiler will free you from dust, and do not be led away with the idea that you can heat any boiler with almost no fuel. As to the cleanliness and freedom from smell, that is all right, and there is the improvement.

LAYERING A ROYAL MASCADINE VINE (Amateur).—You are doing quite right with the Vine, but layer it deeply enough, and water frequently. A layer is not quite so good as a cutting.

THINNING ASPARAGUS SEEDLINGS (Idem).—We would not thin the Asparagus until next spring, then leave the plants from 4 to 6 inches apart.

SOFTENING HARD WATER (Aqua).—Expose the hard water a day or two before using it, or add to it a little soda or potash, say an ounce to four gallons.

GARDENS NEAR LONDON (J. T.).—You will find a very complete list in Hogg's "Gardeners' Year-Book," and the "Horticultural Directory." The latter gives the distances from railway stations, and the names of nurserymen as well. It may be had for 2s., or free by post for 2s. 2d.

GARDNER'S PREMIER POTATO (G. A.).—You must have overlooked the fact that "UPWARDS AND ONWARDS" stated that this variety is "not yet in commerce"—in other words, that it is not yet sold by the trade.

STANDARD PLUM AND PEACH TREES (Pecco).—Plum trees as standards would bear well in the open ground in your part of the country. As for Peach trees, though we have known a few instances of their bearing out of doors near London as standards, it would be a waste of space and means to attempt to cultivate in that way the varieties at present known.

CORDON TRAINING (A. B.).—"The proper angle for diagonal cordons is 45°, which represents the nearest approach to that made by a branch with the parent stem. All experience shows this to be the best angle for trees against walls. During the first year, however, it is right to keep the leader to an angle of 70°, so as to promote equal growth on either side. When sufficient extension is obtained, then lower it to 45° for fruiting. In the "Modern Peach-Pruner" it is recommended to plant single cordons on back walls below, say 12 feet high, and to grow a second leader (forming a double cordon), when the wall is lower than 10 feet. From 13 to 14 feet is an excellent height for the back wall of a lean-to house. Mine are 13 feet. I have always adopted, and still prefer, a diagonal wooden trellis of three-quarter-inch rods. If horizontal wires are adopted they must be tightly strained, and guiding rods used besides, to which the leaders should be lightly attached at every 10 inches. The following are some good Nectarines:—Hunt's Tawny, Elruge, Rivers's Orange, Violette Hâtive, Bowden, Downton, Royal Victoria, Pine Apple.—T. C. BRÉHAUT."

WEEKS & Co.'s HOT-WATER APPARATUS (C. L. P.).—Write to them for their "Illustrated Catalogue." They will readily send it to you gratis, and it contains, besides the information you ask for about heating, well-executed coloured drawings of conservatories, greenhouses, and other horticultural buildings. It is really a book for reference on such subjects.

CULTURE OF THE VINE IN AUSTRALIA AND CALIFORNIA (J. V.).—We know of no particular role on this subject; but for Australia and California we should think much the same culture as we give to our Rasp-wood, and the shoot or shoots for next season's bearing, as often practised in the south of Europe.

MANAGEMENT OF CUSTARD APPLE SEEDLINGS (Y. B. A. Z.).—The best way to manage your Custard Apple seedlings (Anona) will be to pot them separately in 4-inch pots, and shift them into larger ones until they are in 12 or 15-inch pots. Keep them in a temperature of not less than 65°, and train the tops to a trellis about 15 inches from the glass. To obtain fruit from such seedlings, curbing the roots in a pot or a tub, and a high temperature, will be best. There are several species and varieties.

PEACHES FLAVOURLESS (E. S., Chelsea).—In such a season we can only ascribe the want of flavour in your Peaches in pits to shading or over-watering. As this is their first year of fruiting we would not repeat the

trees this year, but remove the surface soil in October and fresh surface. If you resolve on repeating, we would do it now.

ERECTING A SMALL GREENHOUSE (Cubitt).—Except stating the width of your proposed house, 8 feet, you hardly afford us sufficient data; but we will give the best answer we can to your questions. 1. As you have than a high wall. Except in a particular place, and to suit some particular circumstance, we would not advise you to sink your pathway, as house will best stand lengthwise north and south, the two planes of glass facing respectively the east and west. A useful place for your purpose would be a house with side and end walls from 2½ to 3 feet in height; ventilators in the wall; apex of the roof 7 feet high from the floor; roof an opening at each end over the doorway. If you double the length of the house, then have two sliding ventilators in the middle. A stove would heat such a house; if doubled, a flue in the centre forming part of the pathway would be best.

FORMING A FRUIT ROOM (J. B. Boyd).—Your room will make an excellent fruit room if you have two or three grated ventilators in the wall just above the floor level, and one in the ceiling, protected by a cowl outside. Then along the walls you could have sparrow open shelves 2½ feet wide, and these 2 to 3 feet apart in height. We have received no plan of a flower garden.

MUSHROOMS IN THE FIELDS (Idem).—We have no Mushrooms yet, but we expect them after the recent rains. The dry summer would cause the spawn to run freely, whether in a field or a meadow. After such a season we have seen them on public roads.

BOILER (W. Oxford).—If, as we presume, your large cylindrical 6-foot boiler, 28 inches in diameter, contains all that width of water, then we would not advise you to use it for heating vineries. Such a boiler would be all right could you fill up the centre, so as to have 3 inches of water all round. However, we may state that many years ago we used a large boiler, like a wash-house copper, and set in the same way, and though it did not heat very soon, it kept heat a long time.

SHOEMAKERS' AND CURRIERS' CUTTINGS FOR VINE BORDERS (Idem).—Curriers' and shoemakers' cuttings will do good to Vines if employed sparingly and well fermented in a heap previous to use.

MINIATURE PLUM TREES FOR ORNAMENTING THE DINNER TABLE (Dulcibella).—There is no difficulty in doing what you propose. If you procure very small young plants they may be improved by bringing them on at first in a pit or frame, but your greenhouse will be the best place for ultimately growing them in during the spring and early summer months. If you proceed from the beginning it would be desirable to have small plants of Sbe or Plum stocks established in small pots, graft them early in spring, and keep them in a frame until the union took place; then as growth proceeds shift them into larger pots, but not using any larger than from 6 to 8 inches in diameter. For pots of these sizes the plants should not be more than from 18 to 24 inches in height, but furnished with bearing wood to the rim of the pots. It would be better, however, to obtain plants grafted and potted, and then growing them in small pots, and pinching-in the shoots in summer, will keep them dwarf and well supplied with fruit buds. The trees should be placed in the greenhouse as soon as the fruit buds swell, and may be kept there until the fruit has been gathered, or they may be set out of doors after the middle of June, when all danger from frost is over, and be there protected from birds, &c. In such a case the pots may be half plunged. For table decoration they will generally look best when taken from under glass with a low temperature for the summer—that is, having little or no artificial heat given to them. For dessert we would prefer such kinds as the Peach Plum, Denniston's Superb, Green Gage, Purple Gage, Kirke's, Jefferson, Reine Claude du Bavi, Coe's Golden Drop, and Coe's Late Red. If you purchase young plants, our leading nurserymen who deal in pot trees would do the very best for you. When once you have your little trees curbed and in a bearing state, which they will be in the second season from the graft, you will have little more trouble with them, except keeping them clean and summer-pinching, and frequent surface-mulching in summer, as after they are in 7 or 8-inch pots they will need no potting for years if the mulching is attended to.

SOILING GLOBE ARTICHOKE SEEDS (A Lady Subscriber).—The seed should be sown in drills 18 inches apart in good, deep, well-prepared soil clear of weeds, and when of a size fit for thinning, single them out to 18 inches apart in the rows.

SEEDLING VINE (Idem).—The Vine should be placed in a larger pot in autumn, and be kept dry from the time leaves fall until growth recommences. It must have rest for a period of two or three months. You can hardly expect it to fruit next spring. The leaf enclosed to us is that of an Orange, or some of that tribe. With respect to the proposed exchange of plants, unless you can find some one in your neighbourhood willing to make the exchange, the only way will be to advertise.

HOLLYHOCKS (Soihull).—Hollyhocks from seed sown in April will flower next year; also plants from seed sown now in gentle heat, the seedlings being potted off in 8-inch pots when they have two or three leaves, kept close and shaded until established, and then hardened-off and wintered in a cold frame, potting when necessary.

SELECT PANSIES (Idem).—Self's: Prince Imperial, purple; Maid of Bath, white; Cloth of Gold. Yellow Grounds: George Wilson, gold, belted with bronze-purple; William Dean, rich gold, light maroon belting; Alexander Whamond, rich yellow, bronze-purple belting; Thomas Martin, golden, belted with bronze and maroon. White Grounds: Queen, white, belted with purple; The Bride, white, bluish purple belting; Lady Lucy maroon. Twelve more are—Self's: Othello, velvet maroon; Miss Ramsay, white; Cherub, yellow. Yellow Grounds: William Austin, yellow, maroon belting; Lord J. Russell, golden yellow and velvet purple. White Grounds: Victoria, medium belt of very dark purple; Miss E. Cochrane, white, deep purple belting; Pladda, white and dark purple; and Attraction, cream white, purple belting.

SOIL FOR CUCUMBERS (T. H.).—We use a compost of turf from a pasture, cut 3 inches thick, placed in alternate layers with dung, putting an inch in thickness of the dung between each layer of turf. We prefer

sheep or cow dung. Our borders are narrow, hence we are obliged to employ good rich soil, otherwise we would employ the turf without any admixture of dung. Sandy peat will grow Cucumbers, and is better without manure.

PROPAGATING CYCLAMENS (M. M.).—The Cyclamen is propagated from seed, and the seedlings flower in two or three years from the time of sowing, but the varieties of *C. persicum* flower under liberal treatment in fifteen or eighteen months.

THE "MODERN PEACH PRUNER" (C. F.).—"I have received great benefit from Mr. Brichaut's 'Peach Pruner.' It is an admirable work, and I recommend it to all gardeners and amateurs.—W. F. RADCLIFFE."

DEFINITIONS (Subscriber).—*Perennials* are plants which live for several years. *Biennials* are plants which are produced from seed one year, bloom and perfect their seed and die the next year. *Triennial* means lasting three years. *Bicolor* is two-coloured, and *Tricolor* is three-coloured. *Herbaceous* plants are perennials, the stems of which die annually. *Zonal* refers to a continuous belt of a different colour from the rest of a leaf's surface.

SHEPTON MALET HORTICULTURAL SHOW (E. Wollen).—The word "sorts" should never be used in a schedule; "varieties" or "species" should be employed, just as the Committee may intend. Under the name of "sorts" three varieties of Liliiums and of Ericas, we think, were admissible.

ROTTLERA AND BALOGHIA (F. G.).—You spell the names wrongly. *R. japonica* is a synonym of *Croton japonicum*, and is quite uninteresting to the gardener, and so is *Baloghia lucida*, a Norfolk Island tree. You will find them described in botanical works.

TROWBRIDGE HORTICULTURAL SHOW (S. W. H.).—If, as you state, an exhibitor showed only eight distinct species in Class 41, for which the schedule requires "nine distinct species," his collection ought to have been disqualified. As Rule 3 specifies that "subjects for competition can on no account be received after 10 o'clock A.M.," and the same exhibitor came "about eleven o'clock, and put up his plants while the Judges were in the other tents," he ought not to have been allowed to exhibit. If the Committee informed the Judges of these facts they would, probably, reverse their decision; but we see that Rule 4 seems to reserve to the Committee a power not to disqualify an infringer of Rule 3.

GRAPES NOT COLOURING (J. Conway).—In the case of such fine Vines and Grapes we can assign no cause for the want of colour in your Black Hamburgs, except the number of large bunches; a few less most likely would have made a difference.

POTATOES SPROUTING (Nemo).—You will find the subject of your inquiry is treated on by "UPWARDS AND ONWARDS" in this week's number, also in page 74.

SEEDLING MELON (G. Mosedale).—The fruit was rather above the average quality of yellow-fleshed Melons, but not superior to many already well known.

PELAGONUMS (H. L. B.).—We presume you wish for the large-flowered or Show varieties, of which the following are good:—Golden Hue, Charles Turner, Conqueror, Selina, William Hoyle, Nahob, Pericles, The High Admiral, Mary Hoyle, Elegans, Progress, and Artist. They are only to be had in perfection in a greenhouse. We presume your plants or cuttings are well established in pots, which are full of roots; in that case they should be repotted at the commencement of September, and be placed in a cold frame, affording full exposure day and night. Tilt the lights at back, using them only for protection from heavy rains and frost. If the cuttings have not been stopped, this must be attended to, cutting them back to three eyes. Early in October remove the plants to the greenhouse, placing them on a shelf near the glass. Give them plenty of air, and no more heat than is sufficient to keep them safe from frost. Avoid damp and watering in winter, only keep the plants gently moving. They may be shifted in December into pots a size larger, and in February they may be stopped, and at the beginning of March have their last shift into 6, 7, or 8-inch pots, according to their vigour.

PROPAGATING MANETTI ROSE STOCKS (A Subscriber).—The readiest mode of propagating the Manetti Rose is by cuttings. In making cuttings take one-year-old shoots, and cut them into lengths of about 1 foot, cutting right across immediately below a bud, and not in a sloping direction. The top should be cut just above a bud, and with a sloping cut. Take out all the eyes or buds except two at the top. In planting it is well to form a ridge, and, dividing it in the centre, put in the cuttings, burying them so as to leave each but one bud above the soil. The cuttings may be put in 6 inches apart, and 2 feet row from row. Each row should represent a ridge about 8 inches high, with the cutting along the centre. The end of October or beginning of November is the best time to put in the cuttings, and by July or August in the following year they will be fit for budding. The soil must then be levelled down from the cuttings, and the bud inserted from 4 to 6 inches from the bottom. The stocks should be budded directly they are uncovered, as the bark then opens freely. The Manetti Rose may be distinguished by its vigorous, erect habit and red spiny appearance, otherwise it is not unlike some other Roses. Once known it is ever afterwards readily distinguished. It is not often that suckers cannot be distinguished from the Rose.

GUERNSEY LILIES (E. G.).—It is quite natural for the flowers to appear before the leaves; but these are generally produced at the same time as, or soon after the flowers. You will soon have foliage. The leaves of the plant sent appear to belong to one of the Jasminea, but we cannot tell the name without flowers in addition to foliage. Afford the plant a rest by keeping it dry in winter, and expose it fully to light and air so as to well ripen the wood.

PEAN LEAVES BLIGHTED (S.).—The leaves sent are destroyed by the black fungus, the appearance of which is attributable to the roots having penetrated into bad, undrained soil. There is no remedy but efficient drainage, and encouraging the production of roots near the surface by top-dressings of rich compost.

GALVANISED IRON WIRE (A. H. H.).—The cost of galvanised wires may be ascertained from any respectable ironmonger. The proper thickness is that of good stout twine or straw, and the wires may be stretched tight by common thumbscrews, the uprights, of course, being first fixed firmly.

FRUIT-TREE ESPALIERS (Idem).—The most profitable way of growing espalier trees is the good old-fashioned horizontal. If you are fond of variety you may try all the various forms of diagonals, obliques, and vertical cordon training; they are very pretty. We would not advise you, however, looking at the profitable side of the question, to experiment too largely at first before having proved the methods yourself.

BOOKS (Hortus).—Dr. Herbert's notes on various bulbous roots are in the Royal Horticultural Society's "Transactions;" in the Appendix to Curtis's "Botanical Magazine;" and in the "Botanical Register." He also published in one volume, in 1837, a work entitled "Amaryllidæ;" your bookseller ought to obtain it for you.

SIZE OF THE COCKSCOMB STRAWBERRY (Reader).—"The Cockscomb Strawberry measured here in the presence of Dr. Parry Hodges, Vicar of Lyme Regis, and Major Digby, was exactly 12 inches. The taps had the inches marked on it. Dr. Hodges wrote to me for confirmation; as I suppose the people of Lyme did not believe it. Before this I measured one, and it was 9½ inches. The Rev. Mr. Hosegood and his wife, both of this parish, called and much admired the Strawberries. I told them of the 12-inch Cockscomb. 'Thst,' said Mrs. Hosegood, 'I never can believe!' So I called my right-hand man, Stephen, and told him to look for the biggest Cockscomb left. He found one, and measured it in her presence. It was exactly 10 inches. 'Now,' said she, 'I can believe!' I gave it to her, and she sent it to her sister, the wife of the Rector of Stowford, Launceston, Cornwall, Mrs. Woolcombe.—W. F. RADCLIFFE."

ROSE MARÉCHAL NIEL IN A POT (L. G. Kay).—"My Maréchal Niels are much the same as yours—luxuriant but flowerless. They will not bloom abundantly till they attain age. I have had a bloom or two per plant, but the gross shoots are blind. Do not cut your plant. It will bloom next year. Merely cut off in the spring the taps of the shoots to a good eye or hard wood, and then it will break and bloom. It is too late to practise this on such a Rose during the present season. It is a Tea-scented Noisette (by family, but not by character), and the members of this family do not like much cutting. They require at times thinning out, the tops of their shoots, when blind, taken off, and the firm side wood shortened a little. All useless spray may be removed at any time.—W. F. RADCLIFFE."

INSECTS (T. M. N.).—The Savoy leaf was covered with Cabbage aphid-dust with lime or tobacco powder, afterwards wash the plants with the garden engine. The insects will probably for the most part disappear now that the rain has come. (*K. B. M.*)—They are slimy grubs, the larvæ of the Pear Sawfly, *Salandria aethiops*. Dust the trees with the powder of fresh-slaughted linc. (*A Constant Subscriber*).—The dead caterpillar sent is that of one of the *Smerinthi*, probably the Eyed or Lime Hawk *Æth.*—W.

NAMES OF FRUIT (J. Douglas).—Your Peach is Bellegarde. (*A. H. H.*)—*Apples*: 1 and 2, Old English Codlin; 3, Kerry Pippin; 4, Fearn's Pippin; 5, Court-Pendu-Plat; 6, Apparently Golden Knob; 7, Probably Court of Wick; 8, Alfriston.

NAMES OF PLANTS (X. Y. Z., Elyth).—We cannot undertake to name florist's flowers. Those you sent had dropped all their petals, with the exception of the Fuchsia. (*T. M. N.*)—It was impossible to determine the name of the withered scrap sent, especially as it was not accompanied with a flower. (*An Old Subscriber, Hounslow*)—The two specimens sent are Oxalises, but too withered for us to identify the species. (*A. B.*)—1, Undetermined, apparently a Pentstemon; 2, *Plumbago capensis*; 3, *Cistus incanus*. The Begonias were too much crushed to be determined with certainty. No. 4 is probably *B. suaveolens*; 5, *B. lucida*. (*A Constant Subscriber, Worcester*)—1, *Polypodium* (*Phymatodes*) *Billardieri*; 2, *Davallia pyxidata*; 3, *Trichomanes radicans*; 4, *Mesembryanthemum imbricans*; 5, *M. spectabile*; 6, *Pilea muscosa*; 7, *Begonia fuchsoides*; 8, *Gasteria verrucosa*; 9, *Nerium oleander* l. pl.; 10, *Cyrtopodium insigne*; 11, *Kalosanthes coccinea*. (*P. B. L., Hesse*)—*Scolopendrium vulgare*, forked variety; *Polypodium* (*Phymatodes*) *vulgaris* *Athyrium Filix-femina*. (*G. Coningsby*)—*Mirabilis jalapa*. (*G. H. E. W.*) 1, *Brunsvigia Josephine*; 2, *Rhamnus libanotica*; 3, *Spiræa Fortunei*. (*North Norfolk*)—*Saponaria officinalis*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending August 25th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 19	29.791	29.612	69	59	65	61	S.E.	.26	Cloudy; densely overcast; heavy rain, cloudy, very dark.
Thurs... 20	29.804	29.838	69	54	65	61	N.E.	.00	Overcast, cloudy; heavy clouds; fine, overcast.
Fri... 21	29.882	29.735	71	52	63	64	S.W.	.00	Hazy, fine; overcast; clear and fine, cold wind.
Sat... 22	29.859	29.775	65	47	64	62	S.W.	.35	Fine, very boisterous; fine, heavy rain; very rough wind.
Sun... 23	29.644	29.275	69	45	64	62	S.W.	.00	Fine, cloudy; very fine; boisterous, very fine at night.
Mon... 24	29.856	29.749	71	46	61	60	S.W.	.00	Brisk wind, fine; very fine; clear and fine; cold wind.
Tues... 25	29.984	29.929	69	40	61	60	N.W.	.00	Clear and fine; cloudy, fine; cloudy, cold wind at night.
Mean	29.774	29.635	69.14	49.00	64.00	62.25	..	0.62	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

DEWSBURY POULTRY SHOW.

(From a Correspondent.)

THIS Show was held under a covered tent on the 19th inst., unfortunately clashing with the one at Rochdale; and this, no doubt, accounts for the fact that the entries of poultry were scarcely so numerous as last year.

The *Pigeons* were numerous and of unusual excellence. In *Pouter* cocks Mr. Horner was first with a good Blue, Mr. Fulton being second and highly commended with a good Black and a White. In hens Mr. Hawley took first and second with excellent Blues; Mr. Fulton being highly commended with a good Black, and commended with a Red of good sound colour, but slightly deficient in length. In *Carrier* cocks the competition for first prize was very close between Messrs. Hawley and Fulton, the latter eventually being awarded second, as the cock was slightly wry-beaked. Both cocks were good, as were also the highly commended pens of Messrs. Fulton and Bulpin. In hens Mr. Hawley was again first with a first-class hen; Mr. Fulton second with a hen not so heavily wattled, but of beautiful style. The highly commended birds were also good. The *Almond Tumblers* were unusually good, Mr. Hawley being first with excellent birds well matched in head and colour; Mr. Fulton second, and very highly commended with birds which made the competition for first very keen. The highly commended and commended pens were good. In *Tumblers*, any other variety, *Black Mottles* were first and *Kites* second, both pairs being splendid. The highly commended pens also were very fair birds. In *Turbits* good *Reds* and *Silvers* were first and second respectively. Mr. Horner's highly commended *Blacks* did not match in crest, they were otherwise the best birds in the class. Both birds were better individually than the winners, but did not make a well matched pair, and were consequently thrown out. In *Barbs* Mr. Horner was first with good *Reds* and second with *Blacks*, the cock in the second-prize pen being something extraordinary, but accompanied by an indifferent hen, which was suffering from disease. Two pens of good *Yellows* were highly commended. In *Jacobins* and *Trumpeters* Mr. Horner had it all his own way, though good birds in each class were highly commended. In *Owls* Mr. Fielding took first and second with the same ease. Mr. Hawley's *Fantails* were a trifle large, but this was overlooked, as they had wonderful tails and carriage. Mr. Horner's second-prize birds were small and fine, as were Mr. Bulpin's highly commended birds. The *Nans* were weak as to numbers, though the prize birds were good. In *Dragoons* Mr. Horner was first with a pair of young *Blues* as stylish as race horses, and which will be heard of again. A pair of nice *Yellows* were second. In *Antwerps Red Chequers* were first and second. "In any other variety" *Black Swallows* were first, *Yellow Magpies* second; *Swiss Ice Pigeons* and *Friillbacks* were highly commended. Mr. Hawley won the silver cup, value £4 4s., for the most successful exhibitor.

COCHIN-CHINA.—First, W. A. Taylor, Manchester. Second, L. H. Ricketts, Banwell. Highly Commended, C. Sidgwick, Ryddlesden Hall, Keighley. *Chickens*—First and Second, C. Sidgwick. Commended, W. A. Turner; G. Dixon, Selby.

SPANISH.—First, J. Thresh, Bradford. Second, W. A. Taylor. *Chickens*,—First and Second, M. Farrand, Dalton, near Huddersfield. Commended, T. & E. Corber, Warrington; M. Egginton, Wolverhampton; W. A. Taylor.

DORRINGS.—Prize, J. Stott, Healey, near Rochdale. *Chickens*,—First, J. Stott. Second, H. Pickles, jun., Earby, Skipton.

BRAHMA POOTRAS.—Prize, E. Leech. *Chickens*,—First, E. Leech. Second, M. Farrand.

GAME (Black Red).—First, G. Noble, Staincliffe, Batley. Second, J. Hodgson, Jowett Old Lane, near Bradford. *Chickens*,—First, G. Noble. Second, H. Jowett, Wrose Hall, Idle.

GAME (Brown Red).—Prize, J. Hodgson. *Chickens*,—First, E. Brough, Leek. Second, J. Fell, Adwalton. Commended, W. Jagger.

GAME (Duckwings, and other Greys and Blues).—First, G. Noble. Second, W. Fell, Adwalton. Commended, W. Bentley. *Chickens*,—First, W. Fell. Second, T. Dyson. Commended, H. Jowett.

GAME (Any other variety).—First, H. C. Mason. Second, F. Holt, Staincliffe. *Chickens*,—Prize, H. C. Mason.

HAMBURGERS (Gold or Silver-spangled).—First, H. Pickles, jun. Second, J. White. Commended, J. Laming, Spalding. *Chickens*,—First and Second, J. Senior. Commended, H. Pickles, jun.

HAMBURGERS (Gold or Silver-peuilled).—First, H. Pickles, jun. Second, J. Laming. *Chickens*,—First, J. Senior. Second, H. Pickles, jun.

HAMBURGERS (Black).—First, C. Sidgwick. Second, S. Butterfield, Keighley. *Chickens*,—First and Commended, C. Sidgwick. Second, S. Butterfield.

POLANDS (Gold or Silver-spangled).—First and Commended, J. Senior. Second, G. W. Boothby, Louth. *Chickens*,—First, J. Senior. Second, T. & E. Corber. Commended, G. W. Boothby.

POLANDS (Any other variety).—Prize, Mrs. E. Procter, Hull. **BANTAMS (Black).**—First, S. & R. Ashton, Mottram, Chesbire. Second, S. Scholefield, Heckmondwike. Commended, T. C. Harrison, Hull.

BANTAMA (White).—First, W. A. Taylor. Second, J. R. Jessop, Hull. Commended, S. & R. Ashton; T. Burton, Dittcar, near Wakefield.

GAME BANTAMS.—First, J. Senior. Second, S. Scholefield. Commended, J. J. Cousins, Chapel Alerton; J. Senior.

ANY OTHER VARIETY.—First and Second, J. Senior.

GAME (Any variety).—Cock.—First, J. Mason, Worcester. Second, E. Aykroyd, Bradford. Hens.—First, E. Aykroyd. Second, J. Mason. Commended, H. Beazland, Bradford.

ANY VARIETY EXCEPT GAME.—Cock.—Prize, J. Senior. Hen.—First, J.

Thresh. Second, J. Senior. Commended, J. Marchant, Hanson Lane, Halifax; M. Farrand.

Ducks (White Aylesbury).—First, E. Leech, Rochdale. Second, M. Farrand.

Ducks (Rouen).—First, E. Leech. Second, J. White, Wakefield. Commended, J. J. Stott.

ANY OTHER VARIETY.—First, S. & R. Ashton. Second, T. C. Harrison.

PIGEONS

POUTER.—Cock.—First, C. Horner, Harewood, Leeds. Second and Highly Commended, R. Fulton, Deptford. Hen.—First and Second, J. Hawley, Bingley. Highly Commended and Commended, R. Fulton.

CARRIER.—Cock.—First, J. Hawley. Second, R. Fulton. Very Highly Commended, R. Fulton. Highly Commended, R. Fulton; C. Balpin, Eridgewater. Hen.—First, J. Hawley. Second, R. Fulton. Very Highly Commended, R. Fulton. Highly Commended, E. Horner.

TUMBLERS (Almond).—First, J. Hawley. Second, R. Fulton. Very Highly Commended, R. Fulton. Highly Commended, J. Fielding, jun., Rochdale. Commended, T. Rule; J. Hawley.

TUMBLERS (Any other variety).—First and Very Highly Commended, J. Hawley. Second, R. Fulton. Highly Commended, T. Rule; R. Fulton; C. Bulpin.

TURBITS.—First, J. Fielding. Second, J. Hawley. Highly Commended, E. Horner.

BARBS.—First and Second, E. Horner. Highly Commended, E. Horner; J. Fielding.

JACOBIANS.—First and Second, E. Horner. Highly Commended, J. Hawley.

TRUMPETERS.—First and Second, E. Horner. Highly Commended, J. Hawley.

OWLS.—First and Second, J. Fielding, jun. Highly Commended, A. Dove, York.

FANTAILS.—First, J. Hawley. Second, E. Horner. Highly Commended, C. Bulpin.

NANS.—First, C. Bulpin. Second, E. Horner.

DRAGOONS.—First, E. Horner. Second, C. Bulpin. Highly Commended, H. Yardley.

ANTWERPS.—First, J. Hawley. Second, C. Bulpin.

ANY OTHER VARIETY.—First, J. Hawley. Second, E. Horner. Highly Commended, J. Hawley; H. Yardley; H. Draycott.

RABBITS.

LOP-EARED.—Buck.—First, M. Millington, York. Second, A. H. Easton, Hull. Highly Commended, H. Yardley, Birmingham; C. Gravit, Thorne, near Doncaster; J. Walker, Batley Carr. Doe.—First, M. Millington. Second, G. Jones, Market Hall, Birmingham. Very Highly Commended, C. Gravit.

ANY OTHER VARIETY.—First, A. H. Easton. Second, H. Yardley. Commended, J. R. Jessop; C. E. Marchant; R. Binns.

JUNCES.—Mr. John Martin, Claines, Worcester; and Mr. T. J. Charlton, Bradford.

WHITBY POULTRY SHOW.

UNFORTUNATELY for this Show the weather proved very unfavourable, rain falling continuously from 10 A.M. until the showyard was altogether closed, and the poultry repacked for their return journey. Although the Committee had placed the birds under canvas, the driving rain soon passed through it, and caused not a few of them to be thoroughly wetted through, and even the majority under such circumstances showed to serious disadvantage. To *Hambourgs*, *Sebrights*, and all such varieties as are dependant on feather this was, of course, a serious drawback, but as all experienced the same exposure, complaints were but few. Of *Game*, the chickens were far superior to the old birds, though a pen of the latter were the most grossly "trimmed" we ever remember to have witnessed. The owner pleading the rules of the Show, as his justification for so doing—viz, "Rule 12.—All pens will be disqualified, if the plumage of the birds has been trimmed, removed, or otherwise tampered with, Game excepted." It certainly as it now stands appears to countenance the very deceit it was intended to prohibit, and indeed needs alteration.

All the water fowls were good classes, and the constant rain detracted but little from their general appearance. The *Geese*, *Aylesbury Ducks*, *Buenos Ayrean Ducks*, and a few of the fancy varieties, being well worthy of especial mention.

In *Pigeons*, the Whitby Show was undoubtedly a very superior one, but from the thoroughly soaked state of their plumage they showed to a serious disadvantage. By some oversight, several pens of *Pigeons* of extraordinary good quality were exhibited of two distinct colours as a pair in the same pen, a feature for which no amount of excellence in other points can make compensation. We regret to hear that only so recently as two years ago the Committee of the Whitby Show had to contend against quite as drenching a day as this year, and we heartily hope more auspicious weather may reward their future exertions.

Subjoined is the prize list:—

DORRINGS.—First, J. White, Warlaby. Second, H. Beldon, Goitstock. Commended, S. Durr, Whitby. *Chickens*,—First, Rev. I. F. Newton. Second, G. Holmes, Driffield. Commended, S. Durr, Whitby; O. A. Young, Driffield; J. White, Warlaby.

SPANISH.—First, H. Beldon. Second, G. Holmes. Highly Commended, T. Blackburn, jun., Broughton. *Chickens*,—First, H. Beldon. Second, G. Holmes. Extra Second, Miss E. Russell. Highly Commended, R. Brown, Warr; Miss E. Russell, Lewisham. Commended, W. Clark, Pickering.

GAME.—First, T. Blackburn, jun. Second, H. Dowsland, Ruston. *Chickens*,—First, T. Blackburn, jun. Second, T. Percival. Highly Commended, R. Akenhead, Otterington; T. L. Gray, Ayton. Commended, T. Lovell.

COCHIN-CHINA.—First, G. H. Procter, Durham. Second, H. Beldon. Highly Commended, H. Dowsland. Commended, G. Calvert, Darlington.

Chickens.—First, R. Brown. Second and Plate, R. Stratford. Commended, T. H. Readman.
BRAHMA POOTRA.—First, E. Leech, Rochdale. Second, J. Walker, Maya Park. Commended, Rev. I. F. Newton.
FRENCH.—First, H. Beldon. Second, W. Stonehouse, Whitby.
HAMBURGHS (Golden-spangled).—First, G. Garbutt, Sinnington. Second, G. Holmes. Highly Commended, H. Beldon. Commended, H. Pickles, Earby; W. Bearpark, Ainderby.
HAMBURGHS (Silver-spangled).—First, H. Beldon. Second, H. Pickles. Highly Commended, J. Walker. Commended, C. Richardson.
HAMBURGHS (Gold or Silver-spangled).—*Chickens.*—First, H. Beldon. Second, G. Holmes. Extra Second, J. Braim. Highly Commended, J. Walker; J. Braim, Briggsath.
HAMBURGHS (Golden-pencilled).—First, H. Beldon. Second, J. R. Jessop, Hull. Commended, J. Braim.
HAMBURGHS (Silver-pencilled).—First, H. Beldon. Second, H. Pickles.
HAMBURGHS (Gold or Silver-pencilled).—*Chickens.*—First, Second and Plate, J. Webster. Highly Commended, J. Walker; H. Beldon.
GAME BANTAMS.—First, W. F. Entwisle, Leeds. Second, R. Brown. Third, H. Horstler, Scarborough. Commended, T. Lovell.
BANTAMS (Any other variety).—First, W. H. Tomlinson, Newark. Second, T. C. Harrison, Hull. Third, G. Richardson. Commended, G. Holmes; H. Beldon.
ANY OTHER VARIETY NOT BEFORE MENTIONED.—First, R. Loft, Beverley. Second, W. Usherwood, Whitby. Commended, O. A. Young (Polands).
DUCKS (Black East Indian).—First and Second, S. Burn. Commended, F. W. Earle, Liverpool; Rev. J. Milner.
DUCKS (Aylesbury).—First, E. Leech. Second, O. A. Young. Highly Commended, J. Braim, Pickering. *Ducklings.*—First, O. A. Young. Second, H. Beldon.
DUCKS (Rouen).—First, J. Braim. Second, G. Garbutt. Commended, W. Dowson, Thornhill; T. E. Pyman. *Ducklings.*—First, H. Beldon. Second, R. Brown.
DUCKS (Any other variety).—First, T. C. Harrison (Pintails). Second, J. Walker (Grey Calls). Highly Commended, H. Beldon (Calls).
GEESE.—First, G. A. Young. Commended, G. Holmes; J. Wilkinson.
GOALINGS.—First and Second, I. B. Braithwaite. Commended, J. Wilkinson.
TURKEYS.—Second, I. B. Braithwaite. *Poult.*—First, G. A. Young. Second, Mrs. W. Ward.
SELLING CLASS (Any variety).—First, R. Brown. Second, J. Coulson (Pencilled Hamburg). Third, T. H. Readman (Buff Cochins).
EXTRA STOCK.—First, J. Jowsey. Second, T. E. Pyman. Commended, W. S. Hornby, York.

PIGEONS.

POUTERS.—First, J. Hawley, Birmingham. Second, S. Burn.
TUMBLERS.—First, J. Hawley. Second, J. Mason, Rooker Hill. Highly Commended, H. Payne.
CARRIERS.—First, H. Yardley. Second, I. C. Ord, London. Highly Commended, G. Sanders, Stokesley. Commended, R. Wilson.
FANTAILS.—First, R. Wilson. Second, H. Beldon. Commended, H. Yardley.
JACOBS.—First, H. Yardley. Second, H. Beldon. Commended, S. Burn; R. Wilson.
TRUMPETERS.—First, J. Mason. Second, H. Yardley. Commended, S. Burn; R. Wilson; J. Hawley.
BARBS.—First, J. Hawley. Second, H. Yardley. Highly Commended, H. Beldon.
ANY OTHER VARIETY.—First, J. Mason. Second, H. Yardley. Highly Commended, H. Yardley; S. Burn (Nuis); H. Beldon.
SALE CLASS.—First, H. Beldon. Second, S. Burn. Commended, J. Mason; R. Mitchellson; C. Lythe.

Mr. Edward Hewitt, of Sparkbrook, Birmingham was the Judge.

BURNLEY POULTRY SHOW.

THE fourth annual Exhibition in connection with the Burnley Agricultural Society, took place on the 20th inst., at Burnley. In all respects the Show may be regarded as the most successful which has been held in this part of the country. The collection of poultry was fine, including a magnificent lot of *Pigeons*, exhibited by Mr. J. Hawley, of Bingley, who was awarded most of the prizes in the various classes, and consequently the special prize of a silver cup, value £5 5s., which was offered to the exhibitor who obtained the greatest number of prizes in this class.

GAME (Black or Brown Red).—*Chickens.*—Prize, J. Carlisle, Earby Skipton. *Cockerel.*—Cup, J. Fletcher, Stoneclough.
GAME (Any other variety).—*Chickens.*—Prize, T. Dyson, Halifax. *Cockerel.*—Cup, R. B. Riley, Ovenden.
SPANISH.—*Chickens.*—Prize, J. Newton, Silsden.
DORKING.—*Chickens.*—Prize, H. Pickles, jun., Earby, Skipton.
COCHIN-CHINA.—*Chickens.*—Prize, C. Sedgwick, Keighley.
HAMBURGH (Golden-spangled).—*Chickens.*—Prize, W. Driver, Keighley.
HAMBURGH (Golden-pencilled).—*Chickens.*—Prize, S. Smith, Halifax.
HAMBURGH (Silver-spangled).—*Chickens.*—Prize, J. Fielding, Newchurch.
HAMBURGH (Silver-pencilled).—*Chickens.*—Prize, H. Pickles, jun.
BRAHMA POOTRA.—*Chickens.*—Prize, E. Leech, Rochdale.
GAME BANTAM (Black or Brown Red).—*Cockerel.*—Prize, W. F. Entwisle, Leeds.
GAME BANTAMS.—Prize, W. F. Entwisle.
BANTAMS (Any variety).—Prize, R. B. Riley.
ANY OTHER VARIETY NOT NAMED.—*Chickens.*—Prize, J. Robinson, Fallsworth.
DUCKS (Aylesbury).—Prize, E. Leech.
DUCKS (Rouen).—Prize, T. Houlker, Blackburn.
DUCKS (Any other variety).—Prize, C. W. Brierley, Middleton.
GEESE (Any colour).—Prize, E. Leech.
TURKEYS (Any variety).—Prize, E. Leech.
SELLING CLASS.—*Turkeys (Any variety).*—Prize, J. Newton.
PIGEONS.—*Carriers.*—Prize, G. Charnley, Preston. *Pouters.*—Prize, J. Hawley, Bingley. *Tumblers (Almond).*—Prize, J. Hawley. *Tumblers (Mottled).*—Prize, J. Hawley. *Tumblers (Any variety).*—Prize, J. Hawley.

Barbs.—Prize, J. Hawley. **Owls.**—Prize, H. Yardley, Birmingham. **Trumpeters.**—Prize, J. Hawley. **Jacobins.**—Prize, J. Hawley. **Fantails.**—Prize, J. Hawley. **Turbits.**—Prize, J. Thompson, Bingley. **Antwerps.**—Prize, W. Wilding, Burnley. **Any other Variety.**—Prize, A. Smith, Skipton. **Selling Class (Any variety).**—Prize, H. Yardley.

JUDGES.—Mr. John Martin and Mr. Tegetmeier.

WHITWORTH AND ROCHDALE POULTRY SHOW

THIS was held on the grounds of W. E. Roys, Esq., Rochdale, on the 19th inst. The following is the prize list:—

SPANISH.—First and Cup, H. Beldon, Goitocok. Second, T. C. and E. Newbitt, Epworth, near Bawtry. Highly Commended, N. Cook, Chobent. *Chickens.*—First and Second, M. Farrand, Dalton, Huddersfield.
COCHINS (Cinnamon and Buff).—First, H. Mapplebeck, Moseley, Birmingham. Second, C. Sidgwick, Ryddlesden Hall, Keighley. *Chickens.*—First, Cup, and Second, C. Sidgwick.
ANY OTHER VARIETY.—First, T. Stretch, Ormskirk. Second, C. W. Brierley, Middleton. *Chickens.*—First, J. A. Taylor, Manchester. Second, C. Sidgwick.
BRAHMAS.—First and Cup, W. Hargreaves, Bacup. Second, J. Rawstron. *Chickens.*—First, G. H. Roberts, Penwortham, Preston. Second, J. Sickle, Timperley.
GAME.—First, Cup, and Second, C. W. Brierley. Highly Commended, L. Biney, Manchester. *Cock.*—First and Second, C. W. Brierley. *Chickens.*—First, T. Statter, Whitefield. Second, J. Carlisle, Earby, near Skipton. Highly Commended, R. B. Riley, Ovenden, near Halifax.
POLANDS.—First and Second, H. Beldon. Highly Commended, P. Unsworth, Sandy Lane. *Chickens.*—First and Second, H. Beldon. Commended, P. Unsworth.
HAMBURGHS (Golden-spangled).—First, T. Walker, jun., Denton, near Manchester. Second, E. Brierley, Heywood. Highly Commended, H. Beldon. *Chickens.*—First, H. Beldon. Second, T. Scholes, Hollingwood, Oldham. Highly Commended, T. Walker, jun.
HAMBURGHS (Silver-spangled).—First, H. Beldon. Second, H. Pickles, jun., Earby, Skipton. Highly Commended, J. A. Taylor. *Chickens.*—First and Cup, H. Pickles, jun. Second, J. Fielding, Newchurch, near Manchester. Highly Commended, J. Fielding. Commended, W. H. Bentley, Hipperholme; J. Robinson, Fallsworth.
HAMBURGHS (Golden-pencilled).—First, H. Beldon. Second, H. Pickles, jun. *Chickens.*—First, H. Beldon. Second, H. Pickles, jun. Highly Commended, S. Smith, Northwram, near Halifax. Commended, T. Wrigley, Tonge, near Middleton; J. Robinson.
HAMBURGHS (Silver-pencilled).—*Chickens.*—First, H. Beldon. Second, Duke of Sutherland, Trougham. Highly Commended, H. Pickles, jun.
HAMBURGHS (Black).—First, C. Sidgwick. Second, J. Robinson. *Chickens.*—First, C. Sidgwick. Second, J. Robinson. Highly Commended, T. Grafton, Castleton Moor, Bluepits; C. Sidgwick.
DORKINGS.—First and Cup, J. White, Warley. Second, Hon. W. H. W. Fitzwilliam, Wentworth Woodhouse, Rotherham. Highly Commended, Mrs. Arkwright, Etwell Hall, Derby; C. W. Brierley; W. H. King, Moss Mill, near Rochdale. *Chickens.*—First, T. Briden, Earby. Second, H. Pickles.
ANY OTHER DISTINCT VARIETY EXCEPT BANTAMS.—First, Hon. W. H. W. Fitzwilliam. Second, J. K. Fowler, Aylesbury. Highly Commended, N. Cook, Chobent. Commended, J. Holroyd, Rochdale.
GAME BANTAM COCK.—First and Cup, W. F. Entwisle, Leeds. Second, T. Barker, Hill End, near Burnley.
GAME.—First, W. F. Entwisle. Second, J. Adkins, jun., Walsall.
ANY OTHER VARIETY.—First, T. Burgess, Brighthouse. Second, T. C. Harrison, Hull. Highly Commended, H. Ashton, Prestwich.
DUCKS (Aylesbury).—First, Mrs. M. Saamons, Aylesbury. Second, J. K. Fowler, Aylesbury. Highly Commended, E. Leech, Rochdale.
DUCKS (Rouen).—First and Cup, E. Leech. Second, S. H. Stott, Quarry Hill, Rochdale.
ANY OTHER VARIETY.—First and Highly Commended, C. W. Brierley. Second, T. C. Harrison.
GEESE.—First, T. Statter, jun. Second, J. K. Fowler. Highly Commended, S. H. Stott; E. Leech.
TURKEYS.—First, Cup, and Second, E. Leech.
SELLING CLASS.—First, W. A. Taylor. Second, E. Ryder, Harrytown, Stockport. Highly Commended, S. H. Stott; E. Leech; E. Buckley, Rochdale; W. Lamb, Rochdale. Commended, Bowman & Fearon, Whitehaven; D. Haworth.

PIGEONS.

POUTERS.—*Cock.*—Cup, F. Crossley, Elland. Second, H. Harvey. Highly Commended, R. Fulton, Deptford. *Hen.*—First, W. R. and H. O. Bleakinsop, Newcastle-on-Tyne. Second, F. Crossley.
CARRIERS.—*Cock.*—First, G. H. Roberts, Penwortham. Second, F. Crossley. Highly Commended, F. J. Wiltshire, West Cropton; G. Charnley, Preston. *Hen.*—First, R. Fulton. Second, F. Crossley. Highly Commended, J. Fielding, jun., Rochdale. Commended, W. R. and H. O. Bleakinsop.
TUMBLERS (Almond).—Cup, F. J. Wiltshire. Second, F. Key. Highly Commended, F. Crossley; R. Fulton. Commended, R. Fulton.
BALDS OR BEARDS.—First, Second, and Highly Commended, J. Fielding, jun.
TUMBLERS (Any other variety).—First, R. Fulton. Second, R. Minnitt, jun., Henley.
OWLS.—Cup and Second, J. Fielding, jun. Highly Commended and Commended, F. Crossley.
BARBS.—First, Capt. Heator, Lower Broughton, Manchester. Second, F. J. Wiltshire. Highly Commended, Capt. Heaton; P. H. Jones. Commended, Capt. Heaton.
DRAGONS.—First, T. Charnley, Blackburn. Second, P. H. Jones. Highly Commended, E. Carlisle, Rishton, near Blackburn; F. Crossley; R. Wilson, Thirsk.
TRUMPETERS.—First and Second, E. Horner, Harewood, Leeds. Commended, E. Sheermap, Chelmsford, Essex; P. H. Jones; Jesse Thompson, Bingley.

TURBITS.—First, R. Fulton. Second, R. Wilson. Highly Commended, P. H. Jones; Jesse Thompson.

JACOBINS.—Cup, E. E. M. Roysds, Greenhill, Rochdale. Second, Jesse Thompson. Third, P. H. Jones. Highly Commended, T. C. & E. Newbitt. Commended, F. Else, Baywater.

FANTAILS.—First, C. Bulpia, Bridgewater. Second, T. C. & E. Newbitt. Commended, E. Horner, Harewood, near Leeds.

MAGPIES.—First and Commended, E. Horner. Second, P. H. Jones. Highly Commended, J. Percivall, Peckham, London.

ANY OTHER VARIETY.—First, P. H. Jones. Second, H. Yardley, Birmingham. Commended, H. Yardley; Jesse Thompson; J. Clark, Thirsk.

ANY BREED.—First, Capt. Heaton. Second, E. Horner. Commended, J. S. Skidmore, Naantwich.

JUDGES.—Mr. Richard Teebay, Fulwood, Preston, Mr. John Douglas, Clumber Park, near Worksop, and Mr. J. Shorthose, Cramlington, near Newcastle-on-Tyne, for *Poultry*; Mr. W. B. Tegetmeier, Muswell Hill, London, and Mr. D. Woolstenholme, London, for *Pigeons*.

HUNSLET (LEEDS) POULTRY SHOW.

This Exhibition was held on the 17th and 18th inst., but the birds shown were, as a rule, very indifferent. The *Hamburgh* and *Game Bantam* classes, however, were exceptions, some magnificent Golden-pencilled chickens being shown in the former, and some exquisite Black Red Bantams in the latter class. In Spangled *Hamburghs* Mr. Preston, of Allerton, took first both for Gold and Silvers, while Mr. Perrin, of Killingbeck, Leeds, took every prize in the Pencilled classes—Gold and Silver.

Pigeons and *Rabbits* were very indifferent, and nearly all the first prizes in these classes were withheld. Subjoined is the prize list:—

DORRINGS.—Prize, J. B. Brittain, Leeds Pottery.
SPANISH.—First, W. F. Pickard, Thorne. Second, J. Squire, Rothwell.

COCHINS.—First, T. Wilcock, Morley. Second, H. B. Atkin, Hunslet.
GAME (Black-breasted and other Reds).—Prize, T. Wilcock.
GAME (White or Pils).—First, T. Wilcock. Second, — Dixon, Hunslet.

HAMBURGERS (Gold-pencilled).—First and Second, F. Perrin, Killingbeck, Leeds.

HAMBURGERS (Silver-pencilled).—First, F. Perrin.

HAMBURGERS (Gold-spangled).—First, J. Preston, Allerton, near Bradford. Second, T. Wilcock.

HAMBURGERS (Silver-spangled).—First J. Preston. Second, T. Wilcock.

POLANDS (Any variety).—Prize, F. Perrin (Golden).

GAME BANTAMS (Black-breasted and other Reds).—First, W. Cousins, Chapel Allerton. Second and Highly Commended, W. F. Entwisle.

TURKEYS.—First, W. Taylor, Osmanthorpe. Second, O. Grosvenor and Son, Hunslet.

GESE (Dark).—First, W. Taylor. Second, O. Grosvenor & Son.

GESE (Light).—Prize, J. Newton, Chapelton.

DUCKS (Rouen).—Prize, — Nicholson, Middleton Hall.

DUCKS (Aylesbury).—Prize, W. Taylor.

GUINEA FOWL.—Prize, — Aykroyd, Armley, near Leeds.

Mr. H. C. Mason, of Drighlington, and Mr. J. Mitchell, of Hipperholme, were the Judges.

MEIGLE POULTRY EXHIBITION.

The fourth annual competition of the Meigle Horticultural and Poultry Association came off in the play-ground, Meigle, on the 19th instant. The number of entries was large, and, as Admiral Popham remarked when awarding the cups, "there was not a worthless pen in the whole place." Among the competitors were persons of all conditions and ranks, from the Duke of Newcastle downward. Lord J. F. Gordon Hallyburton, P. W. Ogilvy, Esq. of Ruthven, and the Hon. the Countess of Strathmore were among the competitors, and all of them obtained prizes. The chief prize—a silver cup, value £9—was awarded to a pen of Brahmas six months and a half old, belonging to Mr. Keith Jopp, wine merchant, Aberdeen. There was no mistake in the award, although the second pen (P. W. Ogilvy's of Ruthven) was not far behind. The second cup—£3, was awarded to Mr. Andrew Bruce, Airlie, for a pen of Dorkings four months and a half old. The Game shown was of the very highest class, and a finer pair than gained the first prize in Class VI. is seldom if ever seen. In the course of his remarks in presenting the cups, Admiral Popham paid a high compliment to the Chairman, Secretary, and Committee under whose auspices the Show had been got up.

DORRINGS.—First and Second, G. Allan, Balhary. Third, L. McDonald, Durdie. Commended G. Allan, *Chickens*.—First, P. W. Ogilvy. Second, T. Raines, Stirling. Third, D. Gellatly, Meigle. Commended, A. Bowie, Carnoustie.

SPANISH.—First, M. Turnbull, Melrose. Second Mrs. Anderson, Meigle. Third, Countess of Strathmore. *Chickens*.—First, Mrs. Anderson. Second, D. Gellatly. Third, M. Turnbull. Commended, Bowman and Fearon, Whitehaven.

GAME.—First, K. Nicol, Carnoustie. Second, P. Mitchell, Perth. Third, D. Crichton, Ruthven. Commended, D. Gellatly. *Chickens*.—First, Duke of Newcastle. Second, P. W. Ogilvy. Third, W. Meldrum, Forfar. Highly Commended, H. Goodall, Kirkcaldy. Commended, W. Meldrum.

BRAMMAS.—*Chickens*.—Cup and First, K. Jopp, Aberdeen. Second, P. W. Ogilvy. Third, K. Jopp. Commended, T. Raines.

COCHIN-CHINA.—*Chickens*.—First, Duke of Newcastle. Second, Bowman and Fearon. Third, Mrs. Hendry, Aberdeen.

HAMBURGH.—*Chickens*.—First, Mrs. Farquharson, Invercauld House. Second, W. R. Park, Melrose. Third, R. McGregor, Perth. Highly Commended, Mrs. Farquharson. Commended, Mrs. T. Kydd.

BANTAMS.—*Chickens*.—First, Bowman & Fearon. Second, P. W. Ogilvy. Third, T. Raines. Commended, P. W. Ogilvy.

ANY OTHER DISTINCT VARIETY.—First, P. W. Ogilvy (Brahmas). Second, A. Robertson (Brahmas). Third, D. Gellatly (Cochins). *Chickens*.—First, W. R. Park (Crève-Cœur). Second and Third, P. W. Ogilvy (Houdans).

ANY VARIETY.—*Chickens*.—First and Second, P. W. Ogilvy (Dorkings and Game). Third, D. Gellatly (Dorkings).

EXTRA PRIZE.—*Ducklings*.—First and Second, P. W. Ogilvy. Third, D. Gellatly. Commended, J. Sharp.

GESE.—First, Mrs. Ballioggall, Cookston. Second, Mrs. Barclay, Simprim. Third, Countess of Strathmore.

TURKEYS.—First, Countess of Strathmore. Second, Miss A. Kinloch, Kinloch. Third, Lord J. F. Gordon.

SELLING.—First, P. W. Ogilvy. Second, — Anderson. Third, D. Gellatly.

DORRINGS.—First and Third, D. Gellatly. Second Mrs. White. Commended, Mrs. Duncan. *Chickens*.—Cup and First, A. Bruce, Airlie. Second and Third, D. Gellatly. Commended, G. Allan.

SPANISH.—First, Mrs. Anderson. Second, D. Gellatly. Third, Mrs. Tait, Meigle. *Chickens*.—First and Second, Mrs. Anderson. Third, D. Gellatly.

HAMBURGERS.—*Chickens*.—Prize, J. Whitton, Ruthven.

ANY OTHER DISTINCT VARIETY.—First, D. Gellatly (Game). Second, G. Mustard (Game). Third, G. Cuthill, Drumkilbo. *Chickens*.—First, G. Mustard (Game). Second, D. Gellatly (Cochins). Third, Miss Anderson, Meigle (Russian Dorkings).

DUCKS.—First, J. Whitton. Second, G. Cuthill. Third, G. Allan. *Ducklings*.—First, A. Bruce, Hole. Second, Mrs. Hill, Braideston. Third, G. Cuthill.

COCHINS.—First, W. Simpson, Cardean. Second, G. Cuthill. Third, W. Simpson.

PIGEONS.—First, J. Sharp. Second, Mrs. Hendry. Third, D. Gellatly. Very Highly Commended, W. R. Park.

The Judges were Mr. Redpath, Edinburgh, and Mr. Brown, Perth.

PIGEON-JUDGING.

I HAVE read from time to time with much interest the various articles on Pigeons that have appeared in "our Journal." Many have been instructive, some abusive, and a few humorous; also there are a few of another character, that of fault-finding, and the faults seem, according to their showing, to rest with the judges of the different shows.

I shall confine myself in this instance to the article on Pigeon-Judging (page 104), by "A YOUNG FANCIER," in which at nearly the commencement he puts forth a statement of "unfairness" with regard to the Judges at the last Birmingham Show.

Now, if there was anything unfair in the matter, I consider myself solely responsible for it. No one who knows those gentlemen who compose the Birmingham Show Committee (and I have had that honour seventeen or eighteen years), but will say that they always do all that possibly lays in their power to render justice to every one without fear or favour.

"A YOUNG FANCIER" says one of the Judges was appointed at the "eleventh hour." "Was that fair?" Why not fair? Why unfair at the eleventh hour more than any other, I am at a loss to know. I should say it was better, the Judge not knowing until the eleventh hour that he was to judge. However, this was not the case. I was written to to know if I would act as Judge as usual. I replied in the affirmative. From future letters I found to my great regret my old friend and colleague, Mr. Cottle, could not attend. Some names were suggested, I suggested some. Amongst those I suggested was that of Mr. Hedley, believing him to be a good fancier of certain classes of birds, and honest in his dealings; also, Mr. Tegetmeier. Of the latter there was a doubt about his being able to come, and a few days before the Show I was told of the great increase in the entries. Seeing Mr. Hedley the night before the judging, I said I was afraid that there would be more to get through on the morrow than could be done properly, but it would depend much on the classes that were strongest; and although he had entered and paid for several pens of birds, I asked him if he would mind acting as Judge should I deem it requisite to call in the aid of another. To this he at first demurred, but finally said he would, and would look up in the morning to see if he could be of any service. I confess I was anxious, as Mr. Tegetmeier was in delicate health, and it was a heavy day's work. Mr. Hedley came, and I considered the interests of the exhibitors would be much better served by my asking the Committee for another Judge to assist by taking certain classes. Mr. Hedley did assist, forfeited his money paid on his several pens, and also his prizes, for he assuredly would have taken more than one, and for so doing he is abused. As I said before, the whole blame, if any, rests with myself, and it would be unjust in me did I not now state it after what has been said.

My reasons for acting as I did were these: I found by the

large number of entries that it would be almost impossible to get through these carefully, bird by bird, before dark, and every good fancier will, nay, must admit, that judging by the light of a lantern is scarcely judging at all, especially when the Judges have to deal with the delicate colours of many of the varieties. The very fact of my wishing to be fair to everyone has brought down the accusation of unfairness. I have always been most anxious since I have had the honour of judging that everyone should have justice done him as far as my ability as judge extended, and I did not think that on this occasion it could be rendered without help. I think instead of the case being said to be unfair, it was the most fair thing I could do.

It has been said, also, that the Judges at the various shows are incompetent, &c., and have but a slight knowledge of many of the breeds, and often more of the exhibitors—that is to say, they favour the latter. For my own part, I have kept within the last thirty years almost every variety of Pigeon (as also my friend Mr. Cottie), and I have bred them and won many prizes with birds bred by myself. Amongst my several pens are two of the Birmingham silver cups, one of them the only ten-guinea cup ever offered for Pigeons at this Show; besides which I have had the honour of acting as Judge at Birmingham and elsewhere many years, having had the pleasure of handling and comparing very many of the best birds in this country; also in my profession as an artist I have sketched many of them, thereby still more closely observing their beauties and defects. Further, I can say that when I have entered the showyard to judge, I have not known to whom any of the birds belonged, and with very few exceptions I have been in the same ignorance when I left. I go to judge the birds not the owners, and I can confidently say that I never acted unfairly in judging at any show in my life, for I consider if a judge cannot be depended on there would soon be no exhibitors. I have endeavoured, and I trust partly succeeded, both by pen and pencil to bring the domestic Pigeon and its beautiful varieties as much and as favourably before the public as possible. These endeavours commenced many many years ago, when there were but here and there a few gentlemen banded together for the purpose of keeping up certain breeds. The love of Pigeons has grown rapidly, grown even beyond my utmost expectations, which is much pleasure to me, but yet in my opinion the fancy wants heart.

In conclusion, the office of judge is a pecuniary loss to me, and I shall be very happy to resign my post, with my employers' consent, to any one whom the great body of exhibitors have more confidence in, and as for myself at some future day I may again be found at some of the shows, as heretofore, an exhibitor. But I am willing to act as judge as long as I can be of service.

Now, a word to the exhibitors. Much has been said about the Judges. As a rule, if possible, I generally stay in Bingley Hall on the Monday to give the exhibitors the reasons why their birds have often lost, &c. I am obliged to be blunt, and I have to say things frequently which hurt my feelings. To one, perhaps, it is the birds were very much trimmed; to another, ill-matched; to another, worse matched—two cocks; to another, as badly matched—two hens; to another, your birds were dyed in feather; to another, your birds were dyed around the eyes; to another, two tail feathers wanting (this, of course, was in catching the bird, quite an accident); sometimes flight feathers from the same cause. In short it falls to the lot of the Judges to find out by time and trouble the mean and paltry tricks to which their fellow men resort to obtain a few pounds that ought strictly to belong to others who show more honestly. Nor does the fraud end here, for these birds are often bought as good, and sometimes by a young beginner, who at once becomes disgusted with the fancy.

Then there is the borrowing of birds (these are not *bona fide* property), to gain a medal or a cup. Think, ye that do this.

Another word. This to the public. When you pass the pens of poultry and Pigeons, and you think the Judges have erred here and there, look well to those birds and, perhaps, like them, you will discover the reason why they obtained no reward of merit though seemingly they deserved it.—HARRISON WEIR, *Wcirleigh, Brenchley, Kent.*

DRAGOON PIGEONS.

I NOTICE in your Journal of June 4th, a letter from "WILTSHIRE RECTOR" upon the Horseman and Dragoon Pigeon. I also find in the number for June 18th, the same subject taken up

and enlarged upon by two other fanciers—viz., "A FOREIGNER" and "J. I. B.," and in a subsequent number I also find Mr. Crossland gives his experience of the Antwerp Pigeon. I, like the last-named gentleman, should have preferred writing on the subject at an earlier period, but have been unable to do so.

I have been, and still am, a great admirer of Dragoons. I have kept them for years, and at one time had few others, and having at the present time about forty show birds of this variety (various colours), my ideas may, perhaps, be deemed worthy of some notice.

In the first place, in reviewing "WILTSHIRE RECTOR's" remarks, I must say I cannot agree with him that there should be any distinction acknowledged between the Horseman and Dragoon. My opinion is, that they are one and the same (as their name signifies), and do not admit of a line being drawn between them, for it would only make more complicated the difficulty experienced in severing the Dragoon from the Carrier. Accepting "WILTSHIRE RECTOR's" quotation from Moore's work of the Latin titles of the two varieties, the Horseman, "*Columba tabellaria minor*;" the Dragoon, "*Columba tabellaria minima*," and adding the Carrier, "*Columba tabellaria major*," I think it must be quite apparent that these names intimate that they are simply various grades of one kind, and that they are so must be obvious to any one who has studied them.

Now, "WILTSHIRE RECTOR" says, "As Carriers should be always Black or Dun, so the Horseman and Dragoon should never be of those colours." Thus I gather from this and other portions of his letter, that he allows *only* of Black and Dun Carriers, and ignores Blues and Whites altogether, which I am much surprised at. That Blacks and Duns are generally the best few would deny, but to ignore the others is quite unreasonable.

I know the difficulty of procuring Carriers of a good Blue colour, and I also know the scarcity of good Whites; but there are some splendid specimens of both kinds, and that is why we should rather value them more. I have myself a pair of Blue Carriers, both good, but the hen is a perfect bird, and from the many smoky specimens exhibited, I think it would be well to encourage the fancier to endeavour to improve the Blues and raise them to the level of the others. The superiority of the two varieties I attribute to the encouragement that breeders have had to cultivate Blacks and Duns, whilst the others have been allowed to a certain extent to degenerate. I believe that if a class were formed for them at most of our shows, instead of only a few, the fancier would be stimulated to cultivate Blues and Whites, which of late have been considerably neglected. I will not dwell upon this point, but will leave it to Carrier fanciers to decide. However, I would say, that the Black Carrier, in my opinion, is certainly the variety to be preferred from its uniform raven blackness, which contrasts so beautifully with the light-coloured wattle and rich bright eye, which in the other varieties is comparatively lost. The Blacks and Duns are also more numerous, from the fact that the colour does not require the same care to produce as the Blues; for Blacks and Duns are frequently paired together for breeding, with but little fear of their progeny being spoiled, as far as colour is concerned.

Dragoons are of five acknowledged colours—Blue, Silver, White, Yellow, and Red. Pied and Mottles, as "WILTSHIRE RECTOR" mentions, are as yet not acknowledged, but are merely the result of an injudicious cross between some of the above-mentioned varieties. Dragoons are certainly the most graceful of the Pigeon tribe. There are others which ought to be much admired for their pretty gay appearance, their rich and varied colours, their compact little form, their large size, their aerial performances, or the other many qualities which the numerous kinds possess, yet, in my opinion, the Dragoon is second to none for symmetrical and graceful form and nice proportions, which should commend them to the notice of the fancier, if they had no other recommendation.

Our friend "WILTSHIRE RECTOR" suggests that neither Dragoon nor Horseman should be lost sight of, but that their characteristics should be clearly given. I wonder who will be found to give a properly-defined description of the difference between the Horseman and Dragoon. I would recommend that no one should attempt to do so, it would only make "confusion worse confounded."

The show Dragoon should partake much of the general outline of the Carrier, possessing all the beauty of form and carriage without being so coarse in appearance as the Carrier is when above two years old. I contend that Dragoons should

be Dragoons from the time they are hatched until their death, whatever age they may be, and not a Horseman when young, a Dragoon at middle age, and a Carrier when old. I have myself taken a prize with a young Carrier hen, shown as a Dragoon at four months old, and when about fourteen months she was highly commended in the Carrier class when competing with Blacks and Duns of various ages, and I know that similar cases are numerous where time only has transformed them into another variety. I appeal to Pigeon fanciers, Should this be the case? Let us draw a distinct line, then.

Dragoons should be moderate-sized birds, very much smaller than good Carriers. They should have a long, straight, black beak, narrow skull, large and bright orange-coloured eyes, rather prominent but not protruding too much. They should have but little wart or wattle either on the beak or round the eye; that upon the beak should be neatly packed on the top, and not overhanging the sides of the beak; it should also be well tilted at the back—that is, raised to the bend of the top of the head, which together with the lump at the back of the skull adds to the length of the head. This, by-the-by, should not be too long, $1\frac{1}{2}$ inch or $1\frac{1}{4}$ inch is quite long enough; that of a good Carrier should be $1\frac{1}{2}$ inch, or as much longer as you like, measuring from the centre of the eye to the end of the beak. The eye-wattle of the Dragoon should be small but circular, and not pinched-in at the back; the neck should be long and thin, and nicely tapered; the shoulders or butts of wings should be wide and prominent; the body wedge-shaped; the legs and thighs long, and should show the angle distinctly; the feet large; the colour uniform with the exception of the neck, which in all is more or less beautifully resplendent with rainbow tints, which are more distinct in Blue and Black Pigeons generally than in the other colours.

With regard to the colour of Blue Dragoons there is a diversity of opinion. Mr. Percivall (a Dragoon fancier), and myself had a little controversy some time ago in this Journal, and I think the only difference in our opinions is, that I would admit the light-rumped and white-rumped birds to a share of favour, whilst Mr. Percivall considers any variation in colour a positive defect. This point I leave; but still I hold that what is lost in one particular is amply made up in the richness, transparency, and brilliancy of colour and contrast in the lighter-coloured birds. Blue Dragoons should be of a bright colour on the sides of the wings and across the upper part of the back, but in nearly all cases and all kinds of blue Pigeons this tint will be found to soften towards the lower extremity, and whatever tint that may be a corresponding shade is to be found under the wings, belly, and thighs. The head, I should mention, ought to be rather darker than the sides of the wings, and terminating in a circular shape at the ends of the hackle. The bars upon the wings should be neat, narrow, and jet black.

Dragoons should also be sprightly flying birds, and are, undoubtedly, good homing birds, as I can testify. All my birds have their liberty. They are about seventy in number, and with seven exceptions are all Dragoons and Antwerps. Dragoons are swifter in flight, but fly lower than the Antwerps, are not so persevering or enduring as the latter, and consequently not so safe or so good as homing birds.—J. W. LUDLOW, Birmingham.

REARING YOUNG CANARIES.

I THANK several correspondents for kindly answering my queries about using gas in a Canary room. I now offer a few remarks on rearing young birds.

This season I adopted, though not until the end of June, the food recommended by Mr. Blakston in his "Guide," and have only lost two young birds out of twenty, and these not from the food, but the fault of the parent birds. Every morning, to six pairs of birds with eighteen young ones, I gave two eggs chopped fine and mixed with a good table-spoonful of crushed hempseed—the seed to be measured before crushing—and three or four lettuce leaves. In the evening I gave the same, but only used one egg. The hempseed is crushed in a couple of minutes in a small box coffee-mill properly set for the seed; and I ought to say, once or twice when the eggs were very small, I used two also in the evening. Any food remaining in the egg tins I mixed with a little canary and rape seed, and gave to what I call my "weaned lot," so that nothing was wasted.

On this food I was enabled to turn out, at three weeks old, the young birds into a large aviary cage to shift for themselves; but I continued giving a little soft food. Hitherto I have sus-

tained many losses amongst young birds, which I attribute entirely to bread crumbs. The bread does not get properly cleansed, in steeping, from yeast, salt, &c., all of which are injurious to young birds and old ones. But whilst upholding eggs and hempseed, I maintain that the secret is in giving the fresh lettuce leaves. It is surprising the quantity a hen and one canary chick will manage to eat between them in a day. The rich stimulating food—egg and hempseed-meal—combined with the cooling and purifying vegetable, forms a diet unequalled. I much prefer lettuce, but ripe groundsel or chickweed must be given rather than no green food at all. Others more experienced than I am may be very successful in bringing up young birds on different food. I am only induced to make these observations in support of the food recommended in the "Guide," that others trying it may find it succeed with them. I shall be glad if any one can corroborate my statement by his own experience this season.—W. D., SKELTON, JUN., Leeds.

MARKED AND VARIEGATED CANARIES.

WHAT DOES Mr. Blakston mean by "marked birds, and marked birds?" To a novice in Canary-breeding this seems tautology.—T. C. H.

[I used the expression "marked birds, and marked birds" in the same way as we say "*Il y a des femmes et des femmes*," implying that, although similar in name, they may differ widely in character. "Well-marked" was "T. C. H.'s" description of his birds, and I simply wished to call attention to the fact that birds may be marked without being *well* marked; and I meant it more in the way of a query as to the style of marking, than as conveying any idea of a doubt as to the existence of the marks themselves; only it struck me that fifteen well-marked birds from one hen were so unusual, that "T. C. H." was possibly under a misapprehension as to what good marking consists in.

The two terms in general use applied to Canaries not absolutely clean, are "Variegated," and "Marked;" but either from some ambiguity in the meaning of these words, or from their not being regarded as technicalities, mistakes are constantly occurring, and few societies issue a schedule in which the difference is clearly defined; while comparatively very few exhibitors have a clear and intelligent appreciation of the proper significance of the terms. I believe that the North of England Ornithological Association was the first to separate "Variegated" and "Marked" into two classes in the Great Show of Christmas, 1867, and was induced to take this step from the fact that up to that time it had been the custom to have but one class, called "Marked or Variegated," which expression, taken as it stands, may mean either of two things—that "Marked" and "Variegated" are synonymous terms, representing one and the same class of bird, which may be designated either way at the option of the exhibitor; or, that both Marked and Variegated birds might be exhibited in the same class. Plainer still, it might be taken to mean birds which are sometimes called Marked and sometimes called Variegated (recognising no difference between the two), or both Marked birds and Variegated birds, admitting the difference.

That either of these conclusions might be arrived at is fully evidenced by the fact that both kinds of birds were being constantly shown together, till Mr. Barnesby, of Derby, struck a direct blow at the absurdity by awarding the first prize, say in the Jonque class, to the best Variegated bird, and the second to the best Marked bird, and *vice versa* in the Mealy class, contending, and very justly too, that if both descriptions of birds were grouped in one class, each had as much right to notice as the other, much to the chagrin of exhibitors, however, as, *ceteris paribus*, a Variegated bird is of much more value than a Marked one, so far as the marking is concerned.

Then what is a Variegated bird, and what a Marked bird? I will try and explain. Any departure from being absolutely clean, however slight, will render a bird variegated, inasmuch as it varies from the original, having a diversity of colours; keeping clearly in view the idea that the word has reference solely to a plurality of colours, and not a plurality of markings. This word then becomes a comprehensive term, including every bird not positively clean, whether lightly or heavily marked. If it have as much as a single feather of a different colour from its original yellow or buff, it at once enters the list included in the parent word variegated, simply because it is not clean but has a diversity of colours. But since all markings are not of equal value, some being of everyday

occurrence, and others very difficult to obtain and consequently very rare, it becomes necessary to make some sort of distinction between them, and with this view the whole family of Variegated, or Bicolored Canaries I might call them, is divided into two classes, easily distinguished from one another. To the first class belong those birds which are marked on each wing, on each side of the head (what is known as spectacle-eye marking), and on either side of the tail. To these markings some eminent judges add an oval cap on the crown of the head, and an entirely dark tail. I shall not pause here to discuss the question as to whether this is or is not a judicious addition; much may be said on both sides, but I rather dissent from it. To such birds the term "Variegated" is applied, which now, divested of its parent or comprehensive character, is used as a technical term to designate those birds which are evenly marked, or approximate thereto by having markings which it is possible to repeat in duplicate in the position, I have pointed out. I say approximating to exactness, because either side may not correspond feather for feather with the other. Neither must a bird necessarily possess the whole of these markings; having any or all of them will constitute a Variegated bird, but evenness and regularity determine the value of the variegation.

Now since there are but two classes of Bicolored birds (I use this mode of expression for the sake of perspicuity), and I have defined what constitutes that which we technically term Variegated, a very simple process of reasoning will enable us to arrive at the conclusion that a bird possessing any other description of marking, either with or without any or all of those before referred to, belongs to the second class, and is called a "Marked" bird.

However, well variegated a bird may be (I now use the term variegated in its technical sense to signify evenly marked, according to the conditions laid down), but has any other mark, whether it be the faintest tick or a decided blotch on the neck, back, breast, rump, &c., it becomes a Marked bird; and just as the slightest step beyond the boundary line shifts the bird from the one class to the other, so the absence of any such random marking, ticks, or blotches confines it to the Variegated class, even though its eye marks, wing marks, or tail marks be reduced to one; in which case, though being strictly a Variegated bird, it is so bad a specimen as to be unable to compete with more regularly marked ones; and it is usual where the classes are separated to allow such birds to be entered in the Marked class, where marks are not taken into consideration in judging, but the valuable points—colour, quality, feather, shape, condition, decide the matter. I do not approve of such a compromise, any more than I do of adding the cap on the crown of the head to the list of markings constituting variegation proper, and think I can show both to be unsound in principle.

A bird must belong to one class or the other, and it is a manifest absurdity to show it in a class to which it can claim no legitimate pretensions, for no other reason than that it has no chance of winning in the division to which it rightly belongs. The uniting of the two classes "Variegated" and "Marked" certainly allowed of all gradations of excellence in marking being shown together, from the specimen of absolute exactness down to the bird only blotched without any approach to regularity; but it was in most instances equivalent to the exclusion of the latter, for where the terms were held to be synonymous, the true variegated bird always conquered one which was considered to be foul-marked; and these last, forming as they do a very valuable portion of a breeder's stock, must be virtually excluded from competing unless a separate class be found for them, as was first done here (Sunderland), and then at the Crystal Palace, where in the absence of any definition of terms the schedule states "Even-marked or Variegated Norwich," and "Tick'd or Unevenly-marked Norwich." At both shows the separation was an immense success.—W. A. BLAKSTON.]

ARE WAXEN SHEETS USEFUL?

Will one or more of your apianian correspondents who have made free use of the artificial wax sheets, give your readers the results of his experience? There are two points on which especially I desire information. I have been told that the Stewarton (Ayrshire) bee-keepers consider that the use of the sheets gives them three boxes of super honey, when without them they would only have had two. If this be true their use ought to be more general. Again, I have been informed that

in constructing their cells on the basis of these sheets the bees extend them, so that it is necessary to make them less than the frame into which they are introduced. Is this really the case? For one thing I am aware they are very valuable—viz., that they secure straight combs, which in the frame bar hive is of consequence; but my experience has been so limited, that I rather desire to obtain than to impart information.—APIS.

[We should be glad if such of our correspondents as have had experience in the use of impressed waxen sheets or artificial combs, would reply to the foregoing inquiries.]

PREVENTING BREEDING IN SUPERS.

Will you advise me as to the best mode of preventing breeding in supers or boxes worked over bee hives on the storifying plan? We have had a great number of boxes greatly spoiled from this cause this year, and even some of them had queen's cells formed in them. Could it result from the excessive heat of this season, or, perhaps, it may arise from something indirectly wrong in our management or arrangement of supers?

I was thinking of adopting Pettitt's system of very narrow passages from stock hives to honey boxes or supers, and which he asserts is a complete prevention of the evil of which I complain. I see, however, that his arrangement in this respect, is strongly condemned by "A DEVONSHIRE BEE-KEEPER."—SUPER.

[I am glad to have the opportunity of explaining that my reply to "E. Leech" was intended to apply only to the case laid before me, and not to a general condemnation of Mr. Pettitt's arrangement, which I have not myself had the opportunity of trying. Had the full particulars appeared, it would have been seen that it was perfectly successful in excluding both queen and drones from the super, although it unfortunately proved fatal to an enormous number of bees. It does not follow that because a contrivance acts injuriously in a particular instance, it may not succeed perfectly in others, and it is, therefore, much to be desired that as many as possible who have tested Mr. Pettitt's mode of restricting communication between hives and supers, would report the results of their experience. I have myself been successful in excluding brood from supers, simply by adopting side communication; but I fancy that your esteemed correspondent, "A RENFREWSHIRE BEE-KEEPER," has had more experience on this point than I have, and should, therefore, be much obliged if he would kindly enlighten us on the subject.—A DEVONSHIRE BEE-KEEPER.]

BEEES IN EAST WORCESTERSHIRE— WOODBURY HIVES.

THE honey harvest here (East Worcestershire) has been wretched, and while everyone has been complaining, a friend of mine at Wolverhampton (ten miles from here) has taken three supers worked off Woodbury frame hives, which he estimates contain together not less than 100 lbs. of honey.

I use Woodbury hives only, and since living here (about eight months), no fewer than five bee-keepers in this neighbourhood have adopted them, so great is their superiority.—H. S.

UNITING BEES.

HAVING read of the great advantage of uniting bees, and having two hives that appeared deficient in strength, I determined to try the experiment. One was a Woodbury hive with a swarm of this year, and the other a Stewarton with a stock three years old. I arranged with a cottager to take some of his condemned bees, and having acted carefully according to the directions of the "DEVONSHIRE BEE-KEEPER," I was perfectly successful in securing two hives full of bees. As soon as it was dusk I removed the crown-board from the Woodbury hive, put another live on the top, shook the strange bees into it, covered them up, and left them till morning. I then raised the Stewarton hive, laid some sticks on the floor where it stood, shook the strangers between them, sprinkled them well with boiled sugar and water, replaced the hive on the sticks and left them for the night, hoping that in the morning I should find peace and harmony established. But what a melancholy sight did I behold! In the Woodbury hive there was evidently a furious fight. Thousands of bees were being turned out dead, and

others were being carried into my neighbour's garden, as if that were considered a more suitable cemetery than my own. This process went on during the whole day, till at length the number of dead bees must, I fear, have exceeded the number of the strangers, so that my hive is weakened rather than strengthened by the transaction. In the Stewarton hive there was not so much noise as in the other, but as far as I can judge from appearances, all the strange beea have been turned out, and, curiously enough, several wasps with them.

Now, I should be very much obliged to you to let me know the cause of my failure. Was it my fault or that of the bees? Was it that I made some mistake, or that they had not read the right bee-book and did not know how good bees ought to behave?—H.

[With regard to the bees which you attempted to unite to the Stewarton hive, you appear to have followed correctly enough the directions given by the late Mr. Payne, but have unfortunately realised the truth of some remarks upon his process which I published in "our Journal" in December, 1863, and wherein after quoting his words, I say—"Thus far Mr. Payne, and he may be, and probably will be found to be, right in a majority of cases; but in many instances I have known daylight reveal a sickening scene of slaughter, so extensive as to make it more than doubtful if sufficient bees survived to render the attempted union of the slightest advantage to the stock intended to be benefited thereby." Occasional catastrophes of this kind are, I believe, unavoidable where the operator has to unite bees to a stock domiciled in a hive with fixed combs, but they only occur in a minority of cases.

With Woodbury frame hives the case is, however, very different, and failures are so rare when the operation is properly managed, that I feel justified in ascribing your miscarriage to neglect of the instructions which I gave in page 320 of the last volume of "our Journal." Had you, as therein directed, first captured the queen of the frame hive, and then driven the bees upwards through the bars into the same hive with the previously driven bees, finally knocking out the conjoined cluster on the top of the frames after temporarily deepening the hive by placing an empty one on the top, success would, I think, have been nearly certain. If you will but "try again" and adhere somewhat more closely to my instructions, there is no doubt ultimately that your perseverance will be rewarded by complete success.—A DEVONSHIRE BEE-KEEPER.]

DRIVING BEES.

A NEIGHBOUR has two hives of bees, and which he purposed suffocating before taking their honey. He says he will give them to me, if I will drive them. Do you think it possible, if I unite the swarms, and put them in a Neighbour's Improved Cottage Hive, to keep them alive by the greatest amount of feeding? I only commenced bee-keeping this spring. A friend gave me a swarm (a June one). I have fed it very liberally, and it is now pretty strong. It is in a common cottage hive. Would it be better to put one or both lots to this hive?—P. G. C.

[If you drive bees into an empty hive in the manner you propose, they should at once be copiously fed by means of an inverted pickle bottle replenished regularly every evening, until the nett weight of the contents of the hive reaches at least 15 lbs. Success by this means is, perhaps, possible, but by no means certain. If, on the other hand, you adopt a frame hive, and furnish it with such otherwise useless pieces of worker comb as you may be able to obtain from the driven stocks in the manner detailed by Mr. Woodbury in his articles on "Utilising and Uniting Condemned Bees," which commenced in January, and were concluded in April of the present year, success is so probable that it may be considered tolerably certain.

You can if you please drive and unite the bees to your own stock in the manner described in the articles to which we have already referred, but the decision as to which of these two courses you may adopt, must rest with yourself.]

OUR LETTER BOX.

GAME FOWLS.—"The birds mentioned by Mr. W. H. Wheeler in an advertisement in your last number were never stated by me to be 'valuable' at all, as the price (£2 15s.) clearly shows; nor were they ever my birds at all, nor yet market birds.—NEWMARKET."

EXCHANGES (*An Amateur*).—We cannot afford either space or time to carry out the suggestion. An advertisement is the legitimate mode of effecting the purpose.

HARTLEPOOL POULTRY EXHIBITION.—"AN EXHIBITOR" writes to us:—"It is my opinion that the judges should not be appointed from the locality in which the exhibition is held. This would give general satisfaction to the exhibitors, whether they received prizes or not. Why not appoint them from the south—gentlemen who know the good qualities of the birds? For my part I am determined never to exhibit another bird unless I can ascertain who are appointed judges."

[The writer of the above is a clergyman, and took a prize. We quite agree that judges ought to be obtained from among skilled men residing at a distance from the show. Our correspondent quotes from a letter, the judgment of the writer of which would be deemed to be many.]

CHELMSFORD POULTRY SHOW.—"In pleasing contrast to the conduct of the generality of poultry committees under the circumstances of loss of specimens during an exhibition, I feel myself bound to acknowledge the receipt by cheque of two guineas, the price it cost me of a Satin Fairy Pigeon, accidentally lost at the Chelmsford Show.—HENRY YARDLEY, Market Hall, Birmingham."

ABSENCE OF FEATHERS ON PIGEONS (*Pouter*).—The feathers on your Pouters' crops will probably grow again during winter, when they will have no young to feed. Our Pouters are now in full moult, probably yours are. Hempseed in the spring tends to make them lay. Now they ought to have done breeding, as the progeny of a moulting bird is not likely to be strong.

MANAGEMENT OF GUINEA FOWLS (*Anna F.*).—The following is extracted from the "Poultry Book, which you can have free by post from our office if you enclose seven postage stamps with your address:—"They pair, therefore an equal number of each sex must be kept. It is the hen only which utters the peculiar cry of 'Come back.' The note of the cock bird is a kind of wail. To obtain a stock of them some eggs should be hatched in the yard where they are wished to remain. To buy full-grown birds is almost hopeless; for when turned down they depart, apparently in search of their old home. They should be fed regularly at stated times. They return at the same times punctually, and if one of the feedings is in the evening they then roost at home. Their roost should be high from the ground. They must be fed like other fowls, but in winter require more animal food. The hen usually lays on a dry bank, and if the eggs are taken from her nest never lays it again. They usually bring off very large broods—twenty is not an unusual number. Chicks of the Guinea fowl are so strong that they require food soon after they are hatched, and should have a constant supply by them until they are allowed to be at liberty. Their troughs should be constantly supplied, for they die if kept without food for three or four hours. Have the mother under a coop in a warm corner of the garden, and facing the south. Egg boiled hard, chopped very fine, and mixed with oatmeal is their best food. At the end of six weeks, if hatched under a Bantam or Game hen, they may be allowed to range with her, and be fed at the same time and on the same food as other chickens. May is the best month for placing Guinea fowls' eggs under a hen. Incubation requires from twenty-eight to thirty days."

RED-COLLARED BENGALIES DURING THE BREEDING SEASON (*Whitey Brown*).—Place in a large cage the outer husk of the cocoa nut with a hole at the end. They may be purchased of Mr. Hawkins, of Bear Street, Leicester Square, also a breeding-box similar to what Canaries have, with loose dry moss, and a net of the same material as Canaries have. Give them Canary seed, millet of both kinds, Indian and French, likewise green food, and when they have young give stale sponge cake.

BUTTERFLIES (*Sophia*).—Stainton's "Manual of British Butterflies and Moths." Lowe's book which you mention does not contain the descriptions you need.

SALE OF HONEY (*J. Robinson*).—Messrs. Fortnum & Mason, Piccadilly, are large purchasers of honey; but if they, like Mesara, Neighbour, are full, we know not to whom to advise you to apply in London, although it is probable that many of the Italian warehousemen at the west end may be purchasers. If you visit a watering place you may possibly find a market there through some grocer or confectioner. Fine honey in the comb ought to bring at least 1s. 3d. to 1s. 8d. per lb.

HONEY CRYSTALLISING IN THE COMB (*Idem*).—When honey crystallises in clean combs, it is best treated by being melted in a water bath, which may be readily improvised by a covered jar standing in a saucer-pan of water. When cool the wax may be removed from the top in a thin cake, leaving the honey underneath beautifully liquid and pure.

HONEY IMPORTED AND ITS USES (*H. B.*).—It comes to us in large quantities from various parts of the world. The greatest amounts are from Jamaica, Cuba, and Chili. In 1862 the total importation was 7,450 cwt.; in 1863, 12,054 cwt.; in 1864, 12,083 cwt.; in 1865, 4,519 cwt.; and in 1866, 13,521 cwt. The only uses of honey that we know are in some pharmaceutical preparations, in making mead and mum, and as an article of food. We cannot tell its usual wholesale price, but you might ascertain it from Messrs. Neighbour.

HORNETS' NEST (*B. W.*).—We cannot advise how to destroy the hornets in their nest established in the wall of your house, nor knowing the exact position; but any of the usual modes of destroying wasps in their nest would succeed in destroying hornets. Oil of turpentine in a bottle, and the nozzle thrust into the entrance of the nest, would probably suffocate them.

THE WEIGHT OF A CUBIC YARD OF HAY IN A STACK (*Subscriber*).—Much depends on the solidity of the stack, as we have seen some so compact from heating that a ton could be cut out of less than 6 cubic yards, while as much as 16 cubic yards would be wanted on another occasion. A cubic yard of hay may only contain 140 lbs., or it may contain nearly 400.

POULTRY MARKET.—August 26.

	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls.....	4	0	4	6	Pheasants.....	0	0	0	0
Smaller do.....	5	0	3	6	Guinea Fowls.....	0	0	0	0
Chickens.....	1	9	2	0	Hares.....	0	0	0	0
Duckings.....	5	0	5	6	Rabbits.....	1	4	1	5
Goats.....	2	0	2	3	Wild do.....	0	8	0	9
Pigeons.....	0	8	0	9	Grouse.....	0	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPTEMBER 3-9, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year			
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.				
3	TH	(Ainwick, Dundee, Harrogate, Worksop, Horticultural Shows, and Show of Royal Horticultural Society of Ireland.	71.3	47.6	59.5	18	17	40	27	af 7	29	af 6	16	0 55	247	
4	F	13 SUNDAY AFTER TRINITY.	70.7	46.6	58.6	18	18	5	33	6	48	7	25	7	1 15	248
5	S	Bicester Horticultural Show.	70.0	47.2	58.6	17	20	5	33	6	12	8	31	8	1 35	249
6	SUN	Brighton Autumn Show opens.	69.8	46.6	58.2	19	22	5	34	6	38	8	37	9	1 55	250
7	M		70.0	47.6	58.8	19	23	5	32	6	5	9	44	10	2 15	251
8	TU		69.4	48.0	58.7	19	25	5	30	6	37	9	52	11	2 35	252
9	W		69.0	48.2	58.8	18	27	5	23	6	16	10	after.	(	2 56	253

From observations taken near London during the last forty-one years, the average day temperature of the week is 70.0°; and its night temperature 47.4°. The greatest heat was 85°, on the 7th, 1865; and the lowest cold 28°, on the 7th, 1855. The greatest fall of rain was 1.09 inch.

BLENDING SPECIES AND VARIETIES BY GRAFTING.



THE notes and articles which have from time to time appeared in the Journal on the influence which the stock exercises on the graft, and the graft on the stock, have always seemed to me deeply interesting, as tending to throw some light upon an allied subject which has hitherto been, and to all appearance will for some time continue to be, wrapped up in no little mystery. The idea of cross-breeding by the direct intermixture of the cellular matter of different species or varieties is, I believe, generally scouted by scientific men as a chimera and a dream, seemingly supported by some curious phenomena, but altogether at variance with the laws of vegetable physiology; it is, however, an old one, and on that account, if on no other, is entitled to some consideration.

Bacon, in his "New Atlantis," makes the governor of the model community of Bensalem say, "We have also means to make divers plants rise, by mixtures of earths, without seeds; and likewise to make divers new plants differing from the vulgar, and to make one tree or plant turn into another;" and in a footnote referring to this passage, by whom I know not, is the following:—"I have nowhere seen so remarkable a proof of what may be effected in this way as in the gardens of Boghos Bey, at Alexandria, where I was shown a very extraordinary fruit tree, produced by a process highly ingenious. They take three seeds—the Citron, the Lemon, and the Orange—and carefully removing the external cuticle from both sides of one of them, and from one side of the two others, place the former between the latter, and, binding the three together with fine grass, plant them in the earth. From this mixed seed springs a tree, the fruit of which exhibits three distinct species included within one rind, the division being perfectly visible externally, and the flavour of each compartment as different as if it had grown on a separate tree. This method of producing a tripartite fruit has been introduced by Boghos Bey from Smyrna, his native city, where it is said to have been practised from time immemorial." (Bacon's "Essays." Bohn's edition, p. 299.)

Accustomed as we are to regard Egypt as a land of wonders, this is, perhaps, more than any who are acquainted with the internal conformation of these seeds will accept. I must confess to having twice attempted the first part of this experiment, and in both cases putrefaction of the middle seed, and only partial development of the seed leaves of the two outer ones, were the results. But as the cause of failure in my case may not have been the impossibility of the thing itself, to any who wish to make it, the experiment is easy, and the seeds of the Apple or Pear would seem to be as suitable for it as those named.

In the less highly organised seeds or spores of Ferns, Mosses, or Fungi, the amalgamation of two species would appear not so wonderful, as in these the rudiments of root and stem are not to be found, but it has never been proved that they have done so accidentally, and the nicety of

manipulation required to unite them as the astute Musselman did the Orange seeds precludes the possibility of its ever being accomplished artificially.

So seeds as subjects for experiments of this kind may be set altogether aside. My humble belief, however, is that with buds the case is different. If we have not already proofs that by the agency of these the distinctive marks and qualities of different plants may be blended together, we have at least received some few hints that such an end is attainable. One of these is the oft-cited instance of the Purple Laburnum, the history of which is so well known that it need not be here repeated, and though it is an exceptional case, purely accidental, and may never occur again, it yet confirms the principle that the undefinable something—call it what you will—which constitutes the individuality of a species can be broken in upon and changed by means more decided, but less natural, than those employed by the hybridist.

Every propagator knows that the emission of roots is nearly always preceded by the formation of a callosity at the base of the cutting. This is composed of soft cellular matter, and from the first seems capable of performing in some degree the functions of roots proper, absorbing moisture, and carrying nourishment to the cutting. In a few days, or weeks, according to circumstances, the development of this substance ceases, roots are thrown out, and the plant begins to grow. Now, it appears probable that if two cuttings previously joined together by inarching can be made to produce one callosity, we may reasonably expect that some of the roots emitted from it must be common to both. Some years ago, when a young man, I was impressed with this notion, and made a few experiments for the purpose of testing its correctness. To describe them all would, for the most part, be to write a chapter of failures: therefore one which was *not* entirely a failure will suffice.

Two Myrtles were selected—the Small-leaved and the Dutch—several pairs of the half-ripened shoots from each were brought together, and grafted by approach. Those pairs which united were taken off about the bottom of the splice, and inserted as cuttings. Instead of a pot a small box with a glass side was used, so that by placing the cuttings close beside it the rooting process could be easily watched. After a long time a slight callosity was formed entirely round the base of each double cutting, with no perceptible break underneath the part where the two were joined together. In the case of one to which I would more particularly refer, these were the points where the callosity first began to make its appearance, and where it was afterwards more fully developed than elsewhere. Before the roots were emitted the cutting was taken out, and the cellular matter carefully removed from each side of the base, leaving it only at those parts mentioned, the object being to procure roots only from what was supposed to be compound alburnum. These were produced after another long interval, and then the Siamese-twin cutting began to grow rapidly. When well rooted it was placed in a small pot, and the collar was elevated above the rim a little more so than is generally done in potting young Heathes.

Now, my idea was this: If common roots could be obtained, partaking of the nature of both Myrtles, and if these roots could be made to form adventitious buds, or, in other words, to throw up suckers, as Myrtles when potbound are very apt to do, these suckers could be nothing more nor less than what I call—for want of a better word—pure hybrids.

After growing the plant for a considerable time until the pot was full of roots, the points were stopped, and all buds picked out from the axils of the leaves, a little soil was also removed from the top of the ball so as to expose the roots; in a very short time suckers did appear, some of the small-leaved sort, some of the large, and, what clearly proved this little theory to be correct, some neither the one nor the other, but as truly hybrids as are Jackman's Clematises. The normal forms were taken off, and, twelve years ago, this plant—a little curiosity in its way—was doing duty as a greenhouse plant at Preston Grange, in East Lothian.

What led to this experiment was the repeated failures which I encountered in attempting to form a conjoint bulb from two leaves of different Gloxinias united mechanically, and inserted as cuttings. Neither this nor the formation of one bud by the conjunction of two Begonia leaves I believe to be practicable, as both experiments have been frequently tried by the curious without success.

Despite the wholesome advice given us the other week to "Beware of the Wonderful," and illustrated as it was by a somewhat ludicrous example, I have yet ventured to send you these few notes. The whole subject is one of peculiar interest. On the score of utility any information which we yet have concerning it is of no value, but, by-and-by, new facts may be elicited, and processes devised, which may prove highly serviceable to all cultivators of fruits and flowers.—*YESHIRE GARDENER.*

NOTES ON A KENTISH ORCHARD.

THE PLUM.

So beautiful is the appearance of an orchard where the trees are healthy and in bloom, that the most careless of Nature's observers can seldom pass such an object without some expression of admiration; and as that beauty is the forerunner of that which is both beautiful and useful, we view an orchard with widely different feelings from those we experience when surveying an expanse of Gorse, Broom, or Heath, all of which, however graceful as well as rich in colouring, leave us nothing of importance to hope for afterwards. On the contrary, a good bloom on a fruit tree is one of the precursors of a useful crop, for although every blossom does not become a fruit, yet no fruit is obtained without it. Even apart from all expectations, there is a beauty in the bloom of our larger hardy fruit trees when seen in mass, and I am, therefore, not surprised that the denizens of large towns very often travel long distances to view the orchard districts, and the sight often well repays the journey. The clear white of the Cherry contrasts well with the deep rose of the unexpanded bloom of the Apple, while the hardy Plum is the first to open the spring, and the Pear, as a tree, presents greater diversity of form than any other, and its blossoms are not less beautiful than those of the other trees. Of a well-managed orchard, therefore, most people possessing one are justly proud, and the vale of the Medway presents many such orchards, differing, of course, in some respects, as the requirements of the case or the fancy of the proprietor may dictate, but all more or less beautiful.

As orchards and Hop gardens form a very considerable portion of the ground under crop in mid-Kent, and both being cultivated by hand, it may be inferred that the use of the spade is familiar enough to the tiller of the soil, but such is not the case; the spade is rarely used, but in its stead a three-pronged fork of local make, and not by any means prepossessing in appearance, is employed in turning up the soil. As most orchards during their formation are for some years on tilled land, although the ground may be laid down in grass when the trees attain some size, yet the aid of the three-pronged fork for digging is not less necessary than the pruning knife in the early culture of an orchard. As I hope to notice more fully the formation and management of orchards, I will confine myself at present to some notes, made a few days ago, on a Plum orchard situated a very short distance from the place where I now write, and there are many scores of similar orchards within a radius of four or five miles.

The orchard, or rather series of orchards, for there were several enclosures adjoining each other that had been planted

at various times, was on land inclining to the west, a favourite direction for orchard planting in this county, on account of the greater probability of the spring frosts disappearing before the sun fairly strikes on the trees. The soil differs very much in character, varying from a light thin soil to a stiff clay, with some intermediate soil resting on a subsoil of stone shatter, and this year it was curious to observe the difference in the appearance of the trees according to the soil in which they were growing. These on the stony soil, owing to the roots descending deeply, seemed not to suffer, while on a small portion of the ground which rests on a sort of hungry gravel, many looked almost dying.

Tillage seems also to have exercised considerable influence this year, and of a different kind from what it did in former seasons. The extreme heat and dryness of the weather had evidently reached the roots more than had been the case for many years, and where another crop competed with the trees for the little moisture and nourishment afforded by the ground, the effects were shown on the trees; so that the generally-established opinion that certain fruits succeed best in a grass orchard was reversed this season, and some that are said to do best on tilled land were found to be in better condition when growing where their roots had no chance to be disturbed—namely, with these under the turf. Some other peculiarities were pointed out to me which will be best explained in the description of the particular fruit in which they occurred.

The orchard or orchards presented a great diversity of fruits, some parts being planted with a mixture of several kinds, others with one kind only, or nearly so; some were in grass and some in tillage, some old and some young; and yet each part was distinct from the other, a promiscuous mixture being no part of the arrangement. As I went for the purpose of seeing but one kind of fruit, and that in various stages of growth, I will confine my remarks to that fruit, which was the Plum. The occupier, though his holding was not by any means extensive, was sending some fifty bushels or more daily to the London markets, and some of the fruit was of its kind as good as is usually met with, while, on the other hand, some was small in consequence of the dryness of the season, but more frequently from the heavy crop on the trees.

Of the trees of various ages which formed the orchard, some of the young ones were well loaded, and would have broken down with the weight of fruit had they not been propped up by hop poles. All the trees, however, were not so loaded, on the contrary, some had only a light crop on them. So capricious is this fruit, and so uncertain are some of the choice kinds, that I was told the crop as a whole was not so good as that of 1865, the total produce of the orchard not being likely to equal the yield of that year by several hundreds of bushels; but sufficient was visible to show what a good crop is. I should have much liked some of the advocates of miniature trees, trimmed into whatever fanciful shape they liked, to have seen these heavily-laden standards, many of which would yield half a dozen bushels of good fruit, while others not bearing so heavily were much finer, and might cope with the generality of wall fruit of its kind. The commoner varieties are the most productive, and as most fruits for market are gathered before they are ripe, quantity with a moderate show of quality is the requirement most looked after, rather than a very small crop of fruit of superior excellence. Certain conditions seem also to govern the metropolitan market, appearance being often of more consequence than quality, yet Londoners seem to understand well enough how much better a Green Gage Plum is than a Mogul, and the price ranges accordingly, but I cannot say how many other kinds of green Plums are not passed upon them as Green Gages. In the orchard here described there was not much chance of that being done, as there were but few trees of the Green Gage, and only one or two of a bastard variety resembling that favourite.

A grower of Plums has to keep several things in view. Very early fruits as well as very late are both wanted, and in the uncertainty of our seasons he usually plants several kinds, so that when it does happen that one is entirely destroyed, which has been known to be the case, he has something else to fall back upon. Various fruits are likewise grown, otherwise what would his workmen have to do if all were gathered at once? In the case of my friend the occupier of the orchard, both the Plum and all other fruits held a secondary position with him compared to Hops, and such is very generally the case where the latter are cultivated. I must also observe that the following short list of Plums does not by any means represent all

those cultivated in the neighbourhood, but simply those of one grower. Other growers have their favourites also, and experience has taught many that certain kinds do better than others on the same ground, and such are planted accordingly.

EARLY ORLEANS.—One of the most useful fruits grown. It bears well as a standard, and is always in demand. A partial thinning of the fruit when in a green state is often advantageous, those taken off being also saleable. This variety is too well known to require further comment.

ORLEANS, LATE.—This is somewhat darker in colour than the early variety, and about a fortnight later, but this season hardly so much; it bears well, and is an excellent fruit. It is, perhaps, not so much grown for market as the Early Orleans, but is superior to it in all respects as a fruit.

There are some other varieties of Orleans bearing local names which it is unnecessary to mention; but to show that either the present season is an extraordinarily early one, or that some error has crept into the fruit catalogue of an eminent London nurseryman, I may say that in the orchard here described, and which I visited on the 10th of August, all the Orleans Plums had been gathered, both Early and Late ones, while in the fruit list alluded to, the Late Orleans is said to come into use in October and November. The difference in the season of 1868 will not account for such a discrepancy as to the time of ripening, even after making allowance for the fact that the market fruit is gathered before it is ripe. There must be more varieties of Orleans than two, or when they are so very late it must be under exceptional circumstances.

DIAMOND.—This useful variety is said to have had its origin in our neighbourhood, and is not met with in all nurserymen's catalogues; but there are many who think it does not differ much from the dark Magnum Bonum. Perhaps it is a little more pointed at the ends, and it is superior to that variety for table. It is a good bearer, and is deservedly a popular fruit.

ROYAL DAUPHINE.—A long, pale, red Plum of no especial merit beyond being a good kitchen fruit, and the tree an excellent bearer. It is surprising what a quantity of fruit some young trees of this kind will bear. I believe in the trade generally it has another name. When ripe it is partly of a bright red and other parts of a clear white or pale flesh colour. It is a long and somewhat pointed Plum, of full medium size.

BUSH PLUM.—This appears to be the same as the Harvest Plum of other districts, a small black variety. The tree has smaller leaves, and the branches are more thorny than most other kinds, hence its name, the term bush being being applied to the Thorn in many districts. It is an excellent bearer, and one of the hardest of all Plums, but its size is against it when put in competition with Goliath, Diamond, and others.

PRINCE OF WALES.—The tree is an excellent bearer, and the fruit far from unsightly, but it is coarse and only fit for kitchen use. It is one of the most popular market Plums, filling the basket well. The tree is not at all particular as to site. I believe it is more extensively cultivated round here than any other variety except, perhaps, the Orleans and Damson. The tree arrives at a large size, and vast quantities of fruit are gathered from it in some seasons.

WASHINGTON.—A fine Plum, but the tree is a shy bearer, and, consequently, it is not such a favourite as some of the kinds mentioned above. Nevertheless, now and then there are good crops of this variety. I believe in 1865 it bore as heavily as any other variety. It is a fine yellow Plum, and the bulk of the crop had been gathered by the 10th of August, probably nearly a week before it was quite ripe. Next to the Green Gage this is regarded as the most valuable of orchard Plums, and when good it is but little inferior to that universal favourite.

MOGUL.—A small dark Plum, not by any means equal to the Diamond, to which it is giving place very fast. The tree is a good bearer, and some old trees of it are more profitable than other esteemed varieties.

GREEN GAGE.—Comparatively few trees of this were grown in the orchard I visited, but a spurious sort, yet not at all to be despised, was bearing tolerably well. It was much inferior in flavour to the genuine Green Gage, but the latter is a shy bearer, and the tree not healthy in its growth. It is no wonder, therefore, that spurious sorts are plentifully cultivated, mostly under local names, not distinguished out of the districts in which the trees are cultivated.

GOLIATH.—I did not see any of this variety in full bearing, but am told that it will succeed well as a standard; it is more

frequently met with against a wall, where the fruit reaches a large size, but it is only fit for kitchen purposes.

DELICIEUSE [COOPER'S LARGE].—Under the corrupted name of *De la Sue* this is extensively grown, and as a late Plum is very popular, being a good bearer. Some localities seem more favourable to it than others. One grower not more than two or three miles from here has nearly one thousand trees of this variety, young and old, and considers it the best Plum he has. There is much difference of opinion as to its doing well in all seasons, but in general it is regarded as being a good bearer, and the tree attains a good average size, not so large as some above described.

VICTORIA.—Popular as this variety is, I am not well acquainted with it as an orchard fruit, although I know that it is grown as such in the neighbourhood. There were but few trees of it in the garden I visited. It is here only considered a second-class fruit. I believe it is a greater favourite with fruit growers west of London than it is in Kent.

DAMSONS.—This is a most puzzling class, from the multitude of names which appear before the intending purchaser. There is the Prune Damson, the Prolific, the Shropshire, and the Cheshire, besides the common variety, and a dozen others called after the persons who grow them or the localities they come from. Of the latter that most in repute in this neighbourhood is one called Chittenden's Damson, from a grower of that name in the parish of Farleigh. This is certainly an excellent bearing kind, so much so that some growers have had their old trees of other varieties cut down and grafted with it, a proceeding not usual with so common a fruit. Most growers of late years have turned their attention as much to Damsons as to Plums, and large breadths have been planted, but most frequently they are planted in or near hedgerows or places where other trees will hardly grow, and it is wonderful to see how heavily laden with fruit they will be in some seasons. As a fruit the Damson is more esteemed than ordinary Plums; this has led to the multitude of varieties alluded to, some of them approaching the Plum in flavour, and thereby losing that peculiar tone which gives importance to the Damson. On the other hand, there are corresponding links connecting the fruit with the wild Sloe, and one of these, under the local name of Scad, is quite as large as the Damson, and resembles it in every respect except in taste, which is more that of a Sloe. Even Scads, as they are called, differ from each other, some approaching as nearly to the Damson as that fruit does to the Plum; thus the gradation is carried upwards from the wild Sloe to the largest Plum, and the foliage and habit of the trees exhibit similar gradations, some of the Bullace and Musclev class being also included in the family. The best varieties of Damson are propagated freely by suckers, and the young trees so produced are kept a year or two in a nursery in order to train them for standards or other purposes.

I must here again remark, that the above notes relate only to the varieties of Plums that were growing in the orchard visited, another orchard would doubtless furnish quite a different list of varieties, or, at least, a portion of them would be different, and they would most likely be equally deserving of notice.—J. ROSSON.

TOMATOES.

"WHAT a quantity of Tomatoes, and what large ones! How do you grow them so fine? I never can induce any to ripen properly." So said a friend of mine who came into our garden the other day (July 23rd), and he was even more surprised when I told him that we had already gathered quantities off the same plants, and made them into jam. "What! Tomato jam! You mean sauce." "No," said I, "jam, and splendid jam they make too." In answer to his further inquiry I told him my plan of culture, which is simply this.

I always sow the seed in pans in February, about the time I start a pit for Cucumbers; into this I plunge the pans. The seedlings are soon up, and when they are large enough I prick them out in pans, and pot them off singly as they become strong into 48 and 32-sized pots. They are gradually but well hardened off by the middle of May. I then dig a trench, 1 foot wide and 18 inches deep, alongside all spare walling or paling with a south, east, or west aspect, put a quantity of manure in the trench, and cover with 4 or 5 inches of soil. In this I plant the young Tomatoes 18 inches apart, nail them up at once to the fencing, and well water them. As they push into growth, I select two or three of the strongest side shoots to each plant removing all others that would be too crowded

if left, and stop one joint above the fruit as soon as some good clusters are showing.

When the fruits are about full grown I remove all leaves that hang over them, so as to let them have the full benefit of the sun to ripen them, but take care to leave enough foliage to keep the plant healthy. By the above method I always obtain good crops. I believe that many people fail through being too late with Tomatoes, the autumn rains and early frosts coming before their fruit are full-grown. This has been a splendid year for them.—LOVEAPPLE.

THE DUC DE MALAKOFF STRAWBERRY.

From his description I have no doubt that Mr. Douglas has the true Duc de Malakoff. I planted six strong plants of it some years ago in the spring, and gave the plants a year's "grace." Three plants fruited tolerably, producing large round fruit, and three had no flowers. I therefore gave it up.

Mr. Douglas wishes me to say if he keep eight sorts of Strawberries, whether I would recommend him to retain Duc de Malakoff as one of them. I say, No. He wishes me also to recommend four or five of the best Strawberries to ripen with the Frogmore Late Pine. I recommend him to have these five, all excellent—namely, Dr. Hogg, Mr. Radclyffe, Lucas, Wonderful, and Cockscumb. The last was the latest here this year. I also recommend him a fine late white Strawberry, Bieton Pine, called also Barnes's (of Bieton) Large White. It is late, and when properly ripened is amber white. It must be rotten-ripe to be good. If he add Rivers's Eliza to Frogmore Late Pine and the above six Strawberries, he will have a capital and successful lot.

If he likes Alpines (which I am now eating), I recommend the old Red and White, and especially Galande, red. It is the best of the Alpines, as Royal Hautbois is the best of its class. The Alpines and Hautbois Strawberries to be good should be rotten-ripe. I wonder people do not grow them.

The Perpetual Pine is here. I fear it is a complete failure. Except Filmore I never had a more scantily blooming sort.—W. F. RADCLYFFE.

WHAT IS A GARDENER ALLOWED TO TAKE AS VEGETABLES?

GARDENERS are often engaged to have so much wages and "vegetables." Now, they sometimes find much unpleasantness from the use of this vague term. When the term is used, has a gardener a right under it to take a Cucumber when there is plenty of them?—ONE THAT WANTS NO MORE THAN IS JUST.

[The subject is of more importance than at first may be supposed, but the difficulty in giving an answer is owing to the difference of taking a kitchen garden product, because it is "allowed," and taking it as a matter of "right." Whenever the two words "allowance" and "right," come into collision, a proof is given that the gardener will act wisely if he walk surely, even if to his apparent loss. No arrangement is more usual than for gardeners when engaged, to have allowed so much wages, a house, and "vegetables when to spare." The latter part of the sentence ought to be needless, as few gardeners would think of taking what was needed for an employer's table. Keeping this in view, the word "vegetables" would have reference to all that was grown in the garden useable for culinary purposes, except fruits. Cucumbers are no more fruits than Kidney Beans. But here, again, the importance appears of gardeners never depending nor trusting to mere use when there is the least likelihood to be any dispute in the matter, but have everything plain and settled beyond the reach of controversy. In most respectable places, then, where such a rule exists, the gardener will not only use Cabbages and Cauliflowers when plentiful, but have an occasional dish of Peas and Beans, and according to quantity have Onions, Carrots, and Potatoes, and even a Cucumber if there be enough. We have known cases where, though vegetables formed part of the agreement, the kitchen garden was so small, and the demand so great, that the gardener could never see his way to obtain more for himself than a Cabbage, or a Cauliflower too far gone for the parlour table. As to Potatoes, we have known heart-burnings because some employers would confine the term vegetable to the varieties of the Cabbage tribe, call the Potato nothing but a root, or tuber, and consider it as not coming under the title of vegetable. We have known cases, too, where Cu-

cumbers not wanted had to be taken to the house and there disposed of or dispensed. We recollect a case where vegetables formed part of the agreement; the gardener cared for nothing himself but a Potato, but no Potatoes were grown except a few early ones, and though plenty were grown in a field, he was allowed to have none unless he purchased them, it being contended that Potatoes were esculents and not vegetables.

Our advice to gardeners is, to leave nothing uncertain in these matters when making their agreements. Two conclusions, however, are perfectly clear to us.

1st, A gardener worth having will take good care that his master is well supplied with vegetables, including Cucumbers, before he would take one himself, or give one to a neighbour; and the employer will act wisely in trusting to the careful honesty of such a man, which will more subserve his interests than any paltry restrictions.

2ndly, Wherever there is much carping about the definition of a vegetable, and such parleying occurs as—"This you may have, that you must never taste;" "this you are allowed, that you have no right to:" then, for the benefit of all parties, the sooner the connection of employer and employed is dissolved the better. There can be no comfort where there is distrust on the one hand and a sense of injustice on the other, and it is always well, even for the best of men, to avoid rather than fight through a temptation. All disputes would be avoided if employers and employed, trusting nothing to what is considered customary, had everything stated definitely.]

THE ORCHARD HOUSE DURING THE PAST SUMMER.

FOR two consecutive seasons you have honoured my communications with a place in your Journal, and I must not allow this hot season to evaporate in mist without offering something, at least, for your acceptance.

Some of your correspondents may remember the letter in which I ventured to strike a balance between the *pros* and the *cons*, as regards orchard-house culture. My summing-up was then in favour of the *pros*, and nothing has since transpired to induce me to reverse my decision. Had I done so the extraordinary success which has attended my brother's cultivation of the Peach and the Nectarine would have necessitated a prompt return to my former favourable opinion. I am now his guest, having left my own fruit to be enjoyed, as I trust, by my *locum tenens*, and, therefore, I am not in a position to predicate anything about either its quantity or quality; but without disparagement to myself, I must frankly concede to my brother the palm. I take peculiar interest in his trees, because two years ago I was instrumental in saving them from destruction. Happening to pay him a visit in the spring, I found his valuable trees terribly infested with aphidea, while no measures were being taken to get rid of this pest. He tells me that it was owing to the immediate and effectual fumigatory measures which I then insisted upon that his trees were preserved. It would have been a thousand pities for lack of a little tobacco paper to have sacrificed trees which are now in such a thriving condition.

I will only speak of one of his two orchard houses, which is 55 feet in length, by 15 in width. It contains three rows of bush and pyramidal trees planted in the ground, which have yielded an abundant crop; but I wish to call particular attention to his back wall 12 feet high, because it shows results of which Mr. Bréhant himself might well be proud. Fastened to iron rods, placed at an angle of 45°, are sixteen triple cordons, cultivated according to directions furnished in Mr. Bréhant's treatise. These trees are now in their prime, and are laden with fine fruit. When our glorious chieftain, Mr. Rivers, surveyed these cordons some six weeks ago, he admired them so much that he pleasantly said, "I shall go away, and dream of those cordons." I wish he could have seen them since, for he would be fain to confess that their produce is not "such stuff as dreams are made of," but veritable flesh and blood, rich, juicy, and melting.

Those late American Peaches, which find some advocates, but which we consider more insipid than Turnips, and resembling croquet balls covered with flannel, if gifted with speech, might well cry out, "Oh, that this too too solid flesh would melt!" but my brother's Sulhampsteads have no reason to say so, being all that the most fastidious taste could desire. I can really find only one fault—too common with beginners—and that is that the crop is abundant to excess. When

taxed with this the grower admits the soft impeachment, but quaintly pleads that his "missus" objected to any more thinning-out of the fruit in the spring. Just picture to yourself sixteen triple cordons all in full bearing, and with leaves very little affected with red spider, covering the superficies of a wall 55 feet by 12 with magnificent fruit. I counted as many as seventy-six Victoria Nectarines on one leader alone; and although I am aware that to allow such profusion is highly reprehensible, yet it is wonderful how fine, in spite of this superabundance, the fruit had grown.

My brother and myself have given Mr. Bréhaut's triple-cordon system a full and fair trial, and we concur in the opinion that it is an admirable mode of adapting to the English soil and climate the very successful French method of single cordons; also that it is well worth while to raise walls intended to be covered with glass to the necessary height of 12 or 13 feet. I have in my own case placed 4 feet of boarding on the top of an 8-foot wall.—A CONSTANT READER.

BATTERSEA PARK.

(Continued from page 132.)

RESUMING our account of the principal beds in the subtropical garden, and which left off somewhat abruptly at the bed containing the variegated *Vitis heterophylla*, whilst this was being examined a fine plant of *Dracena nutans* attracted attention, and Mr. Gibson remarked that *Dracenas* and plants of similar character had this year suffered less from scorching than usual. Why this should have been the case is not very clear, but possibly the almost entire absence of dew throughout the summer, and the small amount of rain which has fallen, have had some influence, for but rarely could there be any drops of moisture on the leaves to concentrate the sun's rays as through a lens. This, however, is only one of several conjectures which might be formed. On the opposite or left-hand side there is a very fine specimen of that noble Palm, *Lantania horbonica*, backed up with *Ferdinanda emimensis*, surrounded with dwarf Castor-oil plants, and margined with variegated Ivy. On the right there is a long oval bed of Mrs. Pollock Pelargonium, surrounded with Blue King Lobelia, which sets off to great advantage the finely-marked foliage of the Pelargonium, and the whole is margined with Dandy, a miniature silver-variegated kind. Another pretty bed consists of Crystal Palace Gem, a golden-leaved variety, with flowers like those of Trentham Rose, *Centaurea* and *Lobelia* planted alternately, and the whole surrounded by a ring of *Alternanthera spathulata*.

Turning now to the left-hand side we find a very effective mixed bed of *Erythras*, conspicuous among which is *E. ornata*, a new continental hybrid, with large showy vermilion-coloured flowers. At the back of this in an oval bed is *Aralia papyrifera*, one of the most ornamental fine-foliaged plants for subtropical gardens, along with *Sparmannia africana*, an old Cape plant, valuable for its early flowering under glass, and as here growing out of doors ornamental by its large healthy leaves. A very pretty and effective bed near that just referred to has a five-rayed star in the centre formed of *Beauty of Calderdale* Pelargonium, with golden and silver-leaved kinds for the rays, which are divided by *Lobelia speciosa*. The whole is enclosed by a ring of *Alternanthera paronychioides*, and studded round with the neat rosettes of *Echeveria secunda glauca*, each as like its neighbour as if all were cast in one mould. The next group we come to consists of *Indiarubber* plants edged with *Hedera multimaculata*, a very handsomely-blotched variety, and opposite to this is a mass of *Polymnia grandis*, followed by a group of *Canna Rendatleri*, a variety with flame orange flowers, dark stems, and semi-dark leaves. This is backed with young plants of *Ailanthus excelsa*.

On the opposite side of the walk, *Musa ensete* forms a noble object, having leaves some 10 feet in length, by about 2½ feet in breadth, with the under sides of the midribs of a fine dark red. There are several other fine examples of the same species dotted over the garden, but this is one of the largest and most effective. An oval bed having for its centre a broad band of *Coleus Verschaffelti* is one of the finest in the place, the effect of the warm, richly-coloured leaves of the *Coleus* being enhanced by the frosted appearance of *Centaurea ragusina compacta*, and the whole is surrounded by the pretty little Californian House-leek. Several small beds occur near this point, and are very interesting from their containing some of the new varieties of *Coleus* raised by Mr. Bause at Chiswick. One of these beds is a small circle in three compartments, planted

with *Coleus Scotti*, *C. Batemanni*, and *C. Ruckeri*, the last of which is the most conspicuous, *Centaurea candidissima* being employed to divide the different kinds. A similar bed contains *C. Bausei*, *C. Saundersi*, and *C. Berkleyi*, and of these the first two are those which appear to the best advantage. In this case they are divided by *C. ragusina*, and surrounded with an edging of *Alternanthera versicolor*, margined with *Saxifrage*. The next bed, also a circular one, has *Dracena nutans* in the centre, surrounded by four plants of *D. brasiliensis*, whilst covering the ground beneath these tall-growing plants is *Coleus Lamonti*, the leaves distinctly edged with green, then Mrs. Pollock Pelargonium, surrounded with two kinds of *Echeveria*. This is a very pretty arrangement. Another bed on the same side has *Cycas revoluta* in the centre, surrounded by *Dracena terminalis* and *ferrea*, springing from a carpeting of the pretty little *Pyrethrum Golden Feather*, which forms a very effective plant for small beds, ribbons, and edgings. The whole is surrounded with *Centaurea ragusina compacta*, which gives an excellent finish to the bed.

We now arrive at the junction of two walks, and turning to the left we find on that side a small circle with a plant of the extremely graceful *Grevillea robusta* in the centre, spreading its Fern-like foliage above a carpeting of *Alternanthera versicolor*, which is really a splendid plant at Battersea this year. If it maintain the same beauty in a cold, damp season that it has exhibited this hot, dry summer, it will certainly be extensively employed for out-door decoration. Golden Chain Pelargonium forms a neat very dwarf margin to this bed. In an oblong bed, on the opposite side of the walk, *Solanum marginatum*, with very spiny silvery leaves, is interspersed with the highly decorative *Gladiolus brenchleyensis*, the whole having an edging of *Lantanas*, the best being *Raphael*, yellow and rose, and *Adolphe H. Wass*, yellow.

Other effective beds near this spot are composed of *Nicotiana wigandoides* and *Castor-oil* plants; *Canna Bihorelli*, with semi-dark leaves and dark scarlet flowers, a profuse-blooming first-rate variety; and *Musa ensete*, the last being a circular group of seedlings raised this year, and in very robust health. Beneath the *Musas* the ground is covered with *Amaranthus melancholicus ruber*, surrounded by an edging of the pretty blue-flowered *Plumbago capensis*; and outside this *Artemisia Stelleriana*, with elegantly-cut frosted foliage, forms an elegant margin to the whole. A long bed on the other side of the walk is planted with *Solanum Warszewiczoides* and *Amaranthus tricolor*, the leaves of the latter most splendid in their colours; and the whole is edged with *Lantana crocea superba*, an excellent bedding variety. This arrangement is very effective, and not less so is the next in three beds, two of which are long ovals with their ends cut out, so as to correspond in sweep with the circumference of a circle between the two. The outside row in all three beds is *Sempervivum californicum*, succeeded in the two end ones by *Golden Feather Pyrethrum*, and *Lady Constance Grosvenor Pelargonium* in the centre. In the small central circle the *Sempervivum* is followed by *Monsieur Nachtet scarlet Pelargonium*, and the centre is occupied with *Lady Plymouth variegated Pelargonium* and blue *Lobelia*.

Passing onwards we again come to another bed of *Erythras*, this one being *E. Hendersoni*, a later-blooming variety, with the showy *Amaranthus bicolor* forming the ground-covering; and on the opposite or left-hand side we perceive in a pretty nook a fine plant of *Seafortbia elegans*. Then comes a circle, in which *Beauty of Calderdale Pelargonium* forms a star in the centre, *Lobelias* being planted between the rays, and for an edging there is a ring of the lively *Alternanthera amena*. We now come to one of the most perfect and beautiful beds in the place, at once extremely rich in colour and extremely chaste in its effect. It is a circle of *Coleus Verschaffelti* edged with *Centaurea ragusina compacta*, with a ring of *Golden Chain Pelargonium* round the outside. For the present we shall just notice one more bed—namely, a circle, with a star of Mrs. Pollock Pelargonium in the centre, blue *Lobelia* dividing the rays, and an edging of *Golden Christine Pelargonium*. This arrangement was very pretty and effective, the blue flowers of the *Lobelia* and the richly variegated leaves of Mrs. Pollock offering a fine combination of colours—in fact, the prismatic colours red, blue, and yellow.

(To be continued.)

DUTCH CLOVER VERSUS GRASS FOR LAWNS.

DURING the late burning hot weather the lawns in this neighbourhood, more especially where the water supply has

been exhausted, have presented an appearance in piteous contrast to the usual summer carpeting, whilst one of my neighbours rejoices in the extreme richness of an extensive lawn of Dutch or White Clover, which has required no extra watering, and a much less frequent use of the mowing machine. I cannot but think that the substitution of this elegant and dwarf variety of Trifolium for even the choicest of our Grasses, would prove a decided advantage.—HOUNSLOW.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 1ST.

FRUIT COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. Messrs. Backhouse & Sons, York, exhibited a dish of Figs, which proved to be the White Marsilles. Figue Panachée came from the Society's Garden, Chiswick. It is a very beautiful variety, prettily striped with yellow and green, and of excellent flavour. Mr. Melville, gardener to the Earl of Rosebery, Dalmeny Park, Edinburgh, again sent examples of his early seedling Grape, which was exhibited at the last meeting. The Committee then could not decide upon its merits, as there was but a very small portion of a bunch sent. This time the examples were much about the same; the Committee, therefore, while commending the Grape for its earliness and peculiarly agreeable flavour, partaking somewhat of Moselle, could not come to any sound decision respecting it from the small portions of bunches exhibited. Mr. Colegrave, Swerford Park, Eton, sent a very large and beautifully grown bunch of Buckland Sweetwater Grape; the berries were very fine, and it was an excellent example of good cultivation.

Mr. Francis Dancer, Little Sutton, Chiswick, sent some very large and fine specimens of Jersey Gratioli Pears, grown on standards; they were very juicy and of fine quality. This is an excellent Pear for market gardens, being large and a very free bearer. Mr. Dancer also sent a dish of a large seedling Apple, which was of considerable merit, very juicy, and brisk.

Messrs. Veitch & Sons, Chelsea, sent a fruit of Ananassa Porteau, a pretty striped-leaved variety of Pine Apple, grown as an ornamental plant. The fruit proved very watery and tasteless.

Mr. Whiting, The Deepdene, near Dorking, sent three dishes of Plums—viz., Jefferson, very highly coloured and excellent; Green Gage, also rich and juicy; and Bryanstone Gage, highly coloured, but wanting in richness. The exhibition was commended by the Committee. Mr. Whiting also sent some highly-coloured Royal George Peaches, which were, however, wanting in flavour. Mr. Cole, gardener, Otta House, Hammersmith, sent some good examples of Barrington and Grosse Mignonne Peaches and Ribston Pippin Apples, which were commended by the Committee.

Mr. Cox, gardener to Earl Beauchamp, Madresfield Court, sent a very fine fruit of Golden Gem Melon. It is a large, round, and beautifully netted yellow fruit, the flesh whitish green, flavour very rich and excellent. The Committee awarded it a first-class certificate. Mr. Perkins, gardener to Lord Henniker, Thornham Hall, Eye, Suffolk, sent a hybrid Cashmere Melon, a red-fleshed variety. It proved to be of very poor quality.

Mr. Rivers, Sawbridgeworth, exhibited samples of Summer Beurré d'Arenberg, a variety similar in every respect to the Beurré d'Arenberg, only ripening in summer. It is a very nice, pleasant, refreshing-flavoured Pear, with a brisk acidity. The Committee commended it very much, but required to see it in somewhat better condition before awarding it a certificate. Better specimens of this variety are noticed in another column. Mr. Rivers also exhibited Princess of Wales Peach, a seedling raised from Pavie de Pomponne. It is a large pale variety of very excellent flavour.

Mr. R. Dean, Ealing, exhibited samples of Premier Runner Bean, a variety having the same appearance and taste as the Dwarf Kidney Beans. It is, however, a runner, a continuous bearer like the Scarlet Runner, and on that account valuable. The Committee awarded it a first-class certificate. Mr. Marcham, gardener to E. Oates, Esq., Bydorp House, Hanwell, sent examples of a Dwarf Kidney Bean, named Bydorp Longpod. It was a long and rather coarse-looking Bean.

Messrs. Dry, Hayes, Middlesex, sent a seedling dark oval Plum, which proved to be of very good quality. The Committee requested that it should be sent again. It was highly commended by the Committee. They also exhibited a seedling Apple of no great merit.

Mr. Fleming, Cliveden, exhibited some fine bunches of the Frankenthal Grape. Mr. Fleming sent them, judging they might be of interest to the Committee from being the average size and quality of two hundred bunches on one Vine, which is fourteen years old, and filling one entire house. They were a very fine example, but greatly damaged before their arrival.

Mr. R. Webb, Culham House, Reading, sent some seedling Plums and Apples, which, however, arrived too late for the meeting.

From the Society's Garden, Chiswick, came Pear Beurré d'Amant's panache, a very beautifully striped variety, well worthy of extended cultivation.

Mr. Turner, Slough, exhibited some very fine examples of White Spanish Onions, unusually so for the season. They were highly commended by the Committee.

A large collection of White Spanish Onions was exhibited from

E. G. Hartley, Esq., Hon. Secretary of the Banbury Horticultural Society. They were of unusual excellence and large size. They were highly commended by the Committee.

FLORAL COMMITTEE.—Numerous awards were made at this meeting. Messrs. Veitch received a first-class certificate for the following plants—viz., *Cattleya speciosissima*, a very beautiful kind; *Dendrobium bigibillum*, very distinct in form; *Masdevallia Veitchiana*, very curious; *Abutilon Thompsonii*, a golden-leaved plant most beautiful, a great addition to ornamental-foliaged plants; and *Begonia Clarkei*, an erect-growing plant, with bright red stems and pale rose-coloured flowers. Of its hardness nothing was said; in point of colour and habit *B. Veitchii* far surpasses it; a cut specimen of the latter was exhibited from a plant growing in the garden. A special certificate was awarded for a collection of *Odontoglossum*; a second-class certificate for *Begonia Butonii*, a small but pretty-foliaged plant. It was requested that *Panicum plicatum niveo-vittatum* should be shown again. Of *Lapageria alba*, a very well-grown and handsome plant was awarded a special certificate, and the whole collection, consisting of many very beautiful plants, a special certificate.

Mr. Bull, Chelsea, exhibited *Ravenalia elegans*, a fine-foliaged plant—second-class certificate; *Strelitzia Nicolai*—first-class certificate; a fine Palm, *Bactris maragna*—a first-class certificate; *Adiantum Seemannii*, a beautiful Fern—first-class certificate; *Geonoma imperialis*—first-class certificate; *Dieffenbachia elurica*, a pretty variegated-foliaged plant—second-class certificate. Mr. Bull also sent three *Coleus* seedlings, two of which had received first-class certificates.

Some seedling *Caladiums* and *Fuchsias* were sent from the Society's garden; of the latter we hope to speak again. Messrs. Smith, Dulwich, received a special certificate for a collection of Balsams, showing the difficulty of procuring seed, which can only be saved from the lateral branches, most of which produce blooms as double as the centre spike, but of course are much later in expanding their flowers. Messrs. Smith also sent three seedling Zonal Pelargoniums of promising character, and a small collection of some of their best variegated kinds.

Messrs. Lee, Hammersmith, exhibited cut specimens of eight or ten beautiful varieties of Elms, which were awarded a special certificate. *Ulmus Webbiana* was much admired; also a variegated form of *Cerasus Mahaleb*. The leaves of this specimen were rather crumpled, perhaps owing to the season; the variegation was distinct and effective.

Messrs. E. G. Henderson sent a collection of plants of great interest. Among them were small specimens of *Centaurea* of several kinds, two *Cyclamens*, a singular unnamed *Lycopodium*, some good specimens of Variegated Zonal Pelargonium Lucy Grieve, a basket of small plants of *Fuchsia Garibaldi*, and other plants. A special certificate was awarded the collection.

Mr. Eckford, gardener to the Earl of Radnor, Coleshill, sent eighteen seedling Verbenas, all of considerable merit. First-class certificates were awarded to Lady Folkestone, Master Jacob, Mrs. Eckford, and Ace of Trumps. These were all distinct and good varieties. Mr. Perry, Castle Bromwich, Birmingham, exhibited a collection of seedling Verbenas. First-class certificates were awarded to Florence Fiddian, Emma Perry, and Argus. These were all fine flowers. A special certificate was awarded for a splendid box of twenty-one varieties; among them were several seedlings which had previously received first-class certificates. Mr. Eckford sent two seedling Dahlias, of which Memorial, a fine deep rose-coloured flower, was awarded a first-class certificate. Mr. Rawlings sent seedling Dahlia Indian Chief, a fine dark maroon flower of great merit. It was awarded a first-class certificate. Mr. Burgess, Chelsea, sent four seedling Dahlias, and Mr. C. Turner, Slough, seedling Dahlia Unique, one of the finest flowers yet seen, a white ground, shaded with rosy purple, of exquisite form—first-class certificate; Polly Perkins, buff, with delicate purple tips to the petals—second-class certificate; and Lady Dunmore—second-class certificate. Mr. George Smith, Edmonton, exhibited seven seedling Dahlias, but not up to the mark as distinct from others. Mr. Legge, Edmonton, also sent seedling Dahlias. Mr. Barfitt exhibited scarlet seedling Dahlia, Charles Lambert. Mr. Keynes sent seedling Dahlias—Mrs. Brunton, first-class certificate; Julia Wyatt, second-class certificate; Annie Neville, second-class certificate; Mr. Dix, first-class certificate; and James Hunter, first-class certificate.

Mr. Keynes had a fine collection of Dahlias, but we must venture to say that the Dahlia race must be considered as fairly run. It is seldom we see exhibited any flower new and distinct. Traces of good old flowers are visible, but no advance is to be observed upon flowers of the last five years. Not wishing to disparage the excellent flowers exhibited this day, we could not discover any advance or improvement. We should be inclined to say we are multiplying varieties, but not introducing improvements or novelties.

We must not omit to notice a Zonal Pelargonium, *Surpasse Christine*, flowers of which were brought from Chiswick from plants sent there by Mr. Chater. The marked improvement on this old favourite was most evident. It appears to be a very desirable variety.

GENERAL MEETING.—W. Wilson Saunders, Esq., F.R.S., in the chair. After the election of W. Darley Inall, Esq., F.G.S., and F. Whitbourn, Esq., Loxford Hall, Ilford, as new Fellows, the Committee awards were announced. The Chairman then directed attention to *Begonia Clarkei*, resembling the hardy *B. Veitchii* in flowers, and said that if it proved as hardy as the latter it would be a valuable acquisition, especially as it was of an erect habit. *Abutilon Thompsonii*, [another plant exhibited, was also worthy of particular notice

on account of its diverse-coloured leaves, its hardness, and its easy cultivation. He considered it a charming addition to our greenhouse decorative plants. Mr. Wilson then pointed out a stem of *Lilium tigrinum splendens*, and said that Mr. Eyles had informed him that it was a most important new variety, taller in habit, with the flowers marked by larger spots, and altogether much finer than the common Tiger Lily.

MESSRS. RIVERS' NURSERIES, SAWBRIDGEWORTH.

To say anything in praise of this great establishment is, of course, a work of supererogation; to say that the orchard houses are as usual in splendid order, the trees healthy, and the fruit delicious, is but to repeat an oft-repeated tale. Still, "Rest and be thankful" is not our motto, neither is it that of Mr. Rivers. In this vast establishment there is always something new, and something to be learnt. New ideas and new projects are continually on trial there, so that visit Sawbridge-worth when one may, there is always a treat in store. Mr. Rivers is one of the greatest of British experimental horticulturists, and in his own particular line—fruits, he has done, and is doing, more for their improvement, and for fruit culture in this country, than any other man living. When I mention orchard houses I will have said enough.

Six thousand Peach, Nectarine, and Apricot trees in pots, are the number cultivated in this establishment this season. The quantity seems enormous, yet there they are, and all will be able to hear some fruit next year under good management. Taking the average of them at only ten fruits a-piece, we have the enormous quantity of sixty thousand fruits. Sixty thousand Peaches and Nectarines certain! Why, it makes one's teeth water. Many of them, however, will bear much more than that. I noticed some trees with several dozens of fine fruit on them.

Mr. Rivers has long been famous as a raiser of seedling fruits. For Peaches, especially, we are to him much indebted. Mr. Rivers's efforts have been mainly directed to the attainment of a better class of early and late Peaches, and in this he has succeeded with Early Beatrice, which ripened this season on the 14th of July, Early Louise on the 8th, an Early Rivers on the 14th, all of which are earlier than the Early York or Acton Scot, and equally good in quality. Of late varieties we get Lord Palmerston, a first-class Peach, and many others. The Alexandra, a seedling from the Noblesse, looked remarkably fine. It differs only from the Noblesse in having round glands on the leaves. It is of a much more vigorous constitution, and is not subject to mildew like the old variety. Some of the seedlings of this year, yet unnamed, are of exceeding great promise. One marked S. 187, noticed in this Journal, page 133, a seedling from Rivers's Orange Nectarine, is the richest-flavoured Peach I ever tasted. It partakes somewhat of the flavour of the Nectarine and Peach combined. Mr. Rivers styles this *the* Peach of the season.

Among Nectarines there are also many grand acquisitions. The old Stanwick is well known for its superior flavour, as well as for its bad habit of splitting and cracking. Mr. Rivers has long worked assiduously to overcome this evil, and with success. The extremely rich flavour of the Stanwick has been imparted to many of the new seedlings, both Peaches and Nectarines. Indeed, the Stanwick forms the groundwork of the major part. It is the "true blue blood" in Mr. Rivers's stock book. How very interesting it is to listen to Mr. Rivers, while he is pulling fruit after fruit for one to taste, to hear him detailing the pedigrees of each, with as much exactitude as is bestowed on some of our "Derby favourites;" to learn that this beautiful Peach we are now eating is a seedling, may be the "third remove," as Mr. Rivers terms it, from a yellow-fleshed Nectarine. Nectarines are raised from Peaches, and Peaches from Nectarines, without any sort of regularity. They come just as often the one way as the other. Here is a Nectarine in appearance exactly like the Stanwick, raised from the Victoria Peach. Here is another, a white Nectarine, raised from the Bellegarde Peach, and another, a white Peach, raised from Hunt's Tawny, a yellow-fleshed Nectarine. Early Peaches are raised from late Nectarines, and *vice versa*. Here I have the full pedigree of one. The Princess of Wales Peach, a splendid late kind. It was raised from the Early Silver Peach, which was again raised from seed of the old White Nectarine. Mr. Rivers has some curious theories on this subject. One is, as to whether all our present race of Peaches have not sprung from one source, and that source the White Nectarine. Judging from what has been already learned, it

seems very probable Mr. Rivers is "on the trail;" however, I leave it with him, for who but a Rivers can fathom it, or find it out? It is a regular Darwinian subject. There have been several instances observed of Peaches and Nectarines growing on the same branch of a tree. Mr. Rivers is, however, the first to have raised seedling Peaches from Nectarines, and Nectarines from Peaches.

I must not omit to notice here a very curious Peach, which I tasted for the first time—the Honey Peach. It is not a new one. It was raised at the Jardin des Plantes, Paris, from seed received from Shanghai. It is of oval shape, perfectly white; the flesh juicy, rich, and delicious, like honey, hence its name. The double-flowering Peaches of China have fruit somewhat similar in appearance, and it may have been observed there is something of this same honeyed taste in them, only it is mixed with a certain bitterness which spoils them for eating. This variety is valuable for breeding from. It will impart novelty of flavour to Peaches.

The Shanghai is another curious Chinese Peach, which was introduced by Mr. Fortune many years ago. It is always to be seen in fine order on the Peach wall in the Royal Horticultural Society's Garden, Chiswick. It is one of the largest Peaches in cultivation, and handsome. It somehow irresistibly puts me always in mind of a Chinaman's scalp, it is so big, and has such a "shaved"-like look, being of the palest of yellows. It is tempting to look at, but no better than a Turnip to eat. Something good may come from it by cross-breeding. There is still another curious Peach to be seen here—that is the Sanguinele, the flesh of which is red, like a Beet-root, but pretty good to eat. Besides these, Mr. Rivers cultivates numbers of the varieties of Pavies, or Clingstone Peaches of America, the fruit of which rarely become melting in this country, even in orchard houses. They are used for tarts, however; and one writer I recollect recommending some elaborate process of cutting them into slices and frying them, I think, after which, being very nice, they were to be pitched out of the window.

One large house 100 feet long and 24 feet wide, is almost entirely devoted to proving seedling Peaches and Nectarines this year. There are, besides, many hundreds in the open air that are not yet old enough, one and two-year-old seedlings; and the pots, too, with the seeds of some of this season are already sown. The stones are sown almost immediately after the fruit is eaten, they germinate more freely than if kept dry until spring time. The 4 and 5-foot pyramidal trees are the most handsome; they are perfect pictures. They are, however, more difficult of management than the bush trees. They require more close attention as to pinching the young growing shoots, and keeping down the vigour which is sure to appear in the highest part of the tree. Some trees that are planted out in one house, although very roughly treated, are quite pictures, being loaded with fruit. The ground in which they are growing is of a light calcareous nature, with abundance of chalk; but, oh! how hard it is, it seems as hard as one of McAdam's roadways. The soil is never stirred or loosened in the least, or if it is, it is rammed down again, so as to be as firm as before. In these large span-roof houses of Mr. Rivers, it is worthy of note how clean, healthy, and satisfactory all the trees are, and that without any top ventilation. All the ventilation there is, is at the sides and ends. One would have imagined that, especially in this hot season, the leaves and shoots would have been all scorched, yet such is not the case. It cannot be denied, however, but that it would be better to have top ventilation, excepting on the ground of expense. These houses are erected in the cheapest possible manner, and orchard houses to pay should be erected as cheaply as possible; they are not show houses. To break the roof for ventilation in a house of this sort adds considerably to the expense, and Mr. Rivers has not found it necessary to do so. Mr. Rivers places his trees along both sides of the house nearest to the ventilators, with a broad pathway in the centre. Supposing this arrangement to be reversed, and the trees placed in the centre, farthest from the outer air, or the house to be 30 feet wide instead of 24 feet, I fear the trees then would suffer, or if not the trees the fruit would certainly lose piquancy of flavour from want of sufficient ventilation. What gives flavour to ripening fruit? It is a somewhat cool and bracing air.

There is one ingenious device here which I must not omit to notice. It is a contrivance, an "orchard-house railway," in fact, for moving all the trees *en masse*, to have the benefit of the open air. There are, first of all, two lines of rails running through the house; and the stage in the centre, instead of being a fixture

as in ordinary plant houses, is upon wheels like a railway truck running on these rails. The trees in pots are standing on this stage or truck—indeed, plunged into large metal pans filled with soil. One end of the house is, of course, made to open sufficiently, and thus the whole stage, trees and all, can be moved by rail to breathe the fresh and open air. Granted that it is beneficial to the trees to have the fresh air, they

can easily be carried out, if necessary, and that at one-twentieth part of the expense. It just resolves itself into this, whether a tree is to cost 5s. a-year, or 50s. as by this plan. This is not an invention of Mr. Rivers, neither is it adopted by him, it is simply there on trial through Mr. Rivers's kindness.—ARCHAMBAUD.

(To be continued.)

A FRAGMENT OF WILTSHIRE.

THE inhabitants of each county have some ludicrous designation assigned to them, yet I never could discern that Essex men are more calvish, nor Hampshire men more swinish, nor Wiltshire men more simple than those who have their locations elsewhere; yet the natives of the first-named county are called "Calves," of the second "Hogs," and of the third "Moonrakers." The legend attached to the last is that some townsmen of Chippenham, seeing the full moon reflected in a certain pond, endeavoured to rake it out, believing it to be a cheese.

Now, I have known that town of Chippenham for about four lustrems of years, and never could discern that any of its denizens were probably descendants of "moonrakers." Let any one of your readers visit it; let him establish himself in that old-fashioned "hospitium" improved, "The Angel Hotel;" let him see with his own eyes the town's substantial bright

structures, and among them that bit of the old shambles, with its round Anglo-Saxon pillars, which may have been there when Alfred and Guthram signed their treaty of peace within the town's precincts; let him associate with the inhabitants, and, especially if he be of conservatives a conservative superlative, he will agree with me that there are no symptoms of moonraking, nor, so far as I have sought, are symptoms of such lunacy to be discerned in the vicinity. Now-a-days the visitor can journey round the town without being way-foundered, though Wilts were formerly famous for "feeble bridges and foul ways," but they are now quite reformed, and were partly so centuries since. Walter, Lord Hungerford, early in the fifteenth century, made a new-foundering road across Standerwick Marsh, between Beckington and Warminster, and, like a good husband, he recorded that it was "for the health of the



soul of Lady Katherine his wife;" and somewhat later estates were left for the repair of "causeys" and highways about Cricklade and Devizes.

Lastly, but first in merit, was Maud Heath, for she gave all her store of hard-earned savings to make and repair the "causey" extending four miles and a half from Bremhill Wick Hill to Chippenham; and on a stone, truthful though not homerical, is this record—

"From this Wick Hill begins the praise
Of Maud Heath's gift to these highways."

Midway at the bridge over the Avon is another inscription—

"To the memory of the worthy Maud Heath, of Langley Burrell, spinster, who in the year of grace 1474, for the good of travellers, did in charity bestow in land and houses about £8 a-year for ever (now yielding £110 annually), to be laid out on the highway and causey leading from Wick Hill to Chippenham Clift."

She did this during her lifetime—sensible woman, for thus not only trotted she along the "causey" dry-shod herself, but saw and appreciated the good she had secured for others.

The local tradition is, that "worthy Maud Heath" brought eggs and butter to Chippenham, as the women-folk of farmers' families all did in her days, and that the hindering and suffering during inclement weather which she endured in passing over the swampy and often overflowed parts of the road, induced her to bestow the endowment.

A century before—namely, in 1376, Edward III. granted to the inhabitants of Chippenham permission to levy pontage—that is, a toll for the repair of their bridges; but Maud Heath's gift is sufficient evidence that the pontage failed in efficiency.

Let the visitor, over a road needing no aid from that gift, take a stroll in a north-westerly direction until he reaches the lodge of Harnage; let him pass through its gate and into the avenue beyond—notice the splendid Elms—pass by the mansion's front—if he knows the pages of Britton, let him call to memory from them who have been the owners and the guests at Harnage. They were not "the simple ones of the earth."

Hersafer I will tell of another of those guests, but at present will pause over no other than Christopher Anstey, author

of the "New Bath Guide," and who from boyhood and over more than fourscore years was "a fellow of infinite jest." In him humour had by far the mastery of discretion, and I wish there was room to spare in your columns for the burlesque declamation which conferred upon him rustication instead of an M.A. degree. He even rendered his wit hereditary, for his son in "The Pleader's Guide" satirised legal proceedings by a detail of the arguments of Counsellors Botherum and Boreum in the case of John-a-Gull v. John-a-Gudgeon. Who amongst your readers, besides old spiders of literature like myself, ever read the "New Bath Guide?" Yet its wit still sparkles, and doctors, presumed Cantwells, and fashionable manners, even when out of date, are always subjects for palatable ridicule. Its author died at Harnage in 1805, and this epitaph, extracted from his volume, might have been inscribed on his monument:—

"Farewell! may the turf where thy cold reliques rest
Bear herbs, odoriferous herbs, o'er thy breast;
Their heads Thyme and Sage and Pot-Marjoram wave,
And fat be the gander that feeds on thy grave."

Passing on, still beneath noble trees and among an under-wood of evergreens, the visitor will reach a wicket, and there, in its "God's Acre," stands the church, of which the accompanying is the portrait.

Elevated, as a church should be, it crowns a hill's summit, and between some of its neighbouring trees looks out, as such beacons should, across a wide landscape, here bounded in the twenty-mile horizon by Salisbury Plain. Its architecture is simple and graceful, and the Ivy embraces and clings to it as Ivy always should to a church, if I could have my taste satisfied, for it is ever green, and thus at once savours of the loving, confiding, and everlasting. Passing to the interior, the same all-fittingness there prevails: no exclusive pews, no decorations, yet all things in the perfection of neatness.

But few commemorative tablets are on the walls; yet among them one records the resting-place of old John Thorpe, the antiquary, one of the rare exceptions of a son celebrated in the same field where his father had been his distinguished predecessor. How few clerical fathers have clerical sons? but how many of them contribute to our naval and military lists! However, John Thorpe, the antiquary, and author of the "Registrum Roffense," or Rochester Register, was the father of the John Thorpe whose remains are in this churchyard, and he, too, published a volume of Rochester antiquities, entitled "Custumale Roffense." He would deserve a record in these pages if only because a friend records that he was "skilful and curious in his garden, intelligent and communicative in his library." And he merits a record in any page that tells of where a true christian gentleman rests from his labours. The last years of his life were passed in Chippenham, and I do not wonder that he should direct his last resting-place to be here. I should have done the same, though *not* for the reason assigned, by an old lady, "It looks so healthy."

Beneath that temple-like tomb shown in the drawing was interred another "man of his time;" but his celebrity was derived from intelligent dealings with the wealth of the present, not with the old remnants of the past. There lies David Ricardo, the eminent political economist. He died in the prime of life, at his seat in Gloucestershire, yet he, too, desired to rest here, for the heart clings to the desire, even when ceasing to pulsate, to be retained near those it loves, and Ricardo's clung to his daughter, whose husband was then the master of Harnage.

It seems strange that a man who was in early life a Jew, who married a Quakeress, and then joined the Unitarians, should finally repose in a graveyard of the Trinitarians. But, whatever may have been his final creed, he was during the thirty concluding years of his life noted for his unflinching integrity, and he deserves the admiration of his countrymen for being the early advocate of the freest competition in every branch of industry, and of dealing with all nations on fair and liberal principles.

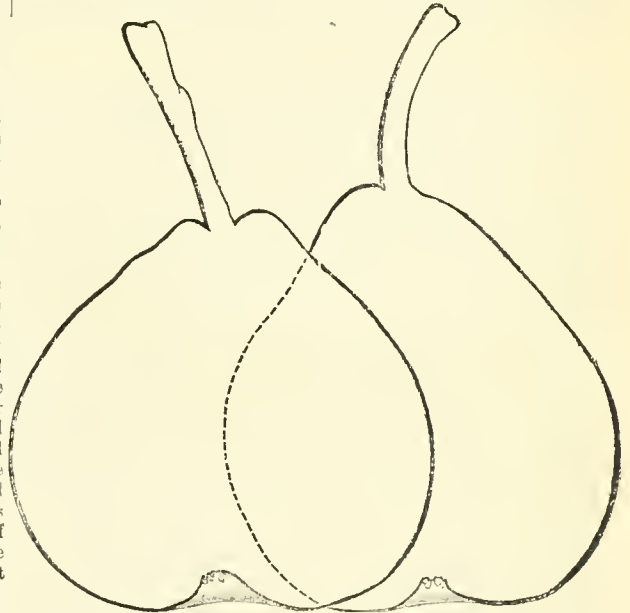
Descending from the eastern end of the church and crossing the road the visitor may pass into the rectory. It is in perfect unison with the church; so is its garden, its hen-roost, and its pigeonry. I was privileged to cross the threshold of that rectory, and I might tell of the genial welcome, the heart-lit smiles, and the firm hand-pressures that greeted me; they

were bestowed on me by "WILTSHIRE RECTOR" and his family, and this his rectory is Hardenhuish.

The parish is small, and the incumbent's emoluments no more than £90 a-year, so that "WILTSHIRE RECTOR" might reply, as did one of his brethren, "I have no living, but I have a starving near Chippenham." No one better deserves better preferment, and no one would more rejoice to hear that he had obtained it than would his friend—G.

POMOLOGICAL GLEANINGS.

SUMMER BEURRE D'AREMBERG.—We have often heard from the lips of Mr. Rivers a flattering account of this new seedling Pear of his, which fruited for the first time two or three years ago; but from the fact of it being an early Pear, and soon past, circumstances have hitherto prevented us from forming our own opinion of its merits. Fortunately this season some of the fruit have reached us in perfect condition, and from those now before us we furnish a figure and description of this new fruit. The size, as will be seen by the figure, is not large, and



the form is somewhat turbinate or short obovate, even in its outline. Skin of a lemon colour, slightly veined with cinnamon-coloured russet, with a patch of the same here and there, and particularly so round the stalk. Eye very small, frequently wanting, and set very deeply in a deep and narrow basin. Stalk upwards of an inch long, and inserted in a small round cavity. Flesh tender, melting, juicy, brisk, and with a fine, sprightly, vinous, and perfumed flavour. The fruit does not keep long, as it rots at the core shortly after being gathered; but the variety is a desirable sort at this season, and if gathered before it is perfectly ripe it will, no doubt, keep much longer after being gathered.

The Summer Beurré d'Aremberg was raised by Mr. Rivers from the old Beurré d'Aremberg, and the tree forms naturally a perfect pyramid, is hardy, and a great bearer.

ALEXANDRA OR ALEXANDRA NOBLESSE PEACH.—We have had an opportunity of seeing and eating fruit of this season, and find that all our former favourable impressions of this excellent Peach have been confirmed; and there is no doubt but that it is in respect of the fruit, one of the finest Peaches in cultivation, and as regards the tree, one of the hardiest. Unlike the Noblesse, to which the fruit bears a close similarity, the tree is not subject to mildew, and the leaves are furnished with round glands, whereas in the Noblesse they are glandless.

We have received from Mr. Rivers a seedling Plum, marked No. 7, which bears a close resemblance to the true Nectarine Plum. It is round, purple, and of good flavour. It cannot be called a dessert sort, but is a productive and early bearer, like those two valuable varieties of which Mr. Rivers sent us fruit; also, it will be valuable as a market and culinary

* The following is a translation of the inscription on the tablet:—
"In the eastern part of the graveyard now rests John Thorpe, M.A. and F.A.S. Born in the parish of Saint Margaret, in the city of Rochester, in the year 1715, and died August 2nd, A.D. 1793, in the hope of a joyful resurrection only through the merits of Christ."

variety. It was raised from that beautiful sort Belle de Septembre, but is hardier than its parent. Its season when grown out of doors is the beginning of September, but the fruit now before us, being grown in an orchard house, is consequently earlier.

A YEAR or two ago we noticed a remarkably fine specimen of a Peach received from Mr. Bréhaut, under the name of EXQUISITE. It measured somewhat about or over 9 inches in circumference. This season we have had half a dozen such, and though they were somewhat decayed in consequence of delay, the flavour was rich and really delicious. From this and other evidences we have seen of this Peach, it is one we unhesitatingly recommend as one which ought to be in every collection—say one of six. Its large size, fine apricot colour, and high flavour render it truly an exquisite Peach.

THE REV. W. KINGSLEY, of South Kilvington, informs us that he has "two very big Susquehanna Peaches colouring, fully 12 inches in girth; and I want to know whether this is big for Chiswick and other big places." We would call it big for any place; but knowing as we do, and having seen Mr. Kingsley's mode of cultivation, and the result of the intelligence he brings to bear upon it, we were quite prepared for this announcement.

NOTES AND GLEANINGS.

THE total number of people who visited the ROYAL HORTICULTURAL SOCIETY'S GARDENS, at South Kensington, on the 26th of August, the Anniversary of the late Prince Consort's birthday, was 115,303.

THE Council of the Royal Horticultural Society have decided to erect an orchard house in the garden at Chiswick, which will illustrate in an effective manner this system of fruit culture. The house will be 100 feet long and 30 feet wide; and as it is to be proceeded with forthwith we may hope to see during the next season a worthy example of orchard-house cultivation carried out efficiently where horticulturists would most expect to see it.

It is again our painful duty to add another name to the long roll of botanists who have laid down their lives in hunting out the treasures of other climes wherewith to enrich our gardens. Valuable indeed they ought to be when it is seen at what a sacrifice they are obtained. Not a month has elapsed since we had to chronicle the death of Mr. Richard Pearce; now it is that of Mr. DAVID BOWMAN, a young and very enterprising botanical collector. The melancholy intelligence has just been received in this country of his death at Bogota, New Grenada, on the 25th of June last, of dysentery, after a long illness. Mr. Bowman left this country nearly three years ago to collect plants and seeds for the Royal Horticultural Society, Mr. Wilson Saunders, and others. He first visited the neighbourhood of Rio de Janeiro, Brazil. Finding but few plants there, he subsequently went to the richer districts of New Grenada and from thence he sent considerable numbers of plants to this country. He had been for some time in the neighbourhood of Bogota, and had collected a fine lot of plants, with which he intended to have returned home shortly himself, when he unfortunately sustained some severe losses through robbery, which compelled him to prolong his stay in one of his excursions. After this occurrence he contracted a violent dysentery, which he at first neglected, but which ultimately carried him to his early grave. He lies buried in the British cemetery of Bogota, and leaves a wife and one child totally unprovided for to mourn his loss. He had been but a short time married previous to leaving this country. Mr. Bowman was a native of Scotland, and was born at Arniston, near Edinburgh, September 3rd, 1838, his father being gardener there. He served his apprenticeship at Arniston, and subsequently went to Dalhousie Castle and Archerfield. After having been foreman in the gardens at Dunmore Park, near Stirling, he came to the Royal Horticultural Society's gardens, Chiswick, where, as plant foreman, he was employed up to within a short period of his departure from this country. Among plants introduced by Mr. Bowman which bear his name may be mentioned *Odontoglossum Alexandre Bowmani* and *Cyanophyllum Bowmani*, two first-class plants.

WORK FOR THE WEEK.

KITCHEN GARDEN.

WHEELING-IN rotten dung for vacant pieces of ground, digging or trenching them, tying-up Lettuces and Endive occasion-

ally, with the general routine of weeding and keeping the ground clean, constitute the principal work now in this department. *Cabbages*, if there are any plants left in the seed beds, there is plenty of vacant ground now for them, and they will come in useful. *Celery* may have a good earthing-up now when the soil is dry, and so may the *Cardoons*, as they have now finished the greater part of their growth. *Cauliflowers* should also be planted out in time where they may be protected, or prepared for planting under hand-glasses and frames. *Dwarf Kidney Beans*, measures should be taken for protecting the last sown out of doors in case of necessity; one night's frost warded off may insure a supply for a month later. Where hoops and mats are not applicable, a shaggy straw rope fixed upon stakes, so as to be moved obliquely or horizontally, as occasion requires, will answer the purpose. *Lettuces*, while the weather is fine make the last sowing for the late-spring supply before the week is out. *Mushrooms*, those who grow Mushrooms only at certain seasons cannot do better than procure spawn from their nurserymen, who generally obtain it from those who make it extensively for sale. Where Mushrooms are constantly wanted, the gardener can use the spawn more liberally when he makes a quantity himself. The materials are horse droppings and cow dung in about equal proportions, with a little road drift well mixed together. It may be made into bricks with a mould and put into a shed to dry, or merely spread out on any hard place under cover, about 2 inches thick, and divided into the size of bricks by cutting with a sharp edging iron. Make two holes in each brick for spawning, and getting them dry enough for that operation is all that will now be required. *Tomatoes*, pinch off all their lateral shoots and stop the leaders, just as you would Vines, but they like more sun than Grapes, and some of their leaves may be cut off to let the sun reach them.

FRUIT GARDEN.

Peaches and Nectarines should now be looked over every day, and the fruit gathered before it is dead ripe. Place bean-stalks among the Peach trees if there are any earwigs, and blow these troublesome insects into a pot of water in the morning; this will soon reduce their numbers. See that you know the names of all your Peaches before the fruit season is over; if you paid attention to the size of the flowers, the leaves and fruit will now generally enable one to determine the right names. It is important that everything should be correctly named. If Peaches and Nectarines are placed on shelves in the fruit room, with soft tissue or silk paper underneath them, the flavour will be better than if they are allowed to hang too long on the trees. After gathering what fruit is ripe the trees may be sprinkled with clean water in the afternoon after fine days; but, unless in extreme cases, it would not now be advisable to water any more at the roots, as the sooner growth can be stopped, and the maturing process completed, the better. If the heavy autumn rains, which may be expected before long, could be thrown off the borders by tiles puddled with clay, or by boarding, &c., we would suffer less from a severe winter. Unless the borders are particularly well drained, a second growth will take place, the vessels of the wood will be charged with a superabundance of watery fluid, and if a severe winter ensues, black and brown spotted, cankered, gummy, and dead wood in the spring will be the consequence.

FLOWER GARDEN.

That the autumn is the best time to bud Roses no one who has tried it will dispute; autumn in many cases is a better time to graft and bud many kinds of trees and shrubs than the spring or early part of summer, especially those trees that are difficult to propagate by these modes. The conclusion to be arrived at is this, the office of every leaf having a bud at its axil is to prepare proper nourishment for the full development or organisation of that bud, that the leaves of some trees possess the property of furnishing the buds in a few days, that others take some weeks to effect this, while a third will require a month or two to furnish the buds as independent members of the system. Certain it is that autumn is the safest time to bud those trees and shrubs that are considered difficult to increase in this way; and that such trees may be grafted in the autumn and unite in less time and with greater safety than at any other season, is a very important point to attend to.

GREENHOUSE AND CONSERVATORY.

From this time to the end of October there will be a considerable amount of potting for furnishing plants for the decoration of the conservatory. *Tropæolum tricolorum* and others should now be potted, to come in during April. *Lilium longiflorum*

and eximium—the latter only a slight variety of the other—to flower early in June should now be potted. The beautiful varieties of *Lilium lancifolium* to flower next July should also now be in pots, but October is time enough to pot all these if they are not wanted before their usual time. The spring-flowering *Cyclamens* are very desirable plants; they should now be potted, and the summer ones gradually allowed to become dry, in order to be stored away for the winter. The earliest crop of *Hyacinths*, *Narcissus*, *Tulips*, &c., should now be making roots freely in the new pots.

STOVE.

Many useful plants in that section which flower in winter and early spring in the stove, may be brought sooner into flower by checking growth about the present time; this is done by diminishing the usual quantity of water, and by keeping the house drier. Others of the same sort may be encouraged to grow as late as they will in order to succeed these. Every pot plant should be looked over one by one at any time when the weather is bad during this and the next month. It is not enough, however, that the outside of the pots and the surface of the soil are cleaned, the balls must be turned out of the pots, worms looked after, the drainage relieved from the sediment which the summer watering has washed down among the crocks, and if the pot is at all covered with green slime, do not use it, but take a dry clean pot of the same size, then add a little fresh soil to the surface, of the same nature as that already in the pot.

PITS AND FRAMES.

They should be filled with good plants for next year. As soon as the cuttings are struck let them have a few weeks out of doors if possible; it will revive them much before winter, and will also enable them to stand the confinement with greater freedom.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

HERE the work has chiefly been of a routine character—namely, planting, hoeing, and forking among young plants, and breaking the crust formed by the rains. Cauliflowers that had not a green leaf left, nor a whole one that was not riddled by the fly, are now pushing green leaves, and though fine, compact, white heads from old plants are out of the question, they are yielding nice little pieces like Sprouting Broccoli, which come in now as an agreeable change. Scarlet Runners, which at one time threatened to succumb, are now bearing heavily. We could not manage to keep on our ridge Cucumbers, as from want of water the red spider attacked them, but Vegetable Marrows withstood the drought well, and will be useful for some time longer.

The worst effect of the dry weather has been the filling the dry ground with grubs. We lately planted some hundreds of Lettuces, and there is hardly one left, the grub has seized the most of them, biting through beneath the surface; and though we have caught myriads of the depredators, we have not yet destroyed them all. We examined the ground well before planting, and even added lime when the ground was turned over, but that has not kept them away. As yet they have not troubled us with much else, as Cabbages, young plants, and Cauliflowers are as yet untouched. We examined plants, but though we found nothing at the roots one day, there would be a grub and a cut plant the next. We once tried a sprinkling of tar on the ground, but with little benefit. In fact, we know no effectual remedy, except catching and killing them. Do any of our readers know of a less tiresome remedy? On a raised bank planted with Endive, those on the south side are almost as much injured as the Lettuce, whilst those on the north and colder side are not at all touched.

Spawed a fresh piece of Mushroom bed, and prepared a piece more, which will be the last in the open shed. In a few days, or as soon as we have wet, we will smoke the Mushroom house with burning sulphur, preparatory to clearing it out for receiving the winter beds.

Planted out strong Cucumbers in a pit, where we can give them heat, and applied a little fire heat to those in a pit still bearing. Those in frames that fruited early are now about over. The last sowings out of doors of Onions and Lettuces to stand the winter, and Turnips and Radishes, must now be made. A sowing of Radishes may be made in the middle of September, or a week later, if some protection can be given to them, and when much wanted, they should be sown under glass in the first week in October, but without any artificial

heat. Some people like them all the year round, but in general they are more prized after the New Year than for a month or two in the end of the year. When people eat cold Cucumbers all the year round, these cease to be a zest in March and onwards. All except the latest Potatoes should now be taken up, as most of the early and medium early kinds are making fresh growth, and after this the first-formed tubers will always be deficient in quality.

FRUIT GARDEN.

Raspberries.—Thinned out and roughly tied, so as to fill the spaces between with winter stuff. Much of that will be smaller than usual, and therefore we must have more of it. See previous weeks as to Gooseberries, Currants, and bush and pyramidal fruit trees, and gathering early fruit. All the fruit will be much earlier this season. Even the Ribston Pippin Apple, and its next-door neighbour for quality, the smaller but equally rich Margil, are becoming quite bright in appearance, and the seeds are pretty well black ripe. One fruit here, the fine-flavoured Margil, will flourish on soils where without frequent transplanting it is next to impossible to keep the wood of the Ribston Pippin from cankering, and the fruit from being spotted. Let it be borne in mind that a fruit carefully gathered and placed on shelves or drawers without injury, is really as valuable as two or three that have tumbled down and been bruised. Even soft Apples keep much better and longer if gathered by hand. Hence the superiority of bush and pyramidal trees instead of lofty standards. It is such a pleasure to be able to attend to and gather most of the fruit when standing on the solid ground. With proper attention we believe, too, that the same space of ground supplied with dwarf trees will yield more fruit than the same ground covered with large lofty trees. Until tried people will not believe the quantity of fruit they can have from small, well-tended trees, when no more vigour is permitted than is sufficient to bring the fruit to perfection.

Fruit-room.—Much depends on having this place sweet and clean. Took the chance of a dull wet day to have the shelves, &c., well scrubbed with hot soap water, and would like to whitewash and wash again before the bulk of the fruit is gathered. Anything unpleasant soon exercises an influence on the fruit.

With all our care where gauze cannot be applied, the wasps are exercising their powers on Plums and some of the earlier Apples. Myriads have been destroyed, but still numbers are left, and the dry season has so cracked the ground as to give them wondrous facilities for baffling us. We lately noticed a large nest, and to it there were as many as a dozen entrances, and some of these as much as 10 or 12 feet from the nest. If burning paraffin oil could be made to reach them in their burrows it would soon destroy them. Tar is also good, but if the danger is guarded against nothing is more effectual for stupefying them than lighted squibs of sulphur and powder, and after burning well a piece of turf placed over the hole.

ORNAMENTAL DEPARTMENT.

If anything could show the importance of having flower-beds well picked of their fading flowers, it would have been the appearance of those beds well trimmed before the continuous rains of the 22nd, and those that were unpicked. The former stood the rains, and remained gay and bright, but it was a number of days before the others, even after picking, became at all bright. The water falling off fading flowers discolours the younger flowers that otherwise would remain bright.

Most of the time has been taken up in switching and rolling walks, and mowing and maching the lawn, and where the latter operation has been resorted to since the rains once every four days or so, a more beautiful green carpet could not be seen. The growth, owing to the heat of the ground, is remarkably rapid, and, therefore, the mowings must be frequent. Much has also been done in inserting cuttings in moveable boxes, to avoid the necessity of raising and potting, or planting afterwards; but this has been done in the manner several times adverted to.—R. F.

TRADE CATALOGUE RECEIVED.

Charles Turner, Royal Nurseries, Slough.—*Catalogue of Dubious Flower Roots and Tulips.*

COVENT GARDEN MARKET.—SEPTEMBER 2.

THERE has been scarcely any alteration worth quoting. A trifling advance has been made in the price of Filberts and Cob Nuts, but that is

chiefly owing to the growers being so much engaged with the Hops. Pears are quite over, fully a month earlier than usual.

FRUIT.

	s.	d.	s.	d.	s.	d.	s.	d.		
Apples.....	1/2	0	2	0	Melons.....	sach	2	0	5	0
Apricots.....	0	0	0	0	Nectarines.....	doz.	3	0	6	0
Cherries.....	lb.	0	0	0	Oranges.....	100	12	0	20	0
Chestnuts.....	bush.	0	0	0	Peaches.....	doz.	4	0	8	0
Currants.....	1/2	0	0	0	Pears (dessert) ..	doz.	2	0	4	0
Black.....	do.	0	0	0	Pine Apples.....	lb.	4	0	6	0
Figs.....	doz.	1	0	3	Plums.....	1/2	0	3	0	0
Filberts.....	lb.	0	9	1	Quinces.....	doz.	0	0	0	0
Cobs.....	lb.	0	9	1	Raspberries.....	lb.	0	0	0	0
Gooseberries ..	quart	0	0	0	Strawberries... per	lb.	0	0	0	0
Grapes, Hothouse..	lb.	2	0	5	Walnuts.....	bush.	10	0	15	0
Lemons.....	100	10	0	16	do.....	per 100	1	0	2	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.	
Artichokes.....	doz.	3	0	6	0	Leeks.....	bunch	0	4	0
Asparagus.....	100	0	0	0	Lettuce.....	per score	2	0	4	0
Beans, Kidney 1/2	sieve	0	0	4	Mushrooms....	pottle	3	0	4	0
Beet, Red.....	doz.	2	0	3	Must.& Cress, punnet	0	2	0	0	0
Broccoli.....	bundle	0	0	0	Onions per doz.	bchs.	6	0	0	0
Brus. Sprouts 1/2	sieve	0	0	0	Parsley.....	per sieve	3	0	4	0
Cabbage.....	doz.	1	0	2	Parsnips.....	doz.	0	9	1	0
Capiscums.....	100	3	0	0	Peas.....	per quart	0	0	0	0
Carrots.....	bunch	0	6	1	Potatoes.....	bushel	4	6	6	0
Canflifer.....	doz.	0	0	0	Kidney.....	do.	4	0	7	0
Celery.....	bundle	1	6	2	Radishes doz.	bunches	1	6	0	0
Cucumbers.....	each	0	4	1	Rhubarb.....	bundle	0	0	0	0
Endive.....	doz.	2	0	0	Sea-kale.....	basket	0	0	0	0
Fennel.....	bunch	0	3	0	Shallots.....	lb.	0	8	0	0
Garlic.....	lb.	0	8	0	Spinach.....	bushel	5	0	0	0
Herbs.....	bunch	0	8	0	Tomatoes....	per doz.	1	0	2	0
Horseradish ..	bundle	3	0	5	Turnips.....	bunch	0	6	1	0

TO CORRESPONDENTS.

CONVERTING AN ORCHARD HOUSE INTO A GROUND VINERY (*Experimenter*).—It is well to make experiments, and to form a ground vinery of your 20-feet-square span-roofed house, supposing you mean to grow the Vine as a standard. If we wanted the most return with the least trouble, we would plant the Vines and train them under the roof in the usual way. In either case you ought to have concrete and drainage beneath from 18 to 24 inches of soil in your stiff clay. Without heat the Black Hamburg, the Esperione, and the Royal Muscadine will suit you.

ROSES (*A Beginner*).—"The best white Perpetual Rose suitable to the Manetti stock is *Baronne de Maynard*. Madams Alfred de Rougemont is also very good. The former is pure white, and as good and abundant a bloomer as *Madame Plantier*. I never had Mrs. Bosanquet on a Manetti stock. I bought one eighteen years ago worked on a Briar stock. It is still alive and well. It is beautiful, and the only China Rose worth preserving.—W. F. RADCLIFFE."

PALMS.—"Your correspondent, 'PATELIN,' must have confined his search for Palms and other foliage plants to very few nurseries where these plants are grown to find the price he names—viz., three guineas as the lowest sum charged. Now, I have purchased plants of this kind at the nursery of Mr. Burley, Penbridge Place, Bayswater, at from 5s. to 10s. each, according to the size of the plants. Others also offer many kinds of Palms, &c., at about the same price. Of course for specimen plants half grown one would expect to pay three guineas; but such plants as those would scarcely be used for decorating rooms, except on the occasion of a ball being given.—WILLIAM GILES, *St. James's Square, Notting Hill.*"

POTTING SHED CONVERTED INTO A VINERY (*G. R.*).—Plant the Vines outside in your case. Introduce them a foot at least above the hot-water pipes. Protect the stems outside with three-sided wooden boxes, the empty side placed against the wall. Fill the boxes with sawdust round the stems, and put a cover on the top to keep it dry. Then keep the Vines inside all the winter. The bedding plants will do the Vines no harm if you do not raise the temperature above from 40 to 45° with fire heat. The varieties you name will suit.

PELARGONIUM CUTTINGS (*R. Smee*).—In taking cuttings of Pelargoniums the bottom or middle of a large slip in general does better than the top, which is more spongy. After inserting, it is best to keep the soil rather moist, but not wet, and drier in proportion to the succulence of the cuttings. The smallest pots above thumbs do well for wintering them. We keep ours thickly in boxes and pots, say 1-inch surface to each cutting. Had we room, as you seem to have, we would place a single cutting in a small pot at once. This would save repotting, and such cuttings are sure to do well.

HEATING A SMALL GREENHOUSE BY A FLUE (*T. Scdgley*).—As you have your ashpit out of doors, why not have the furnace door out of doors too? All flues when damp and unused for a time are apt to have a back draught, and this would not signify if the furnace door were outside. In your case it would be worse but for the gradual rising of the flue. The higher the bottom of the flue is above the fire bars the better it will draw. Thus, 18 inches would be better than 10 or 12. You have increased the chance of back draught by your arrangements; first you have a deep flue, 7 inches wide, we presume inside measure; to this you add earthenware pipes 8 inches in diameter, and have a chimney 2 inches in diameter. If these diameters were more than doubled the draught would be better. It is a mistake to narrow chimneys much near the top. You may keep all the plants you mention.

FORMING STRAWBERRY BEDS (*A Regular Victim*).—We do not quite understand your case, as there are some words in your letter which we cannot decipher. We would not be discouraged about the bank planted last September. If the ground cracks, break the surface and add some mulching. We would by no means take up and divide these plants. Give them plenty of rotten dung in October as mulching, and see what next year will do. We presume your soil is very stiff, all the better if you

can work it by deep-stirring and manuring. Meanwhile for a new bed add some chalk and lime rubbish, and plenty of dung instead of ashes, and take your time to that; but as soon as possible take off your runners of approved sorts, and prick them out 4 or 5 inches apart into rich well-manured soil, with rotten dung at the surface, and shade if wanted, and water well as needed. Then, either in the beginning of October, or, as we would prefer, in the end of February, take up these plants with balls, and transplant them into the ground left rough all the winter, and merely neatly levelled and wrought before planting. This would be a good plan in your heavy soil.

RASPBERRY PLANTING (*Idem*).—In planting a row of Raspberries you may place them a foot apart if you train to a trellis, and from 30 to 36 inches apart if you mean to grow them from stools and fasten them to a stake, or bend them over like an arch. We like the regular line of trellis the best, and wires, say three, are best to tie the canes to. Of red Raspberries none are better than the *Fastoff* and *Carter's Prolific*, and of the yellows the *Yellow Antwerp*.

DARK CLIMBING ROSES (*Old Subscriber*).—"The only very dark lofty pole Rose is *Frederick II*. It is a dark crimson purple Hybrid Bourbon. It will grow 12 feet high, but it only produces one series of bloom. It is handsome. The only dark Hybrid Perpetual pole Roses are *Duc de Cazes*, dark crimson purple, and *Princes Camille de Rohan*. The first-named will, under high cultivation, grow on the *Manetti* stock 7 or 8 feet high, and is very hardy and a free and abundant bloomer. The second-named is very handsome, maroon-coloured, and will under the same culture, on the *Manetti*, grow 6 or 7 feet high.—W. F. RADCLIFFE."

COCKSCOMB STRAWBERRY (*M. N.*).—It can be obtained from any nurseryman who advertises Strawberry plants in our columns. It was raised in the Royal gardens at Windsor.

RYTON MUSCAT GRAPE (*G. S.*).—In Mr. Rivers's catalogue it is said to have been raised many years since at Ryton, near Newcastle-on-Tyne. We believe it to be a form of the *Muscat of Alexandria*. The large bunches may be a consequence of the vigour of the young Vines.

REMOVING ROSE TREES (*Eden Grove*).—You have no right to remove the trees; but you may have them taken up and potted, and then you can take them away. There is no danger in removing Roses after this date, only take them up carefully, and have the roots secured from the drying influences of the atmosphere by a covering of damp moss or hay, and enveloping all in a mat. The sooner they are planted after removal the better, giving a good watering to each after planting. It is quite optional on the part of the landlord or the new tenant to allow you anything for the fruit trees and vegetables, but something in such cases is generally given.

GUANO versus STABLE MANURE (*Furious*).—Guano is not equal to stable manure for general purposes; it is not so lasting, otherwise it is an excellent manure, and may be applied to all descriptions of crops advantageously. It should be applied when the crops are in a growing state, or it may be put on at the same time as the crops are sown or planted. Half a hundredweight of Peruvian guano will be a good dressing for your garden. The way to apply it is to sift it through a half-inch sieve, breaking the lumps to make it fine. It may be spread broadcast over the ground, hoeing or pointing the ground afterwards; this is not necessary, however, if the surface is open and rain follow.

COMPOST FOR LILUM AERATUM (*Idem*).—Two-thirds loam from rotted turves, and one-third sandy fibrous peat, with a free admixture of sharp sand. If the loam is poor one-fourth old cow dung may be added and intermixed. To answer all your queries would take up the whole space of one Journal. You will find full instructions for the cultivation of the plants mentioned, in the "Garden Manual," which you can have free by post from our office if you enclose twenty postage stamps with your address.

ARBOR-VITE PROPAGATION (*Willson*).—The Arbor-Vite may be raised from cuttings, but best from seed. Now is a good time to put in the cuttings, taking the points of the growing shoots when they have become somewhat ripened. They may be from 3 to 6 inches in length, and should be cut below a joint. It is not necessary to trim off the spray, but this may be cleared off to the extent the cuttings are put in the soil—namely, from one-half to two-thirds of their length. They should be inserted in a cold frame in a compost of sandy loam, the surface being covered with an inch in thickness of sand. Make the soil firm about the cuttings, and after giving a gentle watering put on the lights. Keep close and shaded from bright sun. In a month admit air, and by degrees harden them well off, exposing them fully when the weather is mild, and affording protection from frost.

GRAPES CRACKING (*Idem*).—Your Vine is from some cause not healthy; the cracking is due in a great measure to the berries being so small and the late rains. We presume you allow plenty of foliage, so as to shield the bunches from the sun. The leaves now yellow must be infested with red spider, and the spotting of the wood we should attribute to mildew.

SHRUBBERIES (*E. C. H.*).—London's "Villa Gardener" may suit you; but we shall have some hints on the subject by planting time, which would, perhaps, answer your purpose.

VALUE OF CAMELLIAS (*J. P.*).—We could not say without seeing the tree what the value would be; but if good specimens and kinds, £5 each is what we have known given for plants of the size of those you name. Such things, however, have no market value; the price obtainable is solely dependant on the disposition and means of the purchaser, and the necessity of selling.

WOOLICE (*A Thankful One*).—The insects destroying your Fern fronds are woollice. The simplest and best means known to us of destroying them is to put a boiled potato, lightly wrapped in a little hay, at the bottom of a small flower pot, and at night place the pot on its side near their haunts, and in the morning shake out the woollice, which will remain by the potato in the hay, when they may be destroyed by shaking them into a bucket of boiling water. This repeated for a time will thin their numbers considerably. If you could pour boiling water on their hiding places that would be a speedy method of destruction; but be careful not to let it reach the roots of the plants, or come in contact with the foliage.

TACSONIA VAN-VOLXEMI PRUNING (*D. M.*).—The fruit of this handsome climber we should consider eatable, but have no experience of it. It may be pruned to any extent, the best plan being to thin out the shoots, and cut back all the flowering shoots to within a few eyes of their base,

leaving enough of this year's wood to furnish flowering shoots for next. The shoots may now be thinned, and the general pruning may take place in January. Keep the plant dry at the root in winter, and diminish the supply of water now.

PRIZES FOR BRITISH FERNS (Exhibitor).—According to the wording of the schedule we should not have awarded prizes to either of the collections, for it says "distinct species," and there are varieties in both. Apart from varieties, which you do not specify, we should think B's collection the rarest, but the plants in M's, if rare varieties, ought to be placed first. B's is the best in species, and more in accordance with the schedule than M's; but M's varieties of the species named may be rare, and, if as good as the species, are better than B's.

VARIEGATED BROCCOLI (J. A.).—We do not perceive in what way you have treated the plants wrong, for all that is required is to sow the seed in April in an open situation, to prick-out the plants when large enough to handle, and when of sufficient size to plant them out where they are to remain, allowing 2 feet distance between the plants every way. The kind of seed could not be right, and must have been put up by mistake, the Green or Purple being sent in place of the Variegated, which comes true from seed. Your plants ought by this time to have shown variegation.

SCARLET RUNNER ROOTS STORING versus SEED-SOWING (Idem).—Scarlet Runner roots may be taken up in autumn before frost, or after slight frosts, and be stored in dry sand in a cellar secure from frost. The roots, planted in the end of April or beginning of May, grow well, and give pods earlier than those from seed; but we find those from seed give the finest pods and longest continuance of crop, and on that account prefer sowing seed to keeping the roots of the old plants.

GATHERING EVERLASTING FLOWERS (J. A.).—They should be gathered or cut a few days after the flower is fully expanded, but not until the flower stem is rather stiff.

COMPOST FOR VINE BORDERS (Inquirer).—There are various opinions on the subject, which we shall shortly note more fully, but hope to meet your case by naming an excellent compost for the Vine. The bottom of the border must be concreted, or the roots prevented from passing below it by a floor of flagstones, or bricks or tiles run in cement. There must be a drain to carry off water that may not be required by the roots, and which would remain stagnant in the soil. It must have a proper fall and outlet. On the bottom a thickness of 9 inches of stones, brickbats, or other open material should be placed, and on this a layer of turf, grass side downwards. This may be said to be the foundation, only it is desirable to have the border quite as much above as below the surrounding ground level, and to have a wall all round to prevent the roots escaping from the border, or other roots entering. Then put in the following compost fully 2 feet 6 inches deep:—Turf from an old pasture where the soil is a good light rather than heavy loam, pared-off 2 or 3 inches thick, according to its strength of fibre, and cut into squares of about 6 inches, of this ten barrowfuls; place it in a heap, to which add two barrowfuls of lime rubbish from an old building, taking care to pick out the pieces of timber, one barrowful of gritstone in pieces about the size of a hen's egg, one barrowful of lump charcoal, one barrowful of old dry bones, broken by beating them on a hard substance with a hammer, one bushel of calcined oyster shells, and four barrowfuls of sheep droppings from the pens, or horse droppings free of straw. Mix all the materials well together, and make the border in dry weather. Finish off with a layer of turf which has been in a heap for six months, adding to it one-tenth of half-inch bones, and well mixed. Your Vines will astonish your neighbours.

"COTTAGE GARDENERS' DICTIONARY" (Idem).—It may be had post free from our office if you send 7s. in stamps with your address. It contains the Supplement, which includes the plants worthy of cultivation introduced down to the end of 1867.

CUTTING-BACK OLEANDERS (J. A.).—You may still cut the plant back; but it would be better to defer doing so until spring, as the plant would then make a better growth, and you will have an opportunity of forming a handsome specimen. The cuttings of the old wood will strike in water, and may afterwards be potted. They will stand the winter in a greenhouse, but not out of doors. Why not strike them in soil in small pots?

PINE APPLES (H. R.).—We should advise you to thin out the plants, removing every alternate one, and to place those you take up into pots sufficiently large to hold the roots. Perhaps you could take out every alternate row, which will answer quite as well as removing every alternate plant. We would remove all the lower leaves as far up the stem as roots

are being emitted, and give a top-dressing of rich compost, so as to cover the stems as deeply as they have roots, or rather about 1 inch deeper to allow for settling. By taking out every alternate row or plant you will afford room to those left in the pit, and they will, no doubt, bear fruit next summer, and finer than if you were to take them all up and pot them. Your compost is good.

MAMMOTH GOURD (G. G. Macrae).—We have grown this to a weight of 120 lbs. The fruit is edible, and may be used as a Vegetable Marrow, or for custards, and when ripe is fully as good in flavour as a large coarse Melon.

CLIMBERS FOR WEST AND NORTH-WEST WALLS (W. B. R.).—West aspect: Clematis Jackmanni, C. Fortini, Aristolochia siphon, and Jasminum officinale grandiflorum. North-west aspect: Jasminum nudiflorum, Crataegus pyracantha, Berberis Darwini, and Colocaster Simmonsi.

ALTERNANTHRA AMENA PROPAGATION (Idem).—It is readily increased by cuttings, which may be put in now in sandy soil, with an inch of sand at the top of the pots or pans. The cuttings should be inserted about an inch apart. Select those with three joints and the growing point, and insert them two-thirds their length in the soil. A gentle heat is necessary, or a hotbed of from 70° to 75°. You may take up some of the old plants and winter them in a house having a temperature of 45°, and these will afford you plenty of cuttings in spring, which will answer for bedding out the same season, if growth is encouraged and they are hardened-off well before planting out.

STRAWBERRY CULTURE (H. W. B.).—The blackbirds and thrushes here are so numerous that I am obliged to plant Strawberries closer than I should otherwise do, to save netting. All mine were netted, or the birds would have eaten them up, as they did my Raspberries and Gooseberries. The Strawberries will be netted next year, for it is of no use arguing with hungry stomachs. I suppose my Strawberry plants are on an average 18 inches apart every way. If runners are planted very late I put them in 9 inches apart for the first year, and cut out every alternate plant and row after cropping, which leaves them 18 inches apart every way. In wet cold summers they cannot be too far apart, and in such a summer as we have had they can scarcely be too close. Dr. Hogg is a splendid grower, and fine in every way. No Strawberry plants could withstand the sun more triumphantly than Dr. Hogg, Lucas, Rivers's Eliza, and Cockscomb. I should not consider 18 inches of loam a shallow soil. Strawberries like free drainage, plenty of sun, manure, and water. The same may be said of Roses. The horse, cow, or pig manure may be either dug in and well mixed with the soil some time before planting, or they may be put on as a top-dressing. The crowns of the plants should never be covered with anything. The manure must be kept level with the base of the plant, or the crowns will be bleached and softened. I dress my worked plants closely after cropping, as they must make new roots to supply the old ones, which die away wholly or in part. This causes them to make new deep roots at once, which greatly assist them to withstand severe winters. Some people do not dress the beds till March, when the mischief is done. Hence they have an abundance of flowers, but an abortive crop. Dress closely after cropping, and cut off the runners. Never break your ground (you may weed with a Dutch hoe), from the time the Strawberries are planted till you break them up. Mine are now dressed with calcareous loam. Put on guano, soot, or blood manure in showery weather in the spring. Be careful not to put guano over the plants; they will in that case turn as yellow as a cock canary bird. My runners were mainly planted in July, and are strong. You may have root fresh-planted Strawberry plants. It will promote growth. Do not hoe deeply. —W. F. RADCLIFFE.

BRITISH FERNS (J. B.).—It is impossible to answer your question in a satisfactory manner without knowing what are their names.

NAMES OF FRUITS (J. L.).—Apples: 1, Alexander; 2, Autumn Pearmain; 3, Manks Codlin; 4, Keswick Codlin; 5, Flat Nonpareil. (W. M. Darley).—Plums: 1, Washington; 15, Coliath; 6 and 16, Victoria. Pears: 7, Baronne de Mello; 8, Autumn Bergamot; 9, Marie Louise. It is too early in the season to name Apples and Pears. (J. H. Haddington).—Where did you obtain the Vine? The Grapes are very much like those of Forbes's Seedling, so far as we can judge from so small a portion of a bunch.

NAMES OF PLANTS (Clermont).—The specimen has never reached us. If you will send another we will name it if it is determinable. (H. B.). Tritonia aurea. (J. R.).—Lotus corniculatus. (J. W. K.).—Cystopteris bulbifera. (R. M.).—Diplacus glutinosus. (J. W. Strangford).—Rochea falcata; propagated by means of its leaves.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending September 1st.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 26	30.078	29.995	67	53	62	61	S.W.	.65	Clear and fine; cloudy, very dull; slight rain, cloudy, very dark.
Thurs. 27	30.079	29.891	73	45	62	61	N.W.	.00	Cloudy; very fine; fine, clear starlight.
Fri. ... 28	30.116	30.093	66	47	62	61	S.W.	.00	Clear and fine; cloudy; fine, very clear.
Sat. ... 29	30.177	30.133	68	47	62	61	N.W.	.00	Fine, densely clouded; cloudy but fine at night.
Sun... 30	30.090	30.078	74	53	61	61	S.W.	.00	Clear and fine; cloudy; very fine, clear at night.
Mon... 31	30.066	30.026	75	44	61	61	W.	.00	Cloudy; heavy clouds; clear and fine.
Tues. . 1	30.114	30.099	77	45	62	61	W.	.00	Clear and fine; very fine; fine, very clear.
Mean	30.096	30.045	78.57	47.71	61.71	61.00	..	0.05	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

BATH AND WEST OF ENGLAND SOCIETY AND THE SOUTHERN COUNTIES ASSOCIATION.

An amalgamation having been effected between the Bath and West of England Society and the Southern Counties

Association, a special general meeting of members was held on the 25th ult. at the Three Choughs Hotel, Yeovil.

Sir J. T. B. Duckworth, Bart., as Chairman of the Amalgamation Committee appointed by the annual meeting of members of the Bath and West of England Society, held at Falmouth on the 3rd of June last, moved that the title of the Amalgamated Societies be "The Bath and West of England Society (established 1777), and Southern Counties Association, for the

Encouragement of Agriculture, Arts, Manufactures, and Commerce." A code of laws for regulating the affairs of the Society was accepted; and at a meeting of the Council held on the same day the Stewards and officers for the current year were nominated; and a letter by Mr. Caleb H. Gater, the local Honorary Secretary, having reference to the Society's Meeting at Southampton in 1863, was read, from which it appeared that the authorities of the London and South-Western Railway have promised the Mayor of Southampton to give the fullest railway accommodation during the time of the Meeting.

HALIFAX AND CALDER VALE POULTRY SHOW.

This year's Show was held August 28th and 29th, in the Riding School, Halifax, a building most admirably suited for the purpose, and the general arrangements were most satisfactory. The Show of this year ranks among the best that have been held in the northern counties. The entries of poultry alone were upwards of 500, and of Pigeons there were above 200 pens. Every attention that could be given by the managers was efficiently rendered, and we may justly say, they well merited the success they have attained. The attendance of visitors was remarkably good, and the Show seemed more attractive than customary. Every class was well filled with birds from the first breeders in the kingdom. The Pigeons, too, were superior to any yet entered in the district. It is much in favour of this Show, that the offer of silver cups was unusually great, which, considering the great number of poultry shows now taking place, may perhaps account for the entries being so numerous. The weather proved very favourable.

SPANISH.—First, H. Beldon. Second, J. Thresh, Bradford. Third and Highly Commended, J. Marchant, Halifax. *Chickens*.—First, J. Smith, Keighley. Second, Miss L. M. York, Tadcaster. Third, H. Beldon. Highly Commended, J. S. Senior, Dewsbury; W. A. Taylor, Manchester; P. H. Jones, Fulham.

ANDALUSIANS.—First, F. Pittis, jun. Second, A. Tidswell, Ovenden. Third, M. B. Kiley, Ovenden. *Chickens*.—First, H. Savile, Ollerton. Second, T. Robertshaw, jun. Ovenden. Third, M. B. Riley. Commended, A. Tidswell; W. A. Burnell, Southwell.

DORINGS.—First, Hon. H. W. Fitzwilliam, Wentworth Woodhouse. Second, J. White, Warley. Third and Highly Commended, H. Savile. *Chickens*.—First, H. Pickles, jun., Early, Skipton. Second, Hon. H. W. Fitzwilliam. Third, Rev. J. F. Newton, Kirby-in-Cleveland. Highly Commended, J. White, Warley; Hon. H. W. Fitzwilliam.

COCHIN-CHINA (Ginamon, Buff, or Lemon).—First, W. A. Taylor. Second, H. Maplebeck, Mosley. Third, C. Sidgwick, Ryddlesden Hall, Keighley. Highly Commended, H. Beldon. *Chickens*.—First and Second, W. A. Taylor. Third, C. Sidgwick. Highly Commended, Bowman and Fearon, Whitehaven; C. Sidgwick; Rev. C. Spencer, Attleborough; W. A. Burnell, Southwell.

COCHIN-CHINA (Partridge).—First and Cup offered by M. Stocks, Esq., for best pen of Spanish, Andalusian, Dorings, Cochin-China, or Brahma Pouter, T. Stretch, Ormskirk. Second, H. Crossley, Broomfield, Halifax. Third, C. W. Brierley. *Chickens*.—First and Second, J. A. Taylor. Third, H. Lingwood, Becklesham, Woodbridge. Highly Commended, J. K. Fowler, Aylesbury; C. Sidgwick.

COCHIN-CHINA (Any other variety).—First, G. & C. Furness, Accrington. Second, L. Biney, Manchester. Third, A. O. Worthington, Burton-on-Trent. *Chickens*.—First and Second, W. A. Taylor. Third, A. O. Worthington.

BRAHMA-POUTRA (Light).—First, A. O. Worthington. Second and Third, H. Dowsett. *Chickens*.—First and Second, H. M. Maynard, Ryde, Isle of Wight. Third, H. Dowsett. Highly Commended, H. Lacy, Hebdon Bridge; W. Whiteley, Sheffield. Commended, H. Savile; H. M. Maynard; D. Causar, Erdington.

BRAHMA-POUTRA (Dark).—First, W. Hargreaves, Baemp. Second, E. Leech, Rochdale. Third, K. Jopp, Aberdeen. Highly Commended, A. O. Worthington. *Chickens*.—First, H. Lingwood. Second, G. Dixon, jun., Whitehaven. Third, K. Jopp. Highly Commended, K. Jopp; Rev. J. F. Newton; Mrs. Seamons, Hartwell, Aylesbury; H. Beldon. Commended, H. Savile.

CREVE-CEUR.—First, H. Beldon. Second, J. K. Fowler. Third, J. C. Cooper, Limerick. *Chickens*.—First, Hon. H. W. Fitzwilliam. Second, J. K. Fowler. Third, W. R. Park, Abbotscadaw.

GUANS.—First, H. M. Maynard. Second, W. O. Quibell, Newark. Third, F. B. Heald, Whitmore. *Chickens*.—First and Second, F. B. Heald. Third, H. M. Maynard. Highly Commended, J. C. Cooper; H. M. Maynard. Commended, J. C. Cooper; L. Biney.

LA FLECHE.—First and Second, J. & C. Cooper. Third, J. K. Fowler. *Chickens*.—First and Second, J. C. Cooper. Third, W. A. Burnell. Highly Commended, J. K. Fowler.

GAME (Any colour).—Cock.—First, Cup, and Second, C. W. Brierley. Third, J. Fletcher, Stoneclough, near Manchester. Fourth, W. Boyes, Beverley. *Hen*.—First and Cup, J. Barrow, jun., Bradley Field, near Kendal. Second, J. Pickles, Banks, Myholmsroyd. Third, S. Matthew, Stowmarket. Fourth, L. Biney. Highly Commended, C. W. Brierley. Commended, J. Fletcher. *Cockerel*.—First, T. Bottomley, Shelf. Second, S. Greenwood, Southowram. Third, C. W. Brierley. *Pullet*.—First, S. Matthew, Stowmarket. Second, T. Dyson, Halifax. Third, J. Hodgson, Whittington, Burton. Highly Commended, G. Dingley, Shustoke, near Coleshill; Fitton & Redman, Holmfild, Ovenden. Commended, J. Bowness, Newchurch.

GAME BANTAMS (Black-breasted Red).—First, W. Brierley. Second, L. Biney. Third, R. Booth, Halifax. *Chickens*.—First, H. Jennings, Allerton. Second, H. Warner, Loughborough. Third, S. Greenwood, Southowram. Highly Commended, E. Toder, Little Carlton, near Newark. Commended, G. Pounder, Kirby Moorside.

GAME (Brown-breasted or other Red).—First, T. Bottomley. Second,

Green & Sutcliffe, Queensbury. Third, J. Fletcher. *Chickens*.—First and Second, J. Spencer, Queensbury. Third, J. Carlisle, Early.

GAME (Duckwings, Greys, and Blues).—First, W. Boyes. Second, J. Ackroyd. Third, J. Pickles. *Chickens*.—First, R. B. Riley. Second, J. Barrow, jun., Kendal. Third, T. Dyson, Halifax. Highly Commended, W. Bailey, Scholes; W. Chadwick, Halifax.

GAME (White and Pile).—First, C. W. Brierley. Second, R. Butcher, Grasswell. Third, G. & C. Furness, Accrington. *Chickens*.—First, H. C. Mason, Drighlington. Second, E. Noble, Halifax. Third, G. & C. Furness, Accrington. Commended, S. Matthew, Stowmarket.

POLANDS.—First and Third, H. Beldon. Second, J. S. Senior, Dewsbury. Highly Commended, P. Unsworth, Louton; J. Battye, Holmfirth. *Chickens*.—First, J. S. Senior. Second and Third, H. Beldon. Highly Commended, J. A. Taylor; J. Battye.

HAMBURGHS (Golden-pencilled).—First, J. R. Jessop, Hull. Second and Third, H. Beldon. Highly Commended, J. C. Cooper. *Chickens*.—First, H. Beldon. Second, F. Pittis, jun. Third, Bowman & Fearon, Whitehaven. Highly Commended, W. R. Park; S. Smith.

HAMBURGHS (Silver-pencilled).—First and Second, H. Beldon. *Chickens*.—First and Second, H. Beldon. Third, J. S. Senior. Highly Commended, W. & J. Bairstow.

HAMBURGHS (Golden-spangled).—First, J. White, Whiteley, Netherton. Second, E. Brierley, Heywood. Third, H. Beldon. Highly Commended, A. Bray, Houlley, Huddersfield. *Chickens*.—First and Cup, offered by J. Tonge, Esq., for best pen of Hamburg fowls, H. Beldon. Second, J. Leaming, Cowburn. Third, S. & R. Ashton, Mottram. Highly Commended, J. Walker, Knaresborough. Commended, J. S. Senior; S. Smith.

HAMBURGHS (Silver-spangled).—First and Second, H. Beldon. *Chickens*.—First, W. H. Bentley. Second, J. Leaming. Third, T. Robinson. Highly Commended, J. Walker; J. S. Senior; H. Beldon.

HAMBURGHS (Black, White, or any other variety).—First, C. Sidgwick. Second, S. Shaw, Stainland. Third, H. Beldon. *Chickens*.—First and Third, C. Sidgwick. Second, H. Beldon.

ANY OTHER DISTINCT BREED EXCEPT BANTAMS.—First, J. C. Cooper (Sultans). Second, J. R. Jessop, Hull (Negroes). Third, R. Loft, Woodmansey (Sultans). *Chickens*.—First, J. K. Fowler (Silkies). Second, R. Loft (Sultans). Third, T. Ashworth, Stansfield (Sultans). Highly Commended, R. Loft (Sultans).

GAME BANTAM COCK (Any colour).—First, W. F. Entwisle, Leeds. Second, G. Noble. Third, L. Biney. Commended, J. J. Consins, Chapel Allerton; W. F. Entwisle.

GAME BANTAMS.—First and Cup, offered by J. Crossley, Esq., for best Bantams of any age or colour, W. F. Entwisle (Black Red Game). Second, Rev. G. Raynor, Tonbridge. Third, J. R. Robinson, Sunderland. Highly Commended, J. Crossland, jun.; R. B. Riley. Commended, J. Crossland, jun.

BANTAMS (Gold or Silver-laced).—First, Ackroyd & Scott, Sunderland. Second, J. S. Senior. Third, H. Draycott, Humberstone. Highly Commended, T. C. Harrison.

BANTAMS (Any other variety).—First, T. Burgess, Brighouse. Second, H. Draycott. Third, R. B. Riley. Highly Commended, S. & R. Ashton, Mottram. Commended, G. A. Creve.

DUCKS (Aylesbury).—First, J. K. Fowler. Second, E. Leech. Third, Mrs. Seamons. Highly Commended, Mrs. Seamons; J. K. Fowler.

DUCKS (Rouen).—First and Cup, offered by H. A. Kidgway, Esq., for best pen of Ducks, J. J. Stott, Rochdale. Second and Third, S. Shaw, Stainland. Highly Commended, T. Dean, Keighley.

DUCKS (Any other variety).—First, R. P. Williams, Glaslinn, Clontarf, Dublin (Red Shell). Second and Third, S. Shaw (Bahama and Pintail). Highly Commended, C. W. Brierley (Teal and Pintail); H. Beldon (Grey Call); R. P. Williams (Bahama); C. N. Baker, Chelsea (Pintail). Commended, S. & R. Ashton (Carolina); T. C. Harrison (Mandarin).

GEESE.—First, J. K. Fowler. Second, Mrs. Seamons. Third, E. Leech. Highly Commended, J. White, Whitley, Netherton; E. Leech; S. H. Stott; O. A. Young, Driffield. *Goslings*.—First and Third, S. H. Stott. Second, J. C. Cooper. Highly Commended, E. Leech; J. K. Fowler.

TURKEYS.—First, E. Leech. Second, H. Merkin, Driffield. *Pouls*.—First and Second, W. Sandy, Notts. Third, E. Leech. Highly Commended, S. H. Stott.

SELLING CLASS.—First, W. A. Taylor (Spanish). Second, J. Marchant Halifax (Spanish). Third, Rev. C. Spencer (Buff Cochins). Highly Commended, H. Beldon (Spanish); R. Loft (Sultans). Commended, H. Savile (Brahma); R. P. Williams (Golden-spangled Bantams); R. B. Riley (Turkeys).

EXTRA.—Highly Commended, H. Savile.

PIGEONS.

POUTERS OR CAOPPERS.—First, F. Crossley, Elland. Second, P. H. Jones, Fulham. Third, J. Hawley, Dingley.

CARRIERS.—First and Third, F. Crossley. Second, T. Colley, Sheffield. Highly Commended, F. Crossley; J. Crossland, Huddersfield.

POUTER OR CROPPER.—Cock.—First, P. H. Jones. Second and Highly Commended, F. Crossley. Commended, J. Hawley. *Hen*.—First, J. Hawley. Second, S. Shaw. Highly Commended, J. Hawley; F. Crossley; P. H. Jones.

CARRIER.—Cock.—First and Second, F. Crossley. Highly Commended, F. Crossley; T. Colley. *Hen*.—First, F. Crossley. Second, J. C. Ord, Pimlico, London. Highly Commended, F. Crossley; J. C. Ord.

TUMBLERS (Almond).—First, F. Key, Beverley. Second, F. Crossley. Highly Commended, P. H. Jones. Commended, J. Hawley; F. Crossley.

TUMBLERS (Mottled).—First, F. Crossley. Second, J. Hawley. Highly Commended, S. Shaw.

BALDS OR BEARUS.—First and Second, J. Fielding.

OWLS.—First, F. Crossley. Second, P. H. Jones. Highly Commended, J. Fielding, jun.

TREBITS.—First, S. Shaw. Second, J. Hawley. Highly Commended, H. Yardley, Birmingham.

JACONS.—First, J. Hawley. Second, S. Shaw.

FANTAILS.—First, S. Shaw. Second, G. S. Hall, Ely. Highly Commended, F. Crossley.

BARBS.—First, Capt. Herton, Manchester. Second, P. H. Jones. Highly Commended, J. Hawley.

DRAGONS.—First, J. Hawley. Second, G. Graham, Birkenhead. Highly Commended, F. Crossley; H. M. Maynard; P. H. Jones; S. Shaw; T. Gaulroger, Halifax.

TRUMPETERS.—First, P. H. Jones. Second, J. Hawley. Highly Commended, J. Hawley; F. Crossley.
MAGPIES.—First, P. H. Jones. Second, J. Hawley. Commended, H. Beldon.
ANY OTHER BREED.—First, S. Shaw. Second, H. Draycott. Highly Commended, J. Hawley; H. Yardley.
SELLING CLASS.—First, J. Hawley. Second, P. H. Jones. Highly Commended, H. Beldon; F. Crossley; H. M. Maynard; P. H. Jones.
EXTRA.—Highly Commended, J. Hawley (Trumpeter and Tumblers); J. Fielding, jun. (African Owls).

Mr. Hewitt, of Birmingham, and Mr. R. Teebay, of Fullwood, were the Judges for *Poultry*; and Mr. W. B. Tegetmeier, of London, for *Pigeons*.

CLITHEROE POULTRY SHOW.

NOT a doubt can exist on the mind of any reflective amateur that poultry exhibitions are much injured in the present day by so many being held simultaneously, or at best, on consecutive days. This materially lessens the number of entries, and where valuable birds are shown day after day without rest, and with all the excitement of long railway journeys they are much injured, and not infrequently the result is their complete destruction. Highly bred birds cannot endure this continuous fatigue, without almost their entire value being lost as breeding-stock, and, as a rule, no birds if they are to retain a first-rate condition should be exhibited oftener than once a fortnight.

The Clitheroe Show, held August 27th, was undoubtedly a good one, and every attention was given to the management, the only drawback being heavy scudding showers of rain, which annoyed the sight-seers. The Show on the whole went off very well, though a half-dozen similar meetings held the same week could not do otherwise than limit the entries.

GAME (Black and other Reds).—First, C. W. Brierley, Middleton. Second, J. Cowgill, Thornton, Skipton.
GAME (Any other variety).—First, H. M. Julian, Hull.
DORINGS.—First, E. G. Norris, Cobham, Surrey.
COCHINS (Any variety).—First, W. A. Taylor Manchester. Second, C. W. Brierley. *Chickens*.—First Second, and Cup, for the best pen of Chickens in the Show, W. A. Taylor.
SPANISH.—First, W. R. Bull, Newport Pagnell. Second, J. Thresh, Bradford. Highly Commended, W. A. Taylor. Commended, J. C. Wilson, Annan.

BRAHMAS (Dark).—First, W. Hargreaves, Bacup. Second, E. Leach, Rochdale.

HAMBURGERS (Gold or Silver-pencilled).—First, H. Beldon, Goitstock. *Chickens*.—First, B. Bee, Bullsnappe Hall, Goosnargh. Second, H. Beldon.
HAMBURGERS (Gold or Silver-spangled).—First, H. Beldon. Second, J. A. Taylor. *Chickens*.—First, H. Beldon. Second, J. Berry, Shalcy Wood, near Holmfirth.

POLANDS (Any colour).—First and Cup, for best cock and hen of any variety, H. Beldon. Second, Mrs. E. Procter, Hull.

GAME BANTAMS (Any colour).—First, W. F. Entwisle, Leeds. Second, J. R. Robison, Sunderland. Highly Commended, L. Biney, Manchester.
BANTAMS (Any other variety).—First, W. A. Taylor. Second, H. Savile, Rufford Abbey, near Ollerton (White Japanese Silkies). Commended, T. C. Harrison, Hull.

ANY OTHER VARIETY.—First, H. Dowsett, Pleshey, Chelmsford (Light Brahmas). Second, H. Savile (Andalusians). Highly Commended, L. Biney (Houdans).

SELLING CLASS (Any variety).—First, Rev. W. Callis, Slaidburn, near Clitheroe (Dark Brahmas). Second, J. Preston, Clitheroe (Brown Red Game). Highly Commended, W. A. Taylor. Commended, Rev. W. Callis (Dark Brahmas).

GAME.—*Cockerel*.—Cup and First, for best single cockerel, T. Sunderland Coley Hall, Halifax. Second, W. Roberts, Thornycroft, near Burnley.

GAME BANTAMS.—*Cockerel*.—First, W. F. Entwisle, Leeds. Second, J. J. Cousins, Allerton Park, near Leeds.

ANY OTHER VARIETY.—*Cockerel*.—First, C. Layland, Grappenhall, near Warrington (Dark Brahmas). Second, W. A. Taylor. Highly Commended, H. Beldon.

TURKEYS.—First, J. Cunningham, Blackburn. Second, E. Leach, Rochdale.

GEESE.—First, J. H. Hubberstey, Longridge. Second, E. Leach. Highly Commended, S. H. Stott, Rochdale; J. H. Hubberstey.

DUCKS (Aylesbury).—First, E. Leach. Second, J. Dean, Netherdown, Whalley.

DUCKS (Rouen).—First, E. Leach. Second, T. Wareing, Preston. Commended, J. J. Stott; T. Houlker, Revidge, Blackburn.

DUCKS (Any other variety).—First and second, C. W. Brierley (Pintails and Teal). Highly Commended, W. Yates, Downham, near Clitheroe (Muscovy; T. C. Harrison (Carolina)).

PIGEONS.

CARRIERS.—First, J. Hawley, Bingley. Second, H. Yardley, Birmingham.

TUMBLERS.—First and Second, J. Hawley. Highly Commended, E. Brown, Sheffield; H. Yardley.

BARGS.—First, G. Charuley, Preston. Second, E. Brown. Commended, H. Yardley.

OWLS.—First, T. Newell, Ashton-under-Lyne. Second, E. Brown.

POUTERS OR CROPPERS.—First, E. Brown. Second, H. Yardley.

FANTAILS.—First, J. Hawley. Second, H. Yardley.

TURBITS.—First, H. Yardley. Second, T. Newell.

DRAGONS.—First, G. Charuley. Second, J. W. Brade, Blackburn. Highly Commended, H. Yardley.

TRUMPETERS.—First and Second, J. Hawley. Commended, H. Yardley.

ANY OTHER VARIETY.—First and Second, J. Hawley. Highly Commended, H. Yardley.

RABBITS.—*Spanish*.—First, A. H. Eston, Hull. Second, W. S. Hornby, Clifton Garth, York. Highly Commended and Commended, G. Brown.

Any other Variety.—First and Second, W. S. Hornby (Himalaya Doe, and Silver Grey Buck).

The Judges were E. Hewitt, Esq., of Birmingham, and R. Teebay, Esq., of Preston.

ESTON AND NORMANBY CANARY AND PIGEON SHOW.

The seventh annual Show was held in Normanby Park, on the 25th ult., by permission of the Rev. W. Ward Jackson.

CANARIES.

BELGIAN (Clear Yellow).—First, W. Bulmer, Stockton. Second, R. Robson, Middlesborough.

BELGIAN (Buff).—First, R. Hawman, Middlesborough. Second, W. Bulmer.

BELGIAN (Variegated).—First, W. Bulmer. Second, R. Hawman.

GOLDFINCH MULE.—Second, J. Driver, Eston Mines.

GOLDFINCH MULE (Variegated).—First, R. Hawman. Second, J. Robinson, Middlesborough.

LINNET MULE (Brown).—Prize, J. Munroe, North Ormesby.

JOQUE (Norwich).—First, T. Armstrong, Broughton. Second, J. Stevens, Middlesborough.

NORWICH (Mealy).—First, J. Stevens. Second, R. Hawman.

LIZARD (Gold).—First, R. Hawman. Second, W. Lowes, South Eston.

LIZARD (Silver).—First and Second, R. Hawman.

CRESTED (Buff).—First, W. Bulmer. Second, J. Munroe.

DUN (Cinnamon).—Prize, W. Bulmer.

DUN (Buff).—Prize, C. Burnister, Tunstall.

DUN (Variegated).—Prize, J. Stevens.

COMMON (Yellow).—Prize, J. Stevens.

COMMON (Buff).—First, J. Wood, South Eston. Second, J. Barker, Normanby.

COMMON (Variegated).—First, R. Hawman. Second, W. Bulmer.

GOLDFINCH (Moulded).—Prize, F. Leach, Middlesborough.

LINNET (Moulded Brown).—First, W. Burnister. Second, W. Bulmer.

THRUSH.—Prize, C. Burnister.

BEST CAGE OF TWELVE BIRDS.—First, R. Hawman. Second, G. Fawcett, California.

BEST CAGE OF SIX BIRDS.—First, G. Fawcett. Second, R. Leng, Guisborough.

COMMON (Green).—Prize, W. Smith, Normanby.

SPECIAL PRIZE (Dark Goldfinch Mule).—Prize, F. Leach.

PIGEONS.

CARRIERS.—First, H. Yardley, Birmingham. Second, J. Hawley, Bingley.

FANTAILS.—First, H. Yardley. Second, T. C. Taylor, Middlesborough.

TURBITS.—First and Second, F. Leach.

TUMBLERS (Short-faced).—First, H. Yardley. Second, J. Robinson.

JACOBS.—First, F. Leach. Second, W. R. & H. O. Blenkinsop, Newcastle.

BARBS.—First, J. Hawley. Second, W. Imeson, Middlesborough.

OWLS.—First, T. C. Taylor, Middlesborough. Second, H. Yardley.

TRUMPETERS.—First and second, J. Hawley.

ANY OTHER VARIETY.—First, W. Imeson. Second, J. Hawley.

POUTERS.—First, J. Hawley. Second, H. Yardley.

NUNS.—First, F. Leach. Second, T. C. Taylor.

MAGPIES.—First, F. Leach. Second, W. Imeson.

TUMBLERS (Any variety).—First, J. Hawley. Second, J. Robinson.

RABBITS.—*Lap-ears.*—First, J. Jowsey, Middlesborough. Second, J. Bunyan, Eston Mines. *Himalayas.*—Second, A. Keith, Normanby.

The Judges were:—For *Canaries*, Mr. Calvert, York; for *Pigeons*, Mr. A. Cattle, York; for *Rabbits*, Dr. Simpson, Middlesborough.

DRIGHLINGTON POULTRY SHOW.

THIS took place August 29th, and in some classes there was a fair amount of competition. *Spanish* and *Game* were somewhat numerous for a local Show. *Hamburgers* were few in number, but the majority got in quality. In the Silver-spangled we noticed the first prize ticket over a pen containing a hen-feathered cock, which the Judge in admiring the spangling had evidently overlooked. There was a very numerous attendance of visitors during the day.

The following is the prize list:—

SPANISH.—First, T. C. Newbit, Epworth. Second, J. Thresh Bradford.

COCHIN-CHINA.—First, G. T. Bedford, Gildersome. Second, D. Render, Wire Hall, Adwalton.

GAME (Black-breasted or other Reds).—First, W. Fell, Adwalton. Second, H. C. & W. J. Mason, Adwalton.

GREYS AND BLUES (Duckwings and others).—First, J. Hodgson, Bowling. Second, J. Fell, Adwalton.

GAME (White or Pile).—First, B. Turner, Drighlington. Second, H. C. and W. J. Mason, Adwalton. Highly Commended, W. Walker, Drub Lane, Gomersal.

GAME (Black or Frassy-winged).—Prize, J. Fell, jun., Adwalton.

HAMBURGERS (Golden-spangled).—First, D. Render. Second, T. C. & E. Newbit, Epworth.

HAMBURGERS (Silver-spangled).—First, G. T. Bedford. Second, J. Preston, Allerton.

HAMBURGERS (Golden-pencilled).—First and Highly Commended, F. Perrin, Leeds. Second, J. Preston.

HAMBURGERS (Silver-pencilled).—First, F. Perrin. Second, J. Preston.

POLISH.—First, J. Thresh. Second, F. Perrin.

ANY DISTINCT BREED NOT BEFORE MENTIONED.—First, J. Preston. Second, H. Snowden, Drighlington.

GAME BANTAMS.—First, D. W. Ingham, Wortley. Second, W. E. Entwisle. Highly Commended, W. E. Entwisle; H. C. & W. J. Mason.

BANTAMS (Any other variety).—First, J. H. Wilkinson, Bradford. Second, S. Rhodes, Wyke (Black Bantams).

TURKEYS.—First, J. Saville, Oakwell Hall. Second, W. Buttrey.

GUINEA FOWLS.—Prize, W. Buttrey, Gildersome.
GEES (Any breed).—First, J. Ward, Drighlington. Second, W. Brown, Drighlington.

DUCKS (Aylesbury).—First, J. W. Wilkinson. Second, S. Clarke, Adwalton.

DUCKS (Rouen).—First and Second, J. Ward.

ANY BAEED.—First, W. Fell. Second, J. Thresh. Third, T. Suddick.

PIGEONS.

CARRIERS.—Prize, H. O. Steele, Gomersal.
POCTERS.—First, J. T. Lishman, Gillington, Bradford. Second, T. C. and E. Newbitt.

TUMBLERS (Almond).—First, T. C. & E. Newbitt. Second, J. T. Lishman.

TUMBLERS (Any other variety).—First, D. W. Ingham (Short-faced). Second, J. T. Lishman.

BARBS.—Prize, J. T. Lishman.
OWLS.—First, J. Thresh. Second, J. T. Lishman.

TURBITS.—First, J. T. Lishman. Second, B. Lister, Birkenshaw.
FANTAILS.—First and Second, T. C. & E. Newbitt.

JACOBINS.—First, J. T. Lishman. Second, T. C. & E. Newbitt.
TRUMPETERS.—First, J. T. Lishman. Second, J. Thresh.

ANY OTHER VARIETY.—First, J. T. Lishman. Second, T. C. & E. Newbitt.

JUDGES.—Mr. E. Hutton, Pudsey, and J. W. Thompson, South-otram.

BINGLEY POULTRY SHOW.

THIS Show took place on the 26th ult., and proved most excellent. It is a remarkable fact that scarcely a single indifferent pen of either poultry or Pigeons could be found, even after the most careful inspection. Under the very able management of that well-known amateur Mr. Beldon, everything connected with the Show was conducted with the greatest regularity and order, and that gentleman declined altogether entering even a single pen, in order to give a chance to less extensive poultry breeders. The Show was unusually well attended, and the streets throughout Bingley were decorated with banners, evergreens, &c.

It is almost needless to add, that nothing could exceed the attention paid to all the birds, so long as they remained on the spot, and that they were punctually returned.

GAME COCKEREL.—First, H. Jennings, Allerton. Second, J. Carlyle, Earby, near Skipton.

GAME (Black-breasted or other Reds).—First, J. Carlyle. Second, J. Driver, Allerton. Third, W. Spencer, Haworth. Highly Commended, H. Jennings. Commended, W. Clough, Earby.

GAME (Any other variety).—First, W. Fell, Adwalton. Second, J. Hodgson, Bradford.

SPANISH.—First, J. Thresh, Bradford. Second, J. Newton, Silsden, Leeda. Third, E. Brown, Sheffield.

DORKINGS.—First, T. Briden, Earby. Second, H. Pickles, Earby.

COCHINS.—First, R. E. Brown, Wass, Oswaldkirk. Second, C. Sidgwick, Ryddlesden Hall, Keighley. Third, Rev. C. Spencer, Attleborough. Highly Commended, C. Sidgwick.

BRAHMA.—First, E. Leech, Rochdale. Second, M. Scott, Cote, Idle. Third, E. Ryder, Harrytown, Stockport. Highly Commended, J. Wadsworth, Keighley.

HAMBURGS (Golden-pencilled).—First, W. & J. Harker, Allerton. Second, W. Collier, Dubb, Bingley. Third, J. Smith, Northorram. Highly Commended, F. Perrin, Killingbeck, Leeds. Commended, W. Collier; H. W. Illingworth, Idle; H. Pickles; J. Anderson, Gilstead, near Bingley.

HAMBURGS (Silver-pencilled).—First, W. Pitta, Fearncliffe, near Bingley. Second, T. Hanson, Thwaites Bank, near Keighley. Third, H. Pickles. Highly Commended, T. Maude, jun. Commended, W. & T. Foulds, Bingley.

HAMBURGS (Golden-spangled).—First, W. Driver, Bank House, Keighley. Second, J. Fortune, Morton Banks. Third, A. Driver, Morton Banks.

HAMBURGS (Silver-spangled).—First, W. H. Bentley, Hipperholme. Second, H. Pickles. Third, T. Robinson, Baildon, near Leeds. Highly Commended, T. Blakey, Silsden.

HAMBURGS (Black).—First, S. Butterfield. Second, C. Sidgwick. Third, T. Fawcett, jun., Northgate, Baildon. Highly Commended, C. Sidgwick. Commended, J. Bradley, Harden, near Bingley.

GAME BANTAMS.—First and Second, W. F. Entwisle. Third, J. Lund, Silsden. Commended, O. & J. Heaton, Height, near Bingley.

BANTAMS (Any other variety).—First, M. Tattersall, Shipley. Second, W. H. Robinson, Long Lee, Keighley. Third, W. Brotherton, Idle, near Leeds.

ANY OTHER BREED.—First, J. Bowker, Keighley. Second, L. Biney, Manchester (Houdana). Third, R. Draper, Seaham (Malays). Commended, T. & E. Comber, Middleton Hall (Silver Polands).

SELLING CLASS.—First, J. Thresh (Black Spanish). Second, J. Berry, Silsden. Third, H. Wilkinson. Highly Commended, W. Johnson, Idle Game.

DUCKS (Aylesbury or Rouen).—First, E. Leech. Second, E. G. Norris, Cobham, Surrey. Third, W. Haigh, Bingley.

ANY OTHER VARIETY.—First and Second, Withheld. Third, T. E. Terry, Tong.

PIGEONS.

POUTER.—Cock.—First and Second, E. Horner, Harwood, near Leeds. Third, J. A. Naylor, Barwick-in-Elmet. Hen.—First and Second, E. Horner. Third, W. Cannan, Bradford.

CARRIER.—Cock.—First, E. Horner. Second, H. M. Maynard, Ryde, Isle of Wight. Third, E. Horner. Hen.—First and Third, E. Horner. Second, H. M. Maynard.

TUMBLERS (Almond).—First, E. Horner. Second, F. Key, Beverley. Third, J. Fielding, Rochdale. Highly Commended, E. Horner; T. Rule, Durham.

BALDS, BEARDS, OR MOTTLED TUMBLERS.—First and Second, E. Horner. Third, J. Lister, Keighley. Commended, W. Lund.

TUMBLERS (Any other variety).—First, E. Horner. Second, J. Fielding. Third, T. Rule (Yellow). Highly Commended, E. Horner; T. Ashburner, Dalton-in-Furness (Black).

BARB.—First and Second, E. Horner. Third, J. Fielding. Highly Commended, E. Horner; H. M. Maynard.
JACOBINS.—First and Third, E. Horner. Second, J. Wade, Ovenden.
OWLS.—First, Second, and Third, J. Fielding.
TRUMPETERS.—First, Second, and Third, E. Horner.
FANTAILS.—First and Second, E. Horner. Third, A. Crosbie, Melrose.
TURBITS.—First and Third, E. Horner. Second, J. T. Lishman, Gillington, Bradford.

DRAGONS.—First, Second, and Highly Commended, E. Horner. Third, H. Stanhope, Eccleshill, near Leeds. Commended, T. Ashburner.

ANTWERPS.—First, E. Horner. Second, T. Statter, Hull. Third, R. Autherson, Stockport. Very Highly Commended, H. Yardley. Highly Commended, T. Lister. Commended, E. Horner; W. Lund.

ANY OTHER VARIETY.—First, Second, and Third, E. Horner (Red Nons, Black Swallows, and Yellow Magpies). Highly Commended, J. T. Lishman (Helmets); H. Yardley (Main Pigeons).

SELLING CLASS.—First, E. Horner. Second, R. Autherson. Third, H. Yardley. Highly Commended, W. Lund; T. Ashburner.

The Judges were for Poultry: Edward Hewitt, Esq., of Sparkbrook, Birmingham; and H. Redpath, Esq., of Manchester, for Pigeons and Cage Birds.

UTTOXETER POULTRY SHOW.

THE Uttoxeter Poultry Society, under the care of its present energetic Committee, bids fair to become permanent and decidedly successful. At the exhibition of August 25th the entries were nearly ninety in number, and included many pens of poultry sent by well known exhibitors. Mr. Dixon, of Bradford, doubtless, found his well known abilities as Judge somewhat put to the test by the Brahma Pootra chickens, each pen being so good. We understand the Committee have great hopes of increasing their prizes for a coming year.

SPANISH.—First, J. Stephens, Walsall. Second, J. Mansell, Longton.
DORKINGS (Any variety).—First and Second, Mrs. Arkwright, Etwall Hall, Derby. *Chickens*.—First and Second, Mrs. Arkwright.

COCHIN-CHINA.—First, J. Stephens, Walsall. Second, S. Sambrooke, Warwick. Highly Commended, A. O. Worthington, Newton Park, Burton-on-Trent. *Chickens*.—First, G. A. Crowe, Etwall Hall, Derby. Second, A. O. Worthington.

GAME (Black or Brown-breasted).—First, G. Bagnall, Draycott, Cheadle (Black Red). Second, W. S. Bagshaw, Uttoxeter. Highly Commended, J. Bakewell, jun., Sudbury (Black Reds).

GAME (any other variety).—Prize, Duke of Sutherland, Trentham (Duckwings). *Chickens*.—First, —Walwyn, Doveridge. Second, G. Bagnall, Draycott, Cheadle (Black Reds). Highly Commended, J. Bakewell, Sudbury (Black Reds). Commended, W. S. Bagshaw (Red); E. Bell, Burton-on-Trent.

HAMBURGS (Golden or Silver-pencilled).—First, Duke of Sutherland, Second, F. D. Mort, Stafford. *Chickens*.—First, Duke of Sutherland. Second and Highly Commended, F. D. Mort.

HAMBURGS (Golden or Silver-spangled).—First, T. Bolton, Handford, near Stoke. Second, J. Laming, Cowburn, Spalding. *Chickens*.—First, Duke of Sutherland. Second, H. Bagshaw.

BRAHMA POOTRA.—First, A. O. Worthington. Second, W. B. Etches, Whitchurch, Salop. Commended, H. Chawner, jun. *Chickens*.—First, Rev. E. Alder, Derby. Extra, Mrs. Walker. Second, H. Chawner. Highly Commended, Rev. E. Alder; Mrs. Walker.

SINGLE BRAHMA POOTRA.—Highly Commended, A. Worthington.
BANTAMS (Any variety).—First, J. Adkins, jun., Walsall. Second, Mrs. Arkwright (Black). Commended, H. Bailey, Longton (Black Red).

EXTRA.—Second, —Brassington, Highwood, Uttoxeter (Black Hamburgs).

DUCKS (Aylesbury).—First, A. O. Worthington. Second, T. Waring, Sudbury, Derby. Highly Commended, T. Waring. Commended, G. A. Crewe; H. Chawner, jun.

DUCKS (Rouen).—First, G. Bagnall. Second, F. Richardson, Bramshall. Highly Commended, G. Bagnall. Commended, A. O. Worthington; H. Chawner, jun.

GEES.—First, G. A. Crewe. Second, F. E. Richardson.
TURKEYS.—First and Second, F. E. Richardson (Cambridge).

GUINEA FOWLS.—First, Withheld. Second, H. Chawner. Extra Second, —Walwyn, Doveridge.

PIGEONS (Any colour).—*Horsmen*.—First, J. Bailey, Uttoxeter. Second, W. Brassington. *Tumblers* (Any variety).—First, A. Boote, Burslem (Almond). Second, H. Chawner, jun. *Carriers*.—First, H. Chawner, jun. Second, A. Boote (White Dragoon).

RABBITS.—First, G. Smith, Uttoxeter. Second, E. Brown, Bagshaw. Highly Commended, F. Harper, Uttoxeter.

ULVERSTON POULTRY SHOW.

THIS Show, held under the auspices of the Royal North Lancashire Agricult took place on the 25th and 26th of August. There were about 220 entries. The weather, unfortunately, was very unfavourable.

DORKINGS (Grey).—First, C. W. Brierley, Middleton, near Manchester. Second, J. Robinson, Garstang. *Chickens*.—First, J. Robinson. Second, Mrs. M. Seamons. Highly Commended, Gunnson and Jefferson; S. Burn. Commended, W. Fox, St. Bees, Cumberland.

DORKINGS (White).—First and Second, J. Robinson. *Chickens*.—First, J. Robinson. Second, J. Ormandy, Glenston Castle, near Ulverston.

SINGLE DORKING COCK (any colour).—First, Hall & Parkinson, Great Eccleston (Grey). Second, H. Beldon, Goitstock, Bingley.

BRAHMA POOTRA (Any colour).—First, E. Leech, Rochdale. Second, H. Beldon.

SPANISH.—First, H. Beldon. Second, J. Thresh, Bradford. Commended, B. Bee, Goosnargh. *Chickens*.—First, H. Beldon. Second, Bowman & Fearon. Highly Commended, J. Leeming.

GAME (Any colour).—First, C. W. Brierley. Second, W. Boulton, Dalton-in-Furness. Highly Commended, J. Poole, Ulverston. *Chickens*.

—First, W. Boulton. Second, L. Casson, Ulverston (Black Red). Highly Commended, J. Poole (Black Red); W. Boulton; W. & T. Robinson (Brown Red); H. Martin, Ulverston.

SINGLE GAME COCK (Any colour).—First, C. W. Brierley. Second, W. & T. Robinson, Ulverston (Brown Red). Highly Commended, J. Fletcher, Stonecough, near Manchester (Black Red); E. G. Mellings, Preston.

COCHIN-CHINA.—First, C. Sidgwick, Riddlesden Hall, Keighley. Second, H. Beldon. Highly Commended, J. Poole (Partridge). Commended, J. Poole (Buff); E. J. Schollick, Ulverston (White). **Chickens.**—First, and Second, C. Sidgwick. Highly Commended, E. J. Schollick; J. Robinson. Commended, Bowman & Fearou (Buff).

HAMBURGHS (Golden-pencilled).—First, H. Beldon. Second, J. Robinson. Highly Commended, B. Bee. Commended, Bowman & Fearou. **Chickens.**—First, H. Beldon. Second, B. Bee. Highly Commended, J. Robinson. Commended, B. Bee.

HAMBURGHS (Silver-pencilled).—First, H. Beldon. Second, J. Robinson. **Chickens.**—First, H. Beldon. Second, J. Robinson.

HAMBURGHS (Golden-spangled).—First, J. Robinson. Second, H. Beldon. Highly Commended, T. Wareing, Preston. **Chickens.**—First, H. Beldon. Second, J. Robinson.

HAMBURGHS (Silver-spangled).—First, H. Beldon. Second, J. Robinson. Highly Commended, J. Leeming, Broughton, Preston. **Chickens.**—First, H. Beldon. Second, J. Robinson. Commended, T. Bellman, Ulverston.

POLANDS.—First and Second, H. Beldon. Highly Commended, G. W. Boothby, Louth, Lincolnshire. **Chickens.**—First and Second, H. Beldon. Highly Commended, G. W. Boothby.

BANTAMS (Any colour).—First, C. W. Brierley. Second, W. Boulton. **Chickens.**—First, B. Bee. Second, J. Poole (Duckwing Game). Highly Commended, W. F. Entwistle, Leeds (Game). Commended, W. Boulton; B. Bee.

CRÈVE-CŒUR.—First, M. Wilkin, Bottle Rectory, Holborn Hill, Cumberland. Second, H. Beldon. Highly Commended, W. R. Charnley, Ulverston.

HOUDANS.—First and Second, M. Wilkin.

GEESE.—First, Mrs. M. Seamons, Hartwell, Aylesbury (White). Second, E. Leech. Highly Commended, T. Houliker, Blackburn. **Geolings.**—First, E. Leech, Rochdale. Second, T. Houliker (Grey). Highly Commended, Mrs. M. Seamons.

DUCKS (Aylesbury).—First, Mrs. M. Seamons. Second, E. Leech. **Ducklings.**—First, E. Leech. Second and Highly Commended, Mrs. M. Seamons.

DUCKS (Rouen).—First, E. Leech. Second, Gunson & Jefferson, Whitehaven. Highly Commended, W. & T. Robinson, Ulverston; T. Houliker. **Ducklings.**—First, J. J. Waller, Kendal. Second, J. Robinson, Garstang. Highly Commended, T. Houliker.

LABRADOR.—Prize, S. Burn, Whitby.

ANY OTHER VARIETY.—First and Second, C. W. Brierley (Teal and Pintail).

TURKEYS.—First, E. Leech. Second, T. Houliker. **Pouls.**—First, E. Ryder, Hurtytown, Stockport (Cambridge). Second, E. Leech.

EXTRA.—Highly Commended, M. Wilkin (Fadue Chamois).

The Judges were Mr. R. Teabay, and Mr. Hindson.

CRAVEN AGRICULTURAL SOCIETY'S POULTRY SHOW.

THE following is the list of the awards made to the exhibitors at this Show, held at Skipton, August 28th. We must defer remarks on the birds shown till next week.

DORING (Any colour).—First, H. Pickles, jun. Early. Second, T. Briden, Early. Highly Commended, H. Beldon, Goidstock, Bingley. **Chickens.**—First, T. Briden. Second, H. Pickles, jun.

SPANISH (Black).—First, T. C. & E. Newbitt, Epworth, Lincolnshire. Second, J. Newton, Silsden. Highly Commended, J. Newton; J. Thresh, Bradford. **Chickens.**—First, J. Thresh. Second, H. Wilkinson, Early. Highly Commended, T. C. & E. Newbitt; J. Newton; J. Berry, Silsden.

GAME.—First, E. Aykroyd, Bradford. Second, G. Noble, Staincliffe, Batley. **Chickens.**—First, G. Noble. Second, W. Clough, Early. Highly Commended, W. Spencer, Harworth; W. & J. Harter, Alkerton.

COCHIN-CHINA.—First, C. Sidgwick, Keighley. Second, T. Trees, Skipton. **Chickens.**—First and Second, C. Sidgwick. Highly Commended, J. & B. Booth; Hightold, Silsden. Commended, J. Cragg, Skipton.

HAMBURGH (Golden-pencilled).—First, H. Beldon. Second, W. Clayton, Keighley. Highly Commended, H. Pickles, jun. Commended, J. Preston, Alkerton. Bradford. **Chickens.**—First, W. Clough, Early. Second, H. Beldon, jun. Highly Commended, H. Bell, Harrogate, Burnley.

HAMBURGH (Silver-pencilled) OR CHITTERRATTE.—First, H. Beldon. Second, H. Pickles, jun. **Chickens.**—First, J. Preston. Second, H. Pickles, jun. Highly Commended, T. Hanson, Keighley; W. & J. Barstow, Bingley.

HAMBURGH (Golden-spangled).—First, T. Trees. Second, H. Pickles, jun. Highly Commended, H. Beldon. **Chickens.**—First, H. Beldon. Second, W. Lawson, Burnley.

HAMBURGH (Silver-spangled).—First, H. Beldon. Second, H. Pickles, jun. Highly Commended, G. Smith, Silsden. **Chickens.**—First, H. Beldon. Second, T. Blakey, Silsden. Highly Commended, H. Pickles, jun.

HAMBURGH (Black).—First, J. Preston. Second, W. Green, Keighley. Highly Commended, C. Sidgwick. **Chickens.**—First, S. Duttonfield, Keighley. Second, J. Berry, Silsden. Highly Commended, C. Sidgwick.

POLAND.—First and Second, H. Beldon. Highly Commended, J. Bowker, Keighley. **Chickens.**—First, H. Beldon. Second and Highly Commended, J. Bowker.

GAME BANTAMS.—First and Second, W. F. Entwistle, Leeds. Highly Commended, G. Noble, Staincliffe, Batley. **Chickens.**—First, G. Noble. Second, A. Wilman, Dewsbury Moor.

BANTAMS (Any colour).—First, S. Schofield, Beckmondwike. Second, J. Rooking, Adlington. **Chickens.**—First, W. H. Robinson, Bingley. Second, H. Beldon. Highly Commended, H. Schofield.

ANY OTHER VARIETY.—First, E. Leech, Rochdale. Second, H. Beldon. Highly Commended, S. Allen, Bolton Abbey (Brahma); T. Trees (Brahma). **Chickens.**—First, J. Allen (Brahma). Second, H. Beldon. Equal Second, W. S. Clapham, Uley (Houdans).

EXTRA STOCK.—First, T. Robinson, Kettlewell (Moorecock). Second, H. Walton, Fleet, Cowling (Guinea).

GESE (White).—First, E. Leech. Second, H. Pickles, jun.

GESE (Various Colours).—First, E. Leech. Second, W. Davis, Gargrave.

DUCKS (Aylesbury).—First and Second, E. Leech. Highly Commended, R. Hutchinson, Cowling.

DUCKS (Rouen).—First, J. Dixon, Bradford. Second, E. Leech. Highly Commended, H. Beldon; J. Dixon.

ANY OTHER VARIETY.—First and Second, J. Dixon. Equal Second, H. Beldon. Commended, H. Walton.

TURKEYS.—First, E. Leech. Second, J. B. Beckwith, Winterburn.

PIGEONS.

CARRIER—Cock.—First, H. Smith, Skipton. Second, E. Horner, Harewood, Highly Commended, J. Baxendall, Sutton; E. Horner. **Hen.**—First and Second, H. Smith.

POTTER—Cock.—First, H. Beldon. Second, J. Hawley, Bingley. Highly Commended, H. Smith; Master Dawson, Otley. **Hen.**—First, J. Hawley. Second, H. Beldon.

TUMBLERS (Almond).—First, T. C. & E. Newbitt. Second, J. Hawley. Highly Commended, R. B. Chouler, Bolton Park.

OW.—First, H. Beldon. Second, Master Dawson. Highly Commended, H. Smith.

BABS.—First and Highly Commended, E. Horner. Second, H. Smith. **JACOBS.**—First, J. Thompson, Bingley. Second, E. Horner. Highly Commended, T. C. & E. Newbitt; J. Thompson; E. Horner.

TUMBLERS (Mottled).—First, J. Hawley. Second, J. Thompson. Highly Commended, J. Hawley; W. Lund, Shipley; R. B. Chouler.

BAR PATES.—First, W. Lund. Second, J. Hawley. Highly Commended, C. Smith; J. Collier, Skipton.

RUNTS.—First and Second, H. Smith.

FANTAILS.—First and Third, E. Horner. Second, T. C. & E. Newbitt. Equal Second, J. Hawley. Highly Commended, T. C. & E. Newbitt; F. & R. D. Horser, Skipton.

DRAGONS.—First, E. Horner. Second, J. Baxendall, Sutton. Highly Commended, J. Baxendall; Master Dawson; J. Collier.

KNOWEPS (Long-faced).—First, J. Hawley. Second, E. Birtwhistle, Skibeden. Highly Commended, J. Hawley; W. Lund; R. B. Chouler; E. Benson, Farfield, Adlington.

ANTWEAPS (Short-faced).—First, J. Thompson. Second, F. & R. D. Horner. Highly Commended, J. Hawley.

ANY OTHER VARIETY.—First, J. Hawley. Second, J. Thompson. Equal Second, R. B. Chouler. Third, Master Dawson (Nuns). Highly Commended, J. Hawley; W. Lund (Turbits); R. E. Chouler; J. Lister, Keighley (Bearded Tumblers); J. Thompson; J. Thresh; E. Horner; T. C. & E. Newbitt.

The Judges were Mr. J. Heywood, Middleton; and Mr. E. Hutton, Padsey.

COTTINGHAM POULTRY SHOW.

ON August 26th the annual Exhibition of the Cottingham and district Poultry Society was held in a field belonging to Mrs. Gee, which was admirably adapted for the purpose. Of the numerous shows held annually in the district, the Cottingham Show may fairly lay claim to being the best, not only with respect to extent, but in uniformity and excellence of arrangement. In every department, the Show just past may be favourably compared with those of former years. Of poultry, there was a very fair number of entries, and the birds taken as a whole were exceedingly fine. The Canaries, although few in number, were remarkable for their purity of breed. Too much praise cannot be accorded to Mr. Joseph Britain, the Secretary, for his untiring exertions. Annexed is the prize list:—

SPANISH.—First, R. Carling, Cheshire. Second, — Charter, Driffield. **Chickens.**—First, R. Carling. Second, T. C. & E. Newbitt, Epworth.

DORINGS.—First, D. White, Driffield. Second, J. Thompson, Anlaby. **Chickens.**—First, S. E. White, Driffield. Second, J. Blanchard.

COCHIN-CHINA.—First, R. Carling. Second, G. Holmes, Driffield. **Chickens.**—First and Second, R. Loft, Woodmansey.

GAME (Any colour).—First, H. M. Julian. Second, W. Boyes. **GAME.**—First, W. Boyes. Second, H. M. Julian.

GAME (Any variety).—First, H. M. Julian. Second, W. Boyes. **Chickens.**—First, H. M. Julian. Second, W. Boyes.

POLANDS.—First and Second, Mrs. Procter, Hull. **Chickens.**—First and Second, Mrs. Procter.

HAMBURGHS (Golden-spangled).—First, — Pinder, Kirby Moorside. Second, J. Blanchard. **Chickens.**—First, G. Holmes. Second, — Carling.

HAMBURGHS (Golden-pencilled).—First, J. R. Jessop, Hull. Second, A. Hlave. **BATHURON. Chickens.**—First, J. Holmes. Second, W. Bearpark.

HAMBURGHS (Silver-spangled).—First, J. Holmes. Second, C. P. Richardson. **Chickens.**—First and Second, G. Holmes.

HAMBURGHS (Silver-pencilled).—Prize, G. Holmes. **Chickens.**—First, — Bearpark. Second, G. Holmes.

BANTAMS (Gold).—First, T. C. Harrison. Second, J. Ringrose. **Chickens.**—First and Second, T. C. Harrison.

GAME BANTAMS.—First, — Carling. Second, R. Robson. **Chickens.**—First, R. Robson. Second, G. H. Holmes.

BANTAMS (Any variety).—First and Second, T. C. Harrison. **Chickens.**—First, E. Carling. Second, T. C. Harrison.

DISTINCT VARIETY.—First and Second, R. Loft. **Chickens.**—First and Second, R. Loft.

FARMYARD CROSS.—First and Second, S. Coverdale. Third, R. Loft. **Chickens.**—First and Second, R. Loft.

SELLING CLASS.—First, C. Richardson. Second, T. C. Harrison. **GESE.**—First, O. A. Young. Second, G. Holmes.

DUCKS (Aylesbury).—First, O. A. Young. Second, G. Holmes. **DUCKS (Any other variety).**—First and Second, T. C. Harrison.

TURKEYS.—First, — Merkin, Driffield. Second, J. Kome, Cottingham.

SINGLE COCKS.

SPANISH.—Prize, J. Holmes, Driffield.

DORINGS.—Prize, S. E. White.

COCHIN-CHINA.—Prize, R. Loft.

GAME (Black-breasted).—Prize, H. M. Julian.

GAME (Any colour).—First, H. M. Julian. Second, W. Boyes.

POLANDS.—Prize, Mrs. Procter.

HAMBURGHS (Golden-spangled).—Prize, R. Grantham.

HAMBURGHS (Golden-pencilled).—Prize, J. Hall, Wetherby.

HAMBURGHS (Silver-spangled).—First, G. Holmes. Second, C. H. White.

BANTAMS (Gold).—Prize, T. C. Harrison.

BANTAMS.—Prize, G. Holmes.

BANTAMS.—Prize, T. C. Harrison.

DISTINCT VARIETY.—Prize, R. Loft.

FARMYARD CROSS.—Prize, S. Coverdale.

SELLING CLASS.—Prize, R. Loft.

PIGEONS.

PORTERS.—First and Second, F. Key, Beverley.

CARRIERS.—First, H. Yardley. Second, C. Marwood.

TUMBLERS.—First, Pickinger & Marshall. Second, F. Key.

TRUMPETERS.—First, — Yardley, Birmingham. Second, C. N. Lythe.

JACOBS.—First, C. N. Lythe. Second, T. C. & E. Newbitt.

FANTAILS.—First and Second, T. C. & E. Newbitt.
 DRAGONS.—First, H. Taylor, Newland. Second, S. Norwood, Hull.
 TUMBLERS.—First and Second, C. N. Lythe.
 BARRS.—First, H. Yardley. Second, F. Key.
 NUNS.—First, C. N. Lythe. Second, Pickering & Marshall.
 ANY OTHER VARIETY.—First, H. Yardley. Second, T. C. & E. Newbitt.

RABBITS.—First, P. Ashton. Second, J. Denton.
 CANARIES.—*Belgian*.—First and Second, G. Grant. *Marked*.—First, W. W. Bielby. Second, —Hobson, Hull. *Nest of Young (Clear)*.—First, J. Sanderson. Second, T. Neil. *Nest of Young (Marked)*.—First, J. Sykes. Second, G. Grant. *Mute*.—First, Capt. Horner. Second, Miss Gawan. *Redcap*.—First, Master J. Gawan. Second, —Gawan.

The Judges were F. Ferguson, Esq., and H. Adams, Esq. for Poultry; Mr. J. Weddall, and Mr. C. Glover for Canaries.

IRISH ROYAL AGRICULTURAL SHOW.

THIS was held at Londonderry from August 26th to 28th. The awards for poultry were as follows:—

DORKINGS.—First, J. C. Cooper, Limerick. Second, R. P. Williams.
 DORKINGS (Any colour except Silver-Grays).—First and Second, R. P. Williams. *Chickens*.—First, J. C. Cooper. Second, R. P. Williams.
 SPANISH.—First and Second, J. C. Cooper. *Chickens*.—First, R. P. Williams. Second, J. C. Cooper.
 BRAHMA POOTRA.—First and Second, J. C. Cooper. *Chickens*.—First and Second, J. C. Cooper.
 COCHINS (Buff).—*Chickens*.—Prize, J. C. Cooper.
 COCHINS (Any other colour).—First and Second, J. C. Cooper. *Chickens*.—Prize, J. C. Cooper.
 TURKEYS.—First, J. C. Cooper. Second, J. S. Black, Gateside, Coleraine. Commended, J. C. Cooper. *Poult.*.—First and Second, J. C. Cooper.
 GEESE.—First, J. C. Cooper. Second, R. P. Williams. Third, T. Butler. Highly Commended, J. C. Cooper. Commended, G. Craig; T. Butler.
 DUCKS (Aylesbury).—First, R. P. Williams. Second, J. C. Cooper. Highly Commended, R. P. Williams. Commended, J. C. Cooper.
 DUCKS (Romen).—First and Second, R. P. Williams.

JUDGES.—Messrs. C. F. Stanton and Morris.

BREEDING IN SUPERS—PETTITT'S GRATINGS.

THE best method of preventing breeding in supers I believe is to keep them cool, and I have no doubt that the excessive heat of the past summer has had something to do with it; yet in spite of the heat this season I have taken two glasses and a collateral super from one of Pettitt's collateral hives. The glasses contained respectively 20 lbs. and 20½ lbs., without brood or other imperfection; and the collateral super contained 28 lbs. of pure honeycomb, making a total of 68½ lbs., and the stock hive is well supplied with food for the winter. The bees conveyed the 40½ lbs. through the narrow gratings (three-sixteenths of an inch), in the crown board of Pettitt's collateral hive; but the collateral super was not provided with the gratings, the communication to these being in the floor board, which in some respects answers the purpose, as either compartment can be ventilated without interfering with the temperature of the other.

I believe in Pettitt's gratings for keeping out the drones from the supers, which ought to be kept at a lower temperature than the stock hive, or, as Nutt would term it, the "pavilion of Nature," for it is quite certain that the drones carry nothing into supers; but their presence in them does increase the temperature, which is undesirable.

As to the bees not being able to find their way through the gratings, I have never found this to be the case except late in the season, and then very rarely; but the bee-master should see for himself that the gratings are kept clear.

Whatever hive is used, the bee-master must see to its proper working, and that all passages to supers are clear for communication. If he neglects this duty he must put up with the consequences, and certainly not denounce a system when he himself is at fault from his not having paid to his bees proper attention in this respect.—J. PREBBLE.

REARING YOUNG CANARIES.

I HAVE been a Canary breeder for a long time, and am one of the most successful exhibitors of prize Canaries, and I say emphatically that the use of lettuce leaves, hempseed, groundsel, chickweed, &c., in feeding young Canaries is all "bosh." I have lost one bird this year out of about twenty-five, and that was through the hen sitting too closely, and I never give them anything but egg and bread crumbs morning and night. I take them away at a month old, and give them hard food after three days.

More young birds are killed by being pampered than by starving. Why, if you fed high-bred London Fancies on hempseed and egg, they would "go out" altogether. Mr. Walter told me egg alone, even, was too high feeding for them.

Hempseed is, perhaps, the worst thing you can give a bird. Give young birds egg and bread, fresh, twice a-day; give old birds canary, rape, and linseed mixed, and you will rear all the young ones, and the old ones will live until you are tired of them.—HOWARTH ASHTON.

MUSHROOMS FOR WINTER USE.

CAN any of your readers give a good recipe for preserving mushrooms for winter use? This year they are so numerous that one could fill carts with them. I am afraid you will think this an exaggeration, but it is a fact. In the cookery books there are various recipes for drying them up with butter and spice, but that is of little good to the poor. What I wish is the Russian plan of keeping them in jars and barrels, dried or salted. In one field I gathered five or six quarts in less than an hour; and as September is the regular mushroom month, a recipe from you would still be in time. At present, as we have made catsup and pickles in quantities, the mushrooms are left to the cattle.—Mrs. C., Galloway.

[We shall be obliged by any of our readers sending us the information required by our correspondent. The only directions we have for drying mushrooms are the following:—Wipe them quite clean, take out the brown, pare off the skin of the large ones, lay them on paper, and put them in a cool oven to dry. Keep them in paper bags in a very dry place. When wanted for use simmer them in gravy, and they will swell to nearly their former size; or you may simmer them in their own liquor till it dries up in them, shaking the pan; then dry them on tin plates, with spice or not, as you think proper. Tie down with a bladder, or keep them in a dry place or in paper.]

OUR LETTER BOX.

N.B.—From want of space, several communications are unavoidably postponed till next week.

ARTIFICIAL INCUBATION (J. V.).—We know no practical book on the subject. You can obtain the information you require by applying at Baily & Sons, 113, Mount Street, W.

DARK BRAHMA POOTRAS FOR EXHIBITION (T. N.).—No. 1 seems to us from description to be the best bird in every particular. It is a great point to be well pencilled on the breast. We mistrust No. 2. We heard of a man once who in describing the most awful equivoque ever saw, said, "If you stood right in front you would see his eyes were not quite straight," and just so, when you admit a projection of an inch of soft feather, we are disposed to consider No. 2 vulture-hooked. As to No. 3, we object very much to the creamy ground, and should certainly advise you not to exhibit her.—B.

CHICKENS' FEATHERS CHANGING (*Idem*).—Chickens do not moult, their feathers change as they approach maturity, but it is an altogether different process from moulting. The chicken does not drop feathers like the adult. In the pullet the change takes place imperceptibly. In the cock it is only noticed by the hackle and tail. The former shows most, for it grows as the bird approaches maturity. To moult is to change, the cock chicken has no hackle till this comes. If the chicken hatched the beginning of January is to be considered a chicken till the advent of another year, then it is true chickens moult. The chicken of January has laid and hatched in July, and then in the course of nature she moults. A constant change takes place in the plumage of chickens from the time when they are hatched downy, till they have perfect plumage, but we know nothing of the process. The wing and tail feathers come first, and then a slow but certain change goes on till a perfect plumage is obtained by gradual growth and improvement, not by its exchange for another, till having passed into the state of cocks and hens, they become subject to the laws that rule adults. Moulting is one of those to which all birds are subject.

CHEAP LIGURIAN QUEENS (K.).—I shall make my last importation of these queens for the season in October, and shall then be able to supply them in any quantity at 10s. 6d. each, provided the orders reach me during the first fortnight in September.—T. W. WOOLNUT, Mount Radford, Exeter.

DEPRIVING BEES OF THEIR HONEY (W. B.).—Do not attempt to deprive your bees of any honey this year. It is a fundamental principle of the depriving system to leave the stock hive intact, and take only surplus honey stored in some other receptacle. You had better let your bees swarm, putting the new colonies into hives which can be supered; and if you see fit to nuzzle the bees from the old stock to one of the swarms, do it by driving, and do not subject them to fumigation.

LIGURIANISING AN APIARY (*Apis*).—"I believe that Mr. Koehler's mode of propagating Ligurians may be safely practised, and that there is in point of fact little or no risk of a quarrel. Some persons have even recommended the habitual transposition of strong and weak stocks as a ready mode of equalising their forces, and although it is a plan which I have never practised or approved of, and one which I believe has often been attended with fatal results, it is undeniable that it may sometimes be adopted with success. In the case of a stock which has just thrown off a swarm the conditions are so far altered by the absence of the old queen and nearly all the adult population, that in my opinion there is practically no risk whatever.—A DEVONSHIRE BEE-KEEPER."

GREEK WINES (*Somerset Rectory*).—We do not know the names of the varieties of Grapes from which these wines are made. They are pure, unbranded wines. The White Kephesia is refreshing and invigorating, well fitted for the sportsman's luncheon; and St. E is, another white wine, for his dinner; it is what sherry would be if pure.

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPTEMBER 10—13, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year	
			Day.	Night.	Mean.		Days.	m.	h.	m.	h.	m.	h.	m.				h.
10	Th	Ipswich Horticultural Show.	69.5	46.9	58.2	23	28	af 5	25	af 6	5	11	6	af 2	23	3	17	254
11	F	Bury St. Edmunds Horticultural Show.	68.4	45.6	57.5	11	30	5	23	6	morn.	5	8	24	3	38	255	
12	S	Barnstisland Horticultural Show.	69.0	44.7	56.3	13	31	5	21	6	5	0	53	3	25	3	59	256
13	SGN	14 SUNDAY AFTER TRINITY.	68.2	45.8	57.0	19	33	5	19	6	13	1	41	4	23	4	19	257
14	M		67.0	45.1	56.6	21	35	5	17	6	20	2	21	5	27	4	49	258
15	Tu	Royal Horticultural Society, Fruit, Floral, and General Meeting.	67.6	46.2	56.9	21	36	5	14	6	50	3	55	5	28	5	1	259
16	W		68.4	47.1	57.8	17	38	5	12	6	12	5	25	6	5	23	260	

From observations taken near London during the last forty-one years, the average day temperature of the week is 63.3°; and its night temperature 46.2°. The greatest heat was 83°, on the 13th, 1865; and the lowest cold 23°, on the 11th and 12th, 1860. The greatest fall of rain was 1.27 inch.

PEACH CULTIVATION.—No. 1.



ERSIA is considered to be the native country of the Peach; and there is little beyond supposition in support of this fruit being taken into Egypt in the reign of Cambyzes, or carried from Egypt into Greece, but it was known in Italy before the commencement of the Christian era, and Loudon fixes the date of its introduction into this country at 1562: so that rather more than three centuries have elapsed since it was known to the

British gardener. How it was at first cultivated may not be known, but we have it on the best authority that for a very long series of years the Peach has been successfully cultivated as an out-door fruit on walls with a south aspect. Generations of cultivators succeeding each other in successful practice, tree succeeded tree against the same wall, and wall gave place to wall, which I look upon as proof positive of the successful out-door cultivation of the Peach. Without the aid of a wall the Peach tree does not usually ripen its fruit in this country, but we have known instances. Standard trees in most cases blossom abundantly.

Not cultivable in this country as a hardy fruit, for the ground is too cold for its roots—at least, the Peach will not thrive long on its own roots, even planted against a wall—the necessity arises for budding it on a hardier kind of stock, and of affording protection by artificial means. The Peach is not suited for cultivation in every locality. To have it in perfection in some places, the shelter of a wall, and temporary protection for the blossom and young fruit, only are required; in others additional means of affording or retaining heat are needed. Mr. Thompson, in his elaborate and practical work "The Gardener's Assistant," states, at page 540, that "In localities where the mean temperature of February is 40°, and that of March 44°, the Peach will be in full flower against a south wall in the last week in March; and if the mean of April is 49°, that of May 55°, June 61°, July 64°, and August 63°, the season may be considered a favourable one. The general crop, in that case, will be ripe in the last week of August or first week in September, and the fruit will acquire a high degree of perfection." Those temperatures, however, are but rare in this country, being confined to warm spots in the southern parts of the kingdom, and the west coast, also Ireland, as will be seen from the following table of mean temperatures given by Mr. Thompson for the five months, or from the time of flowering to that of the fruit ripening, the favourable temperature not being attained at any place named.

County.	Place.	April.	May.	June.	July.	Aug.
Cornwall	Penzance	48.07	54.54	59.52	62.10	61.11
Middlesex	Chiswick	47.13	53.55	61.31	63.11	61.97
Gloucester	Stroud	45.60	51.00	58.00	61.39	60.50
Lincoln	Boston	47.52	55.52	61.63	63.01	61.29
Dublin	Dublin	48.05	54.37	60.24	61.47	61.49
Lancashire	Liverpool	48.05	55.27	61.00	61.41	62.00
Dumfriesshire	Applegarth	43.27	49.24	54.77	57.09	56.50
Mid-Lothian	Edinburgh	46.00	52.50	57.00	61.00	57.50
Aberdeen	Aberdeen	47.57	54.29	58.49	60.47	59.64
Orkney	Sandwick	43.44	47.88	52.70	54.93	55.08

From the foregoing table of temperatures it will be seen we have no favourable climate for the Peach; but after twenty years' experience in localities where Peaches have been grown successfully against walls with south aspects, I have no hesitation in stating that the Peach can be grown where the temperature of February is 38°, of March 42°, April 47°, May 53°, June 59°, July 62°, August 61°, and September 57°. I have grown Peaches in three different gardens in Yorkshire with these mean average temperatures, and have failed to grow them against a south wall with the usual protection in another, where, owing to the altitude, the mean temperature of March was 40°, April 46°, May 52°, June 58°, July 61°, August 59°, and September 55°. Only one year out of six were they good—viz., in 1859. During the past five years I have practised in a situation farther to the west, and Peaches every season are large and fine, ripening perfectly. The mean temperature of April is 48°, of May 55°, of June 61°, of July 63°, and of August 61°, which is slightly higher than the mean for Liverpool, in the neighbourhood of which town Peaches are grown to great perfection on walls—at Knowsley for instance. Again, in some parts of Lincolnshire Peaches do exceedingly well against south walls, for instance, at Brocklesby Park; indeed there is no county in England where the Peach tree against a south wall does not with careful culture ripen its fruit in perfection. But there are exceptions, owing to altitude above the sea level; for example, York, at an altitude of 50 feet above the sea level, has a temperature suited to the growth of the Peach, and there the fruit ripens, whilst at Halifax 487 feet, and Bradford from 370 to 496 feet above the level of the sea. Peaches do not succeed or ripen against a wall with a south aspect; and at the latter elevation they are not to be grown in unheated glass structures, for these, unless narrow and backed by a substantial wall, are worthless, and afford no greater warmth than a south wall. It may seem strange that a glass house should not afford any greater warmth than that of a south wall, but such is nevertheless the fact, but only true of houses less in width than 15 feet; for in houses 20 feet wide the temperature exceeds that of a south wall, or in other words, the temperature of a south wall at 3 inches distance from it is, at an elevation of 496 feet, in March 43°, April 49°, May 56°, June 62°, July 65°, and August 61°. Of a narrow (13 feet) glass house the temperatures were, in April 50°, May 56°, June 63°, July 65°, and August 62°; and in a 6-foot-wide house or glass case against a south wall the temperature was, April 52°, May 59°, June 65°, July 67½°, and August 66°, or the same temperatures as are afforded trees against a south wall in localities which are favourable to the full perfection of the crop, and with such the fruit in the latter house will ripen, but not in a narrow detached house, or against an open wall at the above-named altitude.

A south wall has a temperature of 4° or 5° (more or less, according to the material used in the construction, stone giving less warmth than white brick, which is 1° more in temperature than red brick, fire brick being the hottest of all), above that of the atmosphere out of doors; consequently the trees against it will have with me in this locality (North-

Wales), against a south wall, in April a temperature of 52°, May 59°, June 65°, July 67°, and August 65°. Here, with these temperatures, I have Peach trees on a south-east wall, also against a south-west wall; but the walls have only, calculating by time, about an hour's eastward or westward bearing, and yet there is no perceptible difference in the time of the fruit ripening as compared with trees against a wall with a due south aspect.

Now it will be seen on reference to the table of temperatures, that Liverpool has a temperature equal to that of Chiswick. I presume, therefore, the Peach is not to be cultivated in this country otherwise than against a south wall, and not then if the locality is more elevated than 250 feet in the south, 150 in the east, west, and midland districts, and 50 in the north. Exposure, however, may so reduce the temperature as to render the locality unfavourable, whilst shelter from cold winds by natural agents may so contribute to the warmth of an elevated locality as to make Peach culture practicable where without much protection it would not otherwise be.

Much as temperature contributes to success in the cultivation of the Peach, lowness, dampness, and foginess of situation are just as unfavourable as a low temperature. A low situation will be equal to a difference of 2° or 3° of temperature, on account of its being unfavourable to the ripening of the wood, whilst a dry one assists its maturation. Temperature, however, is the first and great aim of the Peach-grower; if he has not a favourable one all his efforts will be unavailing. It would, however, greatly contribute to the perfection of the tree and its produce to afford it a south wall in all localities having a suitable temperature, and to keep from the soil any excess of moisture, for the Peach is not hardy, but tender, and is often rendered more tender than need be owing to the want of a properly-made and well-drained border, for in such the heat of the soil is greater, the ripening of the fruit and wood is effected earlier in the year, and the crop is larger.

Not only is a south wall necessary for the successful cultivation of the Peach in the open air, but to afford further facilities for the ripening of the wood and fruit a stock other than the Peach must be employed, for the first evidence of a tree's hardness is afforded by its success or non-success on its own roots. In the latter case the leaves by degrees become smaller, the wood does not ripen, and then it becomes worthless; but a tree not sufficiently hardy to succeed on its own roots may be made to endure the climate by its being budded on a hardier kind of stock. The effect of budding or grafting on a different species has a tendency to cause earlier maturity, and in that respect the working of the Peach on the Plum is desirable, as without that it is very questionable whether the Peach could be cultivated against a wall without artificial heat. The Peach does not succeed on its own roots against a wall in this country. There is every reason to conclude that the soil is too cold for its roots, for on these it fails, whilst on those of the Plum it succeeds, either from that being a hardier kind of tree, or from the influence of the stock, or both. It must be admitted that the Peach is the most natural kind of stock; but in a climate unsuited to its growth we must make compensation by art for whatever our climate is deficient in, and it has been proved that budding or grafting on a stock thriving in that climate renders an otherwise uncultivable tree cultivable.

The Plum is most generally employed as a stock for the Peach, and the kind of Plum most used is that known as the Muscote. The White Pear Plum is sometimes employed; but though the Peach takes most readily upon it, the growth does not correspond with that of the Peach worked upon it. There are obstructions to the flow of the sap which induce an enfeebled state of the Peach, and it is not so long-lived as upon a freer-growing kind of stock. The Muscote Plum, being of more free growth, is well adapted as a stock; and on it the Peach generally succeeds, though all kinds do not take upon it.

The Almond, which is very near akin to the Peach, also answers as a stock, but in cold and damp soils the Peach does not succeed upon it, but in those which are warm and dry it succeeds admirably; and there is an advantage in employing the Almond stock—viz., those kinds not taking well on the Plum stock take readily upon the Almond. Except in warm soils the Almond is not desirable as a stock for the Peach; and though all the varieties of Peach take well on Peach stocks and grow freely, yet they soon become diseased; therefore the Plum stock is preferable to either Almond or Peach.

Budding is the method most practised for the propagation of the varieties of the Peach, and sometimes grafting. New varieties, of course, are raised by sowing the stones. I shall

not, however, enter on these modes of propagation, as they are rarely practised in private gardens. I will only add that budding appears to make the best trees.

The varieties of Peach best suited for cultivation against walls are of course those that are the most hardy. Those succeeding on a south wall with me, and excellent in every respect unless otherwise stated, are—

Early York, large, melting, and excellent. Ripe from the beginning to the end of August.

Grosse Mignonne, large, melting, and fine. End of August and September.

Noblesse, large and good. End of August and September.

Royal George, large, but not so large as some. End of August and September.

Bellegarde, large, melting, and excellent on account of its keeping qualities and bearing carriage well. September.

Chancellor, large, and better from a wall than under glass. September.

Barrington, large and good. Middle of September.

Late Admirable, large, melting, and juicy. End of September.

Walburton Admirable, large, valuable on account of its lateness. End of September and beginning of October.

The above will not disappoint, unless it be the Royal George, on account of its liability to mildew. I do not care for the Acton Scot now we have the Early York, the best early Peach for a wall.

A selection of six may consist of Early York, Grosse Mignonne, Noblesse, Bellegarde, Barrington, and Late Admirable; of three, Early York, Grosse Mignonne, and Barrington; of one, Grosse Mignonne.

The Malta is a fine melting sort, keeping and bearing carriage well. End of August and beginning of September.

Stirling Castle appears a desirable late Peach. Coming into use in October, it will be valuable.

Sulhamstead, closely resembling Noblesse, and said to be hardier.

Of the last two I have not sufficient experience to write decidedly of their merits; but I have sufficient to enable me to state that they and the varieties named before them are a dozen of the best Peaches for walls.—G. ABBEY.

BEDDING PELARGONIUMS.

THERE is much truth in the remarks made by Mr. Luckhurst upon bedding Pelargoniums. I have lately had an opportunity of seeing many of those varieties which first appeared in such glowing colours, and must confess being disappointed with them, for after making allowances for the difference of opinion between buyer and seller, I found that many of them did not arrive at the standard of excellence ascribed; this was particularly remarkable in the Golden, Tricolor, and Bronze section, many of the most expensive kinds having dwindled away into miserable-looking objects, while the colours of others were so nearly approaching those of some previously sent out, that it mattered little which one had. Of course large allowances must be made for them in consequence of the parching summer and our want of a knowledge of the peculiarities in the treatment requisite to bring out the proper tints of their foliage, and which I hope will be acquired by another season.

The great demand for something new and distinct for bedding purposes is, no doubt, one of the principal causes of there being such an influx of new varieties into the market; but from their similarity to each other, I fancy the mind of even the professional gardener, to say nothing of that of the enthusiastic amateur, must become greatly confused in making a selection of varieties worthy of purchase. More especially must this be the case with persons who live in remote districts, and have no opportunity of judging of the merit of new varieties beyond the descriptions of the sellers. It is in such lists as those given by Mr. Luckhurst in our Journal that buyers will find valuable additional assistance; but in making selections it is always well first to consider whether the plants are required for massing in large or small beds, for back or front lines in ribbon borders, or as single specimens in mixed borders or vases. I will, therefore, arrange the varieties I have found worth recommending according to the positions which, according to my own experience, have proved most suitable.

Among SCARLET ZONALS I shall take my stand upon Dr. Lindley, Rebecca, Roi d'Italie, and Indian Yellow, as being distinct and remarkably effective, either in masses in large beds, or in lines in ribbon borders in a second or third row. Herald of Spring, Lord Derby, The Clipper, and Provost are very suitable as single plants for mixed borders or vases. Glow and

Little David take their places in the centres of small beds, or as edgings to large ones, &c., being dwarf and free-blooming.

Among PINKS, I have found Wiltshire Lasa to be about the best for massing, either in large or small beds. Christine and Helen Lindsay I use for mixed borders and vases, where they afford abundance of cut bloom. As a salmon colour, Madame Ruderadorff is first-rate for centres of large beds, or the third row in a ribbon border. It is charming even at a distance, and its substantial flower stem and well-made trusses stand heavy rains remarkably well.

In the SCARLET NOSEGAY section I must select Cybister, Lord Palmerston, Amy Hogg, and Christine Nosegay as being the most useful of the varieties I have cultivated; but the hot dry summer has been favourable to them, for they have been of dwarf growth and freer in blooming in consequence, otherwise they have not gained popularity so fast as some varieties, being so often injured by heavy rains.

Of GOLDEN TRICOLORS I have not found one to possess such fine bedding qualities as the well-known Mrs. Pollock. Beautiful, indeed, as they all are when grown under glass, they cannot vie with this popular bedder out of doors.

In the GOLDEN-LEAVED and BRONZE section Crystal Palace Gem and Beauty of Calderdale are likely to be extensively planted next season. The former, a dwarf-growing gold-leaved kind, is a great improvement upon Cloth of Gold, having flowers after the colour of Trentham Rose. The latter is a bronze-zoned kind, having a strong and free growth, and well-expanded foliage, showing the zone to perfection. I think it one of the best of its class for centres of beds and mixed borders.

Of SILVER TRICOLORS I have only Italia Unita, which does not grow well with me.

Of SILVER VARIEGATED kinds I have discarded Flower of the Day and Alma, for Bijon and Flower of Spring. The latter is a favourite with all who see it. I have also found St. Clair well worth growing; its cerise pink flowers render it a very conspicuous object in the flower garden, but two-year-old plants flower best. Those who want the same colour of flower with a dwarf habit of growth can use Lady Coventry, which makes a pretty bed when edged with Verbena Maonetti coccinea.

It will be seen that my remarks upon the newer kinds of Pelargoniums are confined to the bedding qualities of the plants, for beautiful as such varieties may be under glass, I maintain that unless they will thrive under the ordinary treatment given to Pelargoniums, both in summer and winter, their beauty is lost to the small grower, simply because he has no accommodation for them according to their requirements.—THOMAS RECORD, *Lillesden Gardens, Hawkhurst.*

THE FIRST IMPROVERS OF THE HOLLYHOCK.

IN one of your recent Numbers there is a long article on the Hollyhock, by Mr. G. Abbey. If you will allow me a line or two, I should like to point out a few errors which I think ought to be set right.

Mr. Abbey says, "We owe all our improvements in Hollyhocks to the late Mr. Baron." I beg to state Mr. Baron never did much to improve the Hollyhock, he was only a collector; he never raised a new strain. It is to Mr. W. Chater, of Saffron Walden, that we owe the greatest improvement, even up to the present time. He was the first successful cross-breeder about twenty-three years since, when he bought Mr. Baron's stock. Mr. Chater having then been collecting and improving from twenty-five to thirty years, he had at that time some first-rate flowers, which with Mr. Baron's made the finest collection in the world.

In the year 1848 Mr. Chater crossed his own flower, Napoleon, salmon with dark red ground, with Mr. Baron's Queen, a light pink, and was successful. From the seed of the fertilised flower he raised the celebrated variety which he named Charles Baron, which was quite a new strain, and since that flower it has not been necessary to impregnate for salmons and buffs, as every year seeds saved from its progeny bring improvements which can be traced back to the old parent; for all florists ought to know that if once you get new blood into a flower you may go on seeding, and continually raising improvements on the parent flower. We have Hercules, Invincible, Lady Dacres, and several others of the same colour, which can all be traced back to Charles Baron, from Napoleon and Queen. I say that that was the first flower ever raised from

the seed of a flower cross-fertilised by the florist, and the first improvement in the Hollyhock; therefore I think Mr. Chater ought to have the credit.

I was working in the Walden Nursery when he first took Mr. Baron's flowers. I recollect going with Mr. Ward (the raiser of John Hopper and Mrs. Bernera Roses), who was apprentice, and afterwards foreman to Mr. Chater, which accounts for his being so successful in cross-breeding, to Mr. Baron's garden for the stock of plants. The following year we began to impregnate their flowers with some of our own varieties, and in three years we had several new and distinct varieties, such as Comet, Walden Gem, and others equally good, and Mr. Chater still holds the position of being the most successful raiser we have. His flowers are decidedly the best sent out, they are of better form, more substance in the petal, and more decided in colour than any others, and this improvement has been going on now for more than twenty years.

I have pointed out the colour of buff and salmon merely as a specimen of what has been done. There are other colours which I can trace back in the same way. Scarlets, whites, and yellows, all from Chater's Sulphurea perfecta; purples from Purpurea elegans (Chater); lilac and peach from Chater's Pallida, and so on. Therefore, I say it is a mistake to give Mr. Baron the credit for improvement, as I consider him only a collector. He certainly did save seed from those which would produce any, and, of course, raised a few new varieties but could never obtain a new strain. As Mr. Baron was an eminent florist, but no botanist, he had not the least idea of cross-breeding, nor ever attempted it.

Mr. Baron had been collecting for more than twenty years before he sold his stock to Mr. Chater. The principal of his flowers he bought of an old gentleman, a lover of the Hollyhock, of the name of Johnson, in 1823. Mr. Baron had not in his collection either a pure white, a yellow, a purple, or a good scarlet. Mr. Chater had all these colours. It is to Mr. Chater we owe all our improvements in the Hollyhock. He was the first to cross-breed to perpetuate variation in colour, and to improve the shape and quality of the flower. All the very finest and best varieties now in cultivation are the results arising from those flowers impregnated in his nursery by himself and foreman, Mr. Ward, and since then by his son, now a nurseryman at Cambridge, and Mr. Speed, his present foreman. Mr. Parsons, Mr. Roake, and the Rev. E. Hawke, have also been successful cross-breeders; but they all worked from Mr. Chater's materials, having received all his new flowers as soon as sent out.

It was Mr. Chater who first perpetuated the improved varieties by cuttings, &c., not Mr. Baron, as he used to say when he wanted to increase his stock, he would take the spade and chop a side shoot off the old plant and stick it in.—A HOLLYHOCK AMATEUR.

DUTCH CLOVER VERSUS GRASS FOR LAWNS.

CONFIRMATORY of the statement of "HOUNSLOW" in last week's Journal, I have to state what I have seen at Rockhuret, West Hoathly, Sussex, the residence of Charles Hill, Esq. When Mr. Hill laid down his lawn two years ago, he was compelled, from want of anything better, to take the turf from the park surrounding the house, and this was of the ordinary character of pasture herbage, with a large admixture of Moss. As a surface-dressing, Mr. Hill used wood ashes, and this alone has had the effect of driving out the Moss, of which there is not the slightest trace, and in its stead a thick carpeting of White Dutch Clover has made its appearance, and which during the past dry summer has maintained a freshness and verdure when everything in the way of a grass lawn was burned up. A marvellous fact connected with it is, that in the original turf there was no trace of the Clover.—H.

BLANCHING CELERY—STOPPING PEA SHOOTS.

HAPPENING a few weeks since to be in the neighbourhood of Leeds, I paid a visit to the garden of Mrs. Tetly, of Armley, near that town, and saw one or two things there which seemed new to me, and which you may think worth notice.

I was struck with the Celery, a great part of which was blanched with sawdust, the latter being kept in its proper position by wooden sides. The gardener, who, I am informed, wins numerous prizes at the neighbouring shows, told me that he found this plan answer very well, provided the sawdust was

not too new. The advantage of this over the usual system is that the Celery is not so liable to rot; the blanching, too, is effected more readily. At any rate, the size of his plants seemed to prove that he made his plan succeed.

But what chiefly struck me was his method of pinching back his Peas, which enables him, as he stated, to obtain a continuous crop from the same rows from July to October. When three blossoms on each shoot are developed, he pinches back the shoot, which after a time throws out fresh blossoms, so that he thus obtains a constant supply of new pods. This system, he thinks, cannot be adopted with every kind of Pea, but succeeds, according to his experience, with Ward's Incomparable, No Plus Ultra, and other such sorts. I should add that while the Peas in my own garden had at that date (the first week in August), ceased to bear, his rows were covered with pods.—E. BARRETT, *Great Berkhamstead*.

A FEW WORDS ABOUT PLUMS AND APRICOTS.

I grow in my garden a few Plums, of which I wish to give your readers my experience.

The Washington, which in ordinary seasons is said in gardening books to ripen in September, this year, being an exceptional season, ripened in the middle of August. My tree grows on a south aspect, and is remarkably healthy. Its leaves are very large. It is not an abundant bearer. The fruit is finely formed, oval, pale yellow, with a lovely pink bloom which any maiden of bashful fifteen might covet. The fruit keeps well for at least a week after being fully ripe, if not handled. It is what our esteemed friend Mr. Rivers would call a luscious melting Plum, and has this advantage over the Green Gage, the flavour of which it resembles, with more of it—namely, it does not crack after a shower of rain. On any aspect but south, it is of a pale green, and of very ordinary flavour. Much depends on the judicious selection of aspect for successful fruit culture. The Washington is not subject to the aphid, but a large brown grub is very partial to its fine foliage.

Several Plums are not considered worth growing on account of their not being afforded a proper situation with regard to the sun. Of the Orleans I have two trees, one on a south aspect, the other on the west. The latter is a luxuriant tree, and the flavour is exquisite. The fruit of that on the south is more beautiful, but far inferior in flavour. I infer, therefore, that east and west-aspect walls, more particularly the latter, are the best for the Orleans. This Plum is very subject to the aphid.

Several Plums go by the name of Coe's Golden Drop. I have a large tree on an east wall, with some boughs trained south, but it does not improve the fruit. The fruit is very large, of brilliant colour, excellent for jam, but not by any means a table Plum. For jam it is preferable to the Apricot. It is subject to the aphid.

The Nectarine Plum is not much cultivated; but grown on a south wall is a fine-flavoured fruit, well worth cultivating, but is apt to drop its fruit the instant of ripening. It is of the same shape as the Washington, pale pink in colour, and quite as large. The blossom is very beautiful. The tree is not so much subject to the aphid as the Orleans. The leaves are large and hard, like those of the Gage.

Plum trees do not require root-pruning like Pears and trees of a too luxuriant growth. If properly planted on a dry subsoil or limestone foundation, they will manage themselves with a very little assistance from a gardener who understands summer pruning à la Mr. Rivers. The high road to successful culture is defending them from the aphid in May. That season can only be passed well by daily constant watching. These garden pests call forth man's vigilance. During the season I never go out without a soft brush, a painter's tool, and as soon as I see a leaf curl I brush off the cause—the green aphid. I practise the same with my Morello Cherries for the black aphid, so that now from attention they are in splendid condition. I have a plentiful supply of Cherry brandy for my friends at Christmas. I do not recommend growing this fruit, for I find certain members of my family, who have hitherto been free from aches and pains, often fly to this brandy-made-wholesome for relief, imaginary or otherwise. I have tried every known remedy for the destruction of blight, and I find nothing like hand-labour. I am speaking only of a garden on a small scale. To the gardener Plums are a paying fruit. Orleans sold this year at

1d. each in Devizes Market, and such Plums as my Washington would have been cheap for a dessert at 3d. I have never seen any Plums worth growing in pots, the fruit being small and inferior in flavour.

A word or two about Apricots. As much doubt exists about the cause of boughs of the Moorpark suddenly dying, I have paid more than ordinary attention to the subject. After the leaves had fallen last year I unnailed a tree I have growing on a south wall, and carefully inspected with a powerful magnifying glass every bud. I observed in the fork where the blossom bud forms, close to the wall, something like a fine web, which occurred to me must be the covering of the eggs of some insect. I removed them all carefully, and out of perhaps a dozen one only appeared to have come to maturity. On a closer inspection I observed a small hole at the top of the bud, which I removed, and I found in it a small maggot three-eighths of an inch in length and about the thickness of an ordinary piece of worsted, white with a black head. This insect, I am inclined to believe, is the pioneer to the mischief which eventually follows. But I do not consider the gummy of the Apricot arises from the same cause. I believe that to arise from some injury to the tree, by which the sap is prevented from flowing in the proper channel, and then, as it cannot circulate, coagulates into gum. Where this occurs I advise removing the bough. I believe the little insect I have mentioned does its mischief in the winter; and the bough, having some vitality left, puts forth leaves and blossoms, but as the supply of sap is cut off it speedily dies. If any of your readers will give this subject attention they may be able to clear up the mystery better than I pretend to.—EXCELSIOR, *Seed Villa, Wilts*.

PLANTS IN FLOWER DURING AUGUST.

August 3.	<i>Mentha viridis</i> <i>piperita</i> <i>Clethra alnifolia</i>	August 22.	<i>Pentstemon diffusum</i> <i>Potentilla ignescens</i> <i>Linaria cymbalaria</i> <i>Statice limonium</i> <i>Stipa pennata</i> <i>Villarsia nymphæoides</i> <i>Stenactis speciosa</i> <i>Pyrethrum parthenium</i> <i>pleurum</i> <i>Salvia bicolor</i> <i>tricolor</i>
" 7.	<i>Clematis florida</i> <i>Erica tetralix</i> <i>Gaultheria procumbens</i> <i>Lonicera sempervirens</i> <i>Oxalis corniculata rubra</i> <i>Hydrangea arborea</i> <i>Dryas octopetala</i> <i>Magnolia glauca</i> <i>Jasminum officinale</i> <i>humile</i> <i>Cytisus leucanthus</i>	" 26.	<i>Tigridia pavonia</i> <i>conchiflora</i> <i>Ailanthus glandulosa</i> <i>Catalpa syriacifolia</i> <i>Aster tripolium</i> <i>Aralia japonica</i> <i>Clematis vitalba</i> <i>Dracocephalum grandiflorum</i> <i>sibiricum</i> <i>Ipomæa quamoclit</i> <i>Helianthus annuus</i> <i>Physalis Alkekengi</i> <i>Lythrum roseum</i> <i>Rudbeckia fulgida</i> <i>Newmanii</i>
" 10.	<i>Erica arhorea</i> <i>Rhododendron ponticum</i> <i>Sophora japonica</i> <i>Rhus cotinus</i> <i>Escallonia rubra</i> <i>Dahlia</i> <i>Tropæolum</i> <i>Asters</i> <i>Balsams</i> <i>Lophospermum scandena</i>	" 28.	<i>Amarantus caudatus</i> <i>Clematis Henderaoui</i> <i>Linaria peloria</i> <i>Polygonum bistortum</i> <i>Mirabilis rubra</i> <i>Commelina tuberosa</i> <i>Crucianella stylosa</i> <i>Loasa Herberti</i> <i>aurantiaca</i> <i>Nicotiana virginica</i> <i>Aloysia citriodora</i> <i>Tolpis barbata</i> <i>Mesembryanthemum crystallinum</i> <i>Fabiana imbricata</i>
" 12.	<i>Ipomæa hederacea</i> <i>Portulaca</i> <i>Senecio elegans</i> <i>Zinnia elegans</i>	" 31.	<i>Aster chinensis</i> <i>Achillea ægyptiaca</i> <i>ptarmica plena</i> <i>Ammobium alatum</i> <i>Statice bellidifolia</i> <i>Impatiens glandulifera</i> <i>Helicrysum bracteatum</i> <i>Petunia grandiflora</i> <i>Anagallis grandiflora</i> <i>Lavandula apica</i>
" 17.	<i>Chelone barbata</i> <i>glabra</i> <i>Gladiolus</i> <i>Colchicum autumnale</i> <i>Oenothera Fraseri</i> <i>Drummondii</i> <i>macrocarpa</i> <i>Clematis crecta</i> <i>Ceanothus azureus</i> <i>Critimum maritimum</i>		
" 20.	<i>Gaillardia picta</i> <i>Liatris elegans</i> <i>Helianthus multiflorus</i> <i>Lilium lancifolium</i> <i>Linum tauricum</i> <i>Glaux maritima</i> <i>Clematis glauca</i> <i>Aristolochia siphon</i> <i>Myosotis palustris</i> <i>Campanula pusilla</i>		
" 22.	<i>Hieracium aurantiacum</i> <i>Echremocarpus acaber</i> <i>Delphinium sibiricum</i> <i>plenum</i>		

—M. H., *Acklam Hall, Middlesborough-on-Tees*.

REINE DU PORTUGAL ROSE.—I see that by some this Rose is very highly recommended. It is very beautiful, but (ah! that tiresome word), I do not think that it will ever do out of doors.

The colour is charming, something like Ophirie, but the buds are very hard, like those of *Boule d'Or*, which only open in some very favoured spots.—D., Deal.

MANCHESTER BOTANICAL AND HORTICULTURAL SOCIETY.

THE last Exhibition for this season was held on the 28th and 29th of August, under very favourable circumstances, both days being fine, and the Exhibition in most respects a very good one. The display of fruit was especially good; indeed, the finest ever witnessed in Manchester, and quite equal if not superior to many of the metropolitan exhibitions. Although the prizes offered by the Society were not large, exhibitors brought fine collections of fruit from far and near, influenced, no doubt, by the kind treatment accorded to them on all previous occasions by Mr. Findlay and the Society which he serves with so much ability and energy. I hear that the Society contemplates holding a fruit show on an extensive scale in the autumn of 1869, at which liberal prizes will be given—larger, indeed, than ever offered for fruit at any previous exhibition. This subject has been well considered by many practical men, and all agree in thinking the show would be successful.

I give a list of the successful exhibitors, and if I do not describe the objects exhibited by the unsuccessful competitors, it is simply because space will not admit of my doing so. One name, however, deserves particular mention as being very conspicuous above all others for the excellence of the subjects exhibited, and the number of first prizes taken. I allude to Mr. Smith, gardener to H. Littledale, Esq., of Liscard Hall, Birkenhead, who took the first prize in nearly all the fruit classes. Only in one important case was he beaten, and in this instance it required great care on the part of the Judges in awarding the prize. The two exhibitions were of such excellence that the Judges had to call in two others to assist them in awarding the prize. They both decided in favour of Mr. Woolley, one of our oldest and best Grape growers, who competed with Mr. Smith in Class 22, for two bunches of Black Hamburg Grapes. Mr. Woolley's bunches were larger and the berries more even than were Mr. Smith's, whose berries were very much larger than those of the former, and many degrees darker and having a more perfect bloom, but the bunches were smaller and the berries very uneven in size.

In Class 1, mixed groups of Fine-foliaged and Flowering Plants, the first prize was awarded to O. O. Wrigley, Esq., who exhibited the following plants in fine condition—*Lilium lancifolium punctatum*, a fine variety and well bloomed; *Croton variegatum*; a splendid *Ixora javanica*, *Thrinax elegans*, *Allamanda grandiflora*, finely-flowered; *Dipladenia amabilis*; a splendid plant of *Croton angustifolius*, which had the appearance of a golden fountain; *Bougainvillea glabra*, finely flowered; *Cissampelos dealbatus*; *Allamanda Hendersoni* in fine condition; *Gleichenia flabellata*; and a noble plant of *Stevensonia sechellarum*, 5 feet high, and 3 feet or more across the widest part, completed this fine collection. The second and third prizes were awarded to Mr. J. Stevenson, of Timperley, and S. Schloss, Esq., in the order in which their names appear. Each of the above exhibitors had similar collections to that which took the first prize, the weakest point being in both instances a want of better specimens of flowering plants. According to the conditions named in the schedule, the prizes in this class were to be given for a group containing six fine-foliaged and six flowering plants. A word of caution, I think, would not be out of place to exhibitors, who are evidently too rapidly giving up the cultivation of flowering plants, and are paying more attention to plants with fine foliage. Whether this is owing to the latter being much more easily cultivated is best known to themselves, but certain it is, the beauty of our floral exhibitions is becoming impaired in consequence.

In the Class for six Exotic Orchids there was only one exhibitor. This is very unusual indeed for Manchester, which boasts of so many fine collections of Orchids. Mr. Jones, gardener, of Whalley Range, near Manchester, however, staged the following in very fair condition, and was awarded the first prize for them. They were *Oncidium obovatum*, *Aërides nobilis*, *Vanda tricolor formosa*, *Lælia elegans*, *Cypripedium Stonei*, and *Aërides suavisima*.

In Class 3, for six Zonal Pelargoniums, there were three competitors. Messrs. G. & W. Yates, of Market Place, Manchester, and Stockport, took the first prize with well-grown and nicely-bloomed plants. The other two exhibitors who took the second and third prizes in this class were a long way behind, and would do well to imitate—aye, and there is room to improve upon the example set them by Messrs. Yates.

In Class 4, for six Gold and Bronze Pelargoniums, Mr. Watson, of the New Zealand Nursery, St. Albans, took the first prize with well-grown plants of *Model*, *Beauty of Calderdale*, *Perilla*, *Princess Alice*, *Mrs. J. Tadd*, and *Countess of Kellie*. This collection was well grown, beautifully coloured, and well deserved the place of honour. In the two collections which took the second and third prizes, fine plants of *Glowworm*, *Beauty of Calderdale*, and *Beauty of Oulton*, were exhibited. Near these collections was a fine pan of cuttings of *Beauty of Oulton*, the parent of the Bronze and Gold race of Pelargoniums, cut from beds in the open air to show the usefulness of this fine variety. These were sent by Mr. Muir, gardener to Sir P. Grey Egerton, Bart.

In Class 5, for six Gold or Silver Zonals, there was a very spirited competition, Mr. Pennington being first with fine plants of *Sophia Cusack*, the finest plant we have ever seen exhibited of *Italia Unita*, also a good plant of *Miss Watson*, which appeared in fine condition; Mrs. Dix, also good; and *Lucy Grieve*, undoubtedly one of the very finest Tricolors in cultivation. This set was completed with a badly-grown plant of *Queen's Favourite*, which was the weakest point. Messrs. G. & W. Yates took the second prize with well and neatly-grown plants of *Florence*, *Lady Cullum*, *Lucy Grieve*, *Countess of Craven*, *Italia Unita*, and *L'Elegante*, a nice Silver-variegated Ivy-leaved variety. Mr. Watson took the third prize with a neat collection, but not so good in point of colour and cultivation as the two preceding exhibitions.

In Class 6, for four Fachsias, there was only one exhibitor. His plants were well grown and splendidly bloomed, and the first prize was awarded to Mr. Wrigley for them. The same exhibitor also took the first prize for four pots of Japanese Lilies. These were nicely grown, well bloomed, and far surpassed those from the other two exhibitors who competed with him in this class. Some very fine Dahlias were shown, and Messrs. G. & W. Yates exhibited a remarkably fine collection of *Gladiolus*, eighteen in number, and were deservedly awarded the first prize. It was well staged, and contained some very fine varieties. Messrs. Yates are celebrated for their successful cultivation of this handsome flower.

Special certificates were awarded to Mr. J. W. Wimssett, of the Ashburnham Park Nursery, King's Road, Chelsea, London, for a very fine collection of new Coleuses; also to Messrs. Dickson & Brown, of Manchester, for a very fine collection of cut Roses. These were wonderfully fine for such a trying season as we have had; they were also exhibited in that neat style peculiar to this celebrated establishment.

FRUIT.

In this department there was, as already stated, a very spirited competition. In Class 20, for six dishes of fruit, distinct, there were six entries. Mr. G. Smith, of Liscard Hall, Birkenhead, was first with a nice collection, containing splendid Muscat of Alexandria and Black Hamburg Grapes, two bunches of each, a good Hybrid Cashmere Melon, Jefferson Plums, Elruge Nectarines, and Walburton Admirable Peaches. Both of the latter were exceedingly fine. The second and third prizes in this class were respectively awarded to Mr. Simpson and Mr. D. Davies for very fine collections, which contained many fruits of first-rate quality.

In Class 21, for four kinds of Grapes, there was also a very spirited competition, Mr. G. Smith taking the lead with a collection containing good examples of well-coloured Muscat of Alexandria, Black Hamburg, Bowood Muscat, and Black Alicante (Meredith's), as black as Sles, and beautifully grown and finished. Second, Mr. W. Cardwell, gardener to T. Hobson, Esq., Wilmslow, who had good Muscat of Alexandria, Lady Downe's, Black Hamburg, and Black Alicante. Mr. W. McMillan was third with a similar collection.

Class 22, for two bunches of Black Hamburg, was also well contested. Mr. Woolley, gardener to W. Jackson, Esq., of Birkenhead, took the first prize with two finely finished bunches. Mr. Smith was second, and extra prizes were awarded to the Earl of Crawford's gardener and to Mr. Meredith, who had two splendid bunches, each weighing 4 lbs., and so much alike that they might to all appearance have been cast in one mould. Unfortunately, however, one of the bunches was very much spoilt in appearance owing to a light just above where it grew having been accidentally left unfastened. The berries, however, in each bunch were very even and finely coloured.

Class 23. In this class, for any other kind of Black Grape, Mr. Smith again took the first prize with two fine bunches of Lady Downe's, beautifully finished; and Mr. D. White, gardener to Mrs. Smith Barry, of Northwich, Cheshire, was second with fine bunches of Black Alicante, the bloom of which had been spoilt by syringing, or some other cause. The third prize in this class was awarded for two bunches of badly-grown Trentham Black.

In Class 24, for two bunches of Muscat of Alexandria, the first prize went to Mr. G. Smith, the second to Mr. W. Cardwell, the third to Mr. W. Milford. In Class 25, for any other kind of white Grape, the first prize was awarded to Mr. G. Smith, the second to Mr. R. Jason, gardener to F. Staller, Esq., who had two bunches of Canon Hall Muscat, which were some of the finest I have ever seen for size of berries, for these being well set, and for compactness of bunch. The third prize was taken by Mr. G. Whitefield, gardener to G. Galloway, Esq., who had two fine bunches of Backland Sweetwater.

Class 26 was for one Queen Pine Apple. Mr. J. Wallace, gardener to J. Dixon, Esq., was first; Mr. Simpson, gardener to Lord Wharnclyffe, second. In Class 28, for any other kind, the first prize was awarded to Mr. G. Warde for the handsomest Smooth-leaved Cayenne I have ever seen, weighing 7½ lbs. Second, Mr. A. Williams, for Smooth-leaved Cayenne. Third, Mr. W. Allen, with a nice fruit of the same variety.

In Class 29, for six Peaches, Mr. McMillan, gardener to G. Gortschalk, Esq., was first with a very handsome dish of Chancerville Peach; R. O. Leicester, Esq., second; Mr. G. Silcock, gardener to Sir Charles Shakerley, of Somerford, near Congleton, third.

Class 30 was for the best dish of Nectarines. In this Mr. Silcock took the first prize with a splendid dish of Elrage; Mr. G. W. Ferney,

hough, being second with a very good dish of Pitmaston Orange; third, Mr. G. Smith.

In Class 31, for the best dish of Apricots, Mr. J. Blears, Congleton, was first, Mr. J. Simpson, second. Class 32, for the best Green-fleshed Melon, Mr. W. Fallowfield was first; Mr. James, second; Mr. G. Smith, third. Class 33, any Scarlet-fleshed:—First, Mr. W. Wootley; second, Mr. W. Garner; third, Mrs. Smith Barry.

Class 34 was for ten dessert Apples:—First, Mr. Dean, Sale Lodge; second, Mr. W. Renshaw; third, S. Barrett, Esq. Class 35 was for baking Apples. In this there was a large number of competitors, and as many as seventeen dishes of the variety known as Lord Suffield were exhibited. All three prizes were awarded to this variety, Mr. J. Waltham being first; Mr. W. Brockwell, second; and P. Speed, Esq., third.

Class 36, for ten Pears. In this class there were seventeen exhibitors, the first prize being awarded to B. Whitworth, Esq., for a very fine dish of Jargouelle; the second to Mr. G. Smith; the third to Mr. W. Renshaw.

Class 37, for twelve Plums (dark):—First, Mr. G. Smith; second, Mr. W. Allen, gardener to Lord Hatherton, who exhibited a fine dish of Royale Hâtive. Class 38, for the best dish of light Plums:—First, J. Dixon, Esq., for a fine dish of Jefferson; second, Mr. King; third, Mr. Leigh. Class 39, for the best dish of Cherries:—First, A. Jackson, Esq.; second, Mr. J. Blears; third, Mr. A. Mickle. Class 40, two Vines in pots:—First, Mr. Wrigley, for well-grown and finely-fruited Vines of Black Alicante.

VEGETABLES.

This was also a fine portion of the Exhibition, and showed what an amount of patience and skill must have been bestowed during the late trying weather on the cultivation of all the objects exhibited. The exhibition was highly creditable both to the professional gardener and to the humble cottager, for a table running the whole length of the exhibition house was covered with a very excellent collection, and some very fine Peas were shown. The Potatoes, Carrots, Dwarf Kidney Beans and Scarlet Runners were also of first-class quality, and the Tomatoes were remarkably fine.

In Class 41, for six dishes of Vegetables, there were twelve competitors. The first-prize collection came from the gardens of G. Whitworth, Esq., Lyynn. It contained a fine dish of Tomatoes, two fine heads of Celery, nice dishes of Peas, of Dwarf Kidney Beans, Potatoes, and Mushrooms. The second prize was taken by Mr. A. Mickle, Read Hall, near Burnley, who exhibited a similar collection to the above, and in very good condition.

Class 42, for three dishes:—First, T. Aekon, Esq.; second, T. Hobson, Esq.; third, T. Mickle. Class 43, for ten Kidney Potatoes:—First, T. Statter, Esq.; second, B. Whitworth, Esq.; third, Mr. W. Renshaw. Class 44, for Round Potatoes:—First, Mr. W. Brownhall, Sale; second, Mr. J. McIntyre; third, Mr. A. Mickle. Class 45, for Onions, spring-sown:—First, Mr. R. Faulkner; second, G. Oliver, Esq.; third, T. Aitkin, Esq. Class 46, for two heads of Cauliflower:—In this class there was but one exhibitor, whose exhibition was only considered worthy of a third prize; but it is very likely more care had been taken with this, poor though it was, than would have been bestowed on a thousand in any ordinary season. Class 47 was for two White Cabbages. In this only one lot was staged, which was awarded a third prize. Class 48, for two Red Cabbages:—Several competitors exhibited in this class, and some very firm heads were shown. Classes 49 and 50 were for Cucumbers and Tomatoes. In each class there were some very fine exhibitions; the Tomatoes were wonderfully fine.

The display of fruit and vegetables furnished by the cottagers was of a very high character, and was about equal in extent to that which came from the gardeners. Amongst the cottagers' collections were some splendid dishes of Red Currants, and the Celery and Potatoes were also remarkably good; there was also a very good display of flowers, consisting of Roses, Phloxes, Asters, Verbenas, and Dahlias; and lastly, two plants of Mrs. Pollock Pelargonium, grown by a cottager, were well worthy the prize they gained, being large plants with the foliage beautifully coloured. Leaves of them were compared with those of the newer varieties, and certainly the result was in favour of Mrs. Pollock.—J. WILLS, F.R.H.S.

PALMS.

Your correspondent "PATELIN" complains of the difficulty of procuring these at a moderate price. Many nurserymen could no doubt supply small plants at a low figure; but as it usually takes from four to seven years from the sowing to obtain them of such a size as would be considered "decorative," the apparently high price they are commonly sold at is accounted for. The only way of obtaining them cheaply would be to buy small seedlings, and, being not difficult to manage, they will amply repay the care bestowed.—N. R.

I HAVE to thank your correspondent for his reply to my query. I shall not fail to inquire where he directs me for what I am in search of. But, what a disinterested fellow he will think me! Even at the prices quoted, at my own figure of three for a guinea, I am inclined to grumble. This may be un-

reasonable, but I cannot forget the beautiful Palms I have seen at 4s. and 5s. a-plant, and this too in an inclement climate. It is true that there the custom of hiring plants for so many months is almost universal, and for this reason they come cheaper to the purchaser. It works in this way: a florist lends out plants by the dozen at, say, 2s. 6d. each, this done two or three times brings in the value of the plant, and he can well afford to sell his plants at the sum above mentioned.

I have already detailed in the pages of "our Journal" the way in which these plants are used in ornamenting rooms, in filling blank corners and decorating alcoves. I hope to be able shortly to say a word or two on the subject of the arrangement of conservatories, on the comparative merits of our system shown in contrast with the greenhouses and orangeries of our continental friends.

Before closing let me add how useful a list of hardy Palms suitable for in-door decoration would be to amateurs. It should especially be made with respect to the strength of the plants to resist the noxious effects of long confinement in dry air, though I fear not many can give such a list verified by experience.—PATELIN.

[When in Belgium in 1865, we were informed that the Palms there found best suited for room decoration are *Chamerops stauracantha*, *Ceroxylon andicola*, *Thrinax elegans*, *Phoenix-coprorium sechellarum*, and *Chamædorea Ernesti-Augusti*. Several species of *Pandanus* are also used.—Eds.]

BENTLEY PRIORY.

(Continued from page 133.)

THE home kitchen garden, in which are the plant and fruit houses, &c., slopes gently to the south, and is efficiently sheltered on every side by large masses of trees and shrubs. It is most admirably placed for all cultural purposes and for convenient access from the mansion. On entering the garden from the north side a long range of lean-to houses is seen on the right-hand side of the entrance. These are the original forcing houses erected many years ago, and in which I have seen many fine crops of Grapes, Peaches, and other fruits. They were the only horticultural structures of any moment on the place when it came into Mr. Kelk's hands; all those which I shall presently describe have been erected by Mr. Kelk.

The first house I entered in the range above mentioned was a Peach house; here the trees were looking vigorous and healthy, and bore evidence of having produced splendid crops judging from a few of the fruits still left. Passing through this house I came to the next compartment in the range, used as an early Strawberry house; and well suited for the purpose it is, as the plants are placed on shelves near the glass, and abundance of air can be admitted at all times when necessary, and be made to circulate freely amongst the foliage of the plants. When they are in bloom this is no doubt one of the points most particularly to be attended to. Where a proper amount of artificial heat can be obtained, and proper provision is made for ventilation, as is the case in this house, the crop may at all times be considered tolerably certain, if the plants have previously undergone a proper course of treatment.

I next passed through two more Peach houses. Here the crop was all gathered, and the trees, though in some cases very old, still looked healthy, and well able to bear many more fine crops of fruit. The next house is an early vinery. The borders had very recently been renewed, and young Vines planted, which gave promise of making fine canes. These Mr. Rutland intends to keep growing as long as he can through the winter, in order to have them as strong as possible in the shortest time. They may also in this way be brought into a condition in which they will be naturally adapted for early-winter forcing. In the next two houses, which complete the range, fine examples of early Muscat and Black Hamburg Grapes were still to be seen, the latter as black as Sloes, with fine well-formed bunches of regular-sized berries, having that beautiful bloom and finish by which a good Grape-grower can always estimate the quality of the fruit without tasting it.

In front of this range of houses there are several ranges of pits heated with hot water, and used for forcing early Potatoes, Cucumbers, and Melons; and to the east of these there is a span-roofed plant stove in two divisions, in which is kept a general collection of the smaller-growing stove plants, and Orchids, all looking well, and remarkably clean and free from insects. Retracing our steps we enter, a little farther down the slope, a fine range of houses; and parallel with these and

on the south front of them, is a broad walk about 10 feet wide running from one end of the garden to the other. The houses are all on the upper or north side of this fine walk, and on the south side is a border, in which is planted a row of pyramidal fruit trees, consisting of Pears, Apples, Plums, and Cherries. In front of these is planted a miscellaneous collection of sweet-smelling plants and ordinary bedding plants, with numerous hardy and half-hardy herbaceous plants.

The first house I entered, on the west side of the garden and just opposite Mr. Rutland's dwelling-house, is a noble span-roof, about 30 feet long by 22 feet wide, having a bed in the centre, and also a bed back and front. This house is filled with a choice collection of Tea-scented, Noisette, and other Roses suitable for winter-flowering. Here the plants looked remarkably healthy, and gave promise of producing a fine display of Roses during the coming winter and spring. The house is well heated, and I should think very suitable for the purpose. From a house of this description a large quantity of Roses may be gathered at a time when even the commonest flowers are scarce, and at a trifling cost, for very little fuel will be required to produce the amount of artificial heat required by the queen of flowers during the winter months. This house must therefore prove a greater source of pleasure to Mr. and Mrs. Kelk than any other on the place.

Leaving the Rose house I entered a large greenhouse, in which there is a general collection of New Holland and other plants, all in a good state of cultivation. Between this and the extensive range of vinerias, Fig, Plum, and Cherry houses, are two fine ranges of Pine stoves, in which I noticed splendid examples of Pine-growing. Here were to be seen as fine a stock as any in the country, in various stages of growth and fruit, from the fresh-planted sucker to the largest Queen and Providence. I noticed some handsome Queens in various stages, with the tiers of pips one above the other as regular as if they had all been cast in a mould, and one or two fruit which I saw cut could not weigh less than 7 lbs. These ranges are three-quarter-span, with the walk at the back under the short light; but in one of them the visitor is obliged to put himself into a very uncomfortable position in order to get along, for overhead the whole space is covered with Cucumbers in great quantities, which during the hot weather looked remarkably cool and inviting. These houses are a very interesting and instructive sight, and they proved conclusively that Mr. Rutland is a perfect master of the art of Pine-growing.

After passing through the pinerias I came out on the walk leading to the door by which I first gained access to the garden. Crossing this towards the east we enter the largest and most important horticultural structure in the garden. It was built as nearly as I can recollect about twelve years ago, and is one of the finest ranges of glass in the country. It is span-roofed, 151 feet long, and about 18 feet wide, and is built parallel with the walk which extends from east to west. It is in five divisions; straight through the centre of four of these the walk passes, and there is a border on each side, in which are planted the Vines, Fig trees, &c. The Vines would, doubtless, by this time have been some of the finest in the country but for a slight mistake in their management a few years after they were planted. This arose from overfeeding, one of the worst evils that can happen to the Vine. The borders were made with every care, and regardless of expense. They were made in accordance with instructions furnished by my friend Mr. J. Drewett, whose magnificent bunches of Muscat of Alexandria, Canon Hall Muscat, and Trebbiano caused such a sensation when they were exhibited at St. James's Hall, about the time, or a year or so after, this fine range was built, and I am certain that no Grapes of these varieties so well grown and in such condition were ever exhibited before or have been since. I well remember poor Mr. Beaton throwing up his hands and exclaiming, "No man ever grew such Grapes before, nor will the like be seen again." Living near the Friary at the time, I had frequent opportunities of seeing the borders during their formation, and I am quite sure Mr. Drewett's instructions were carried out to the letter. A work of this description, in which I always took so much interest, was likely to be visited on every occasion which presented itself, and these thoughts occurred to my mind on seeing the kind of material the borders were made of, the preparations and precautions taken for draining the borders, the style the house was built in, and the excellent mode adopted for ventilating it—surely with a moderate amount of skill Grapes equal to those exhibited by Mr. Drewett will some day be grown in these houses. (Many of the Vines planted in them were raised from

Mr. Drewett's stock). How I wished at the time that the management of such a splendid range of vinerias had fallen to my lot, for the greatest ambition I then had was to produce Grapes equal to those shown by Mr. Drewett. The mistake which I mentioned occurred, and although very fine Grapes have been grown, and are still to be seen in these houses, the standard of perfection has never been reached, for the constitution of the Vines has been seriously impaired, and now, when they should be just at their best, they are showing signs of weakness. I may be pardoned, perhaps, for digressing a little from my description of these gardens, for I could not help recounting a little of the past history of this noble structure and its occupants.

The first division of the house is devoted to the growth of the Fig. It is completely filled with the best varieties in cultivation, and a perfect thicket they are. Their branches are laden with quantities of fruit in all stages of development. The second division is planted with Muscat Vines. They are bearing a very even crop, which at the time of my visit was looking very promising. The third division is planted principally with Black Hamburgh Vines. These also looked promising, and were likely to bear a very useful crop. In the fourth, or West's St. Peter's division, the Vines were better than in either of the preceding houses. The bunches were large, handsome in shape, and the crop a very even one all over the house. The Grapes in the last three divisions will come in at a very useful time to furnish the winter and spring supply until new Grapes shall be produced.

What I consider would wonderfully alter the condition of the Vines, and what I should do if they were mine, would be to raise the pipes in the inside borders to the level of the wall plate; I should also cut the arches away close to the wall plate, leaving only the buttresses or pillars between the arches to support the house; I should then raise the border both outside and in. This would add about 2 feet in depth to the border, would be the means of throwing life and vigour into the Vines, and would cause them to bear finer fruit than they have ever yet produced. It would also add a long period to their lifetime, and increase the pleasure and interest which they would afford both to the gardener and to their owner.

The fifth and last division is filled with Plum trees, and a magnificent sight they were, being literally covered with fruit of first-rate quality. There is certainly no more useful house in any establishment than a Plum house, for if care and forethought are exercised to plant varieties which will do well under glass and produce a good succession, the supply of fruit both for culinary purposes and dessert may be continued for a long time.

On leaving the Plum house we enter a large stove, in which a magnificent lot of plants are grown for the decoration of the large conservatory, the description of which I must leave to my next paper. After casting a hurried glance over the fine collection of plants which this house contains, for time would not permit me to linger so long as I wished, I passed through into the corridor which leads to the conservatory. In this, fine plants of Camellias were trained against the wall, and in front of these were placed specimen Camellias and other plants. This corridor forms a convenient and pretty connecting length between the conservatory and the stove, and from thence into the large range of houses described above, and so on through the whole series of houses, enabling the family to walk through them without inconvenience in bad weather.

I must here retrace my steps into that portion of the garden lying below the long walk, in order to describe the appearance of a fine lot of Azaleas, which owe their present healthy state to the application of Standen's Gardeners' and Amateurs' Friend—a manure which on a former occasion I strongly recommended for Azaleas and other plants. I was naturally anxious to see the plants when Mr. Rutland told me he had been using it, and the result was highly satisfactory. They were on a north border at the bottom of the garden, models of beauty and pictures of health. I am sorry this most valuable manure is not more appreciated than it is. The effect which it produces on some kinds of plants may be seen at the Ashburnham Park Nursery.—J. WILLS, F.R.H.S.

(To be continued.)

LEEDS HORTICULTURAL SOCIETY.

SUNLEY V. BIRBECK (SECRETARY).

In the Leeds County Court, Mr. Ferns, who was for the plaintiff, stated that at the Show held in the Mayor's grounds, last

June, the Society offered prizes for bouquets of wild flowers. One of these prizes was awarded to the plaintiff by a jury of ladies, but the Society refused to pay the amount (9s. 6d.). His Honour said the plaintiff had no action at law; the prizes were presents from the Committee, and there was no law to enforce a present. He did not sit as a Judge of Appeal between the Committee and the exhibitors. The Committee consisted of a number of gentlemen who knew their business in these matters better than he did, and he should not interfere. Mr. Ferns remarked that he held in his hand the certificate of the award, signed by the Secretary, when his Honour said he might be called and give them some explanation. Mr. Ferns proceeded to question the Secretary respecting the rule of the Society which states the decision of the Judges as final, when he pointed out to him that a part of the same rule states that "any prize fraudulently obtained shall be forfeited, and the exhibitor excluded from future shows." He stated that when the Judges came, prize cards were given to them, and they placed them (without any interference) in the order of merit. At all shows it was found exhibitors carefully looked after their own interests, and after these cards had been placed, if an exhibitor thought a prize had been obtained unjustly, he would lodge a protest, and the Committee of the Society would have to decide. It was so in this instance: a written protest from another exhibitor, against the prize being given, was sent in—the first and only one in the five years. A number of the Committee, accompanied by the Secretary, inspected the bouquets, and found the protest held good, for this reason—garden flowers were mixed with wild flowers, which was decidedly unfair to the other honest competitors, and against the spirit of the schedule; the plaintiff was told the prize was protested, and the Committee would have to consider about it.

At their first meeting, held nearly two months after the show, it was decided to set aside the award—it was entirely a question of principle.

His Honour remarked, it only confirmed what he had said, the plaintiff must be nonsuited.

[We have been asked to give an opinion on this case; and that opinion quite agrees with the decision of the Judge, supposing it to be true that garden flowers were mixed with wild flowers in a bouquet required and purporting to be wild flowers. For, in legal phrase, the prize awarded to the bouquet containing some garden flowers was "fraudulently obtained," and consequently within the proviso at the conclusion of the Society's 4th rule.—EDS.]

ROYAL HORTICULTURAL SOCIETY'S EXAMINATIONS OF GARDENERS.—JULY, 1868.

No.	NAME.	FRUIT AND VEGETABLE CULTURE.		FLORICULTURE.	
		No. of marks	No. of marks	No. of marks	No. of marks
1	F. W. Burbidge	2nd class.	790	1st class.	1050
2	T. Bevan	2nd ditto.	860	2nd ditto.	840
3	W. Stewart	2nd ditto.	840	2nd ditto.	860
4	J. McArdle	2nd ditto.	825	1st ditto.	950
5	R. Barnes	3rd ditto.	620	2nd ditto.	640
6	John Smith, R.H.S.	1st ditto.	950	1st ditto.	950
7	R. Lee Keenan, Royal Gardens, Kew	1st class.	1075	1st ditto.	1140
8	M. Middleton, ditto	1st ditto.	1125	1st ditto.	930
9	C. Pillans, ditto	not passed	420	2nd ditto.	620
10	William Jones, ditto	2nd class.	790	1st ditto.	900
11	Robert Inghs, ditto	2nd ditto.	800	1st ditto.	1020
12	James McGregor, ditto	3rd ditto.	490	3rd ditto.	450
13	David McArdle, ditto	not passed	110	not passed	260
14	James R. Pocock, Bickley, Kent.	2nd class.	850	1st class.	970
15	Robert Mackellar, Colworth, Beds	1st ditto.	1050	1st ditto.	1160

VISITS TO GARDENS PUBLIC AND PRIVATE.

MESSRS. JACKMAN & SON'S, WOKING.

ALTHOUGH this nursery has been established and well known for a great many years, it has been brought more prominently before the public of late by the success which has attended Mr. George Jackman's hybridising of the Clematis; and it was mainly for the purpose of seeing the varieties he has raised, that on my return from Dorsetshire lately I turned aside somewhat in my way. I was very glad that I was enabled to examine them in their own home; and although this year they suffered in common with other things, yet they were a sight not easily forgotten. On approaching the nursery from Woking you are

at once struck with the mass of blue colour in all directions. In front of the house were long beds radiant with Clematis; there were plants in festoons, and showers of blooms hung from the poles against which other plants were trained. Others, again, in pots exhibited their capabilities as specimen plants; and others had been allowed to run over large roots of trees, covering them with their beautiful blossoms; while in the houses Clematis plants were in process of increase by tens of thousands, so as to supply the immense demand which has arisen for them. Last autumn Messrs. Jackman were unable to execute all their orders; and now that the capability of the Clematis as a bedding plant has been sufficiently tested the demand will doubtless very much increase.

The varieties Jackmanni and Rubro-violacea are well known. Since then we have had Rubella and Prince of Wales, and now other varieties are coming forward to claim our admiration. Amongst these which I especially admired were the following:—Lady Bovill, a flower of great size and peculiar form; the colour is a pale lavender blue, and the petals being slightly cupped, almost like an expanded Tulip, give the flower a very peculiar appearance. Thomas Moore, very large, several blooms being 8 inches across; nearly all the flowers had five or six petals, the latter number predominating—this is sure to be a favourite. Mrs. Bateman, a light lavender, barred with a deeper shade of colour. Sir Robert Napier, a rich dark purple, with a reddish tint, light centre. Beauty of Surrey, light grey mauve, and fine in character. Magnifica, reddish purple barred with red. Velutina purpurea, fine dark violet purple. These are all seedlings, which exhibit very strongly the Langinosa blood in them. There is another class which Mr. Jackman is making progress with, in which the Viticella blood predominates, and in these some striking colours will contrast finely with the lavender and blue already produced. As bedding plants they are very useful; pegged down, cut back closely, and covered with manure, they then shoot out vigorously in the spring, and soon cover the ground. After the first bloom is over the young shoots, which are being continually produced, come into bloom, so that a succession of flowers is constantly enlivening the bed, and the colours of these varieties of Clematis are so unusual in bedding plants that they become doubly valuable. To light up dark foliage, what can be more beautiful than these plants fixed to stakes about 6 feet high, round which cluster on all sides hundreds of the beautiful flowers, varying in colour from light lavender to dark maroon? And how beautiful, too, when they are made to cluster over rustic porticoes or verandahs!

This establishment has long been noted for its collection of hardy plants, especially Coniferae; and on the lawn in the front of Mr. Jackman's new and handsome residence are to be seen many fine specimen plants; beautiful examples of Wellingtonia, Thuja aurea, Cedrus deodara, Taxodium distichum—a drooping form of it, very beautiful, Cupressus macrocarpa, and Abies Neromanniana, one of the most beautiful of our really hardy Conifers. One of the most curious and beautiful trees to be seen here is a Waterer's Holly. After a heavy fall of snow the branches were broken down, and it suggested itself to Mr. Jackman to leave them thus. They soon began to accommodate themselves to their new position, and now, while the tree itself is about 12 feet high, it measures quite 40 feet round, resting on the ground, and being a dense mass of beautiful variegated foliage. There were many flowering shrubs here, which one does not see so often as they deserve, as Koelreuteria paniculata, with its heads of yellow flowers. The Hibiscus (Althaea frutex), in many fine varieties is here cultivated largely, and this dry season has been peculiarly favourable for the development of its flowers. Some variegated-foliaged plants, such as Acer negundo variegata, are largely grown. By the broad walk leading down from the back of Mr. Jackman's dwelling house to the main road there is a very fine collection of Coniferae, amongst which some of the Irish Yews, on the top of which had been grafted the Golden Yew, had a very beautiful and striking appearance.

Close to the nursery stands the district church of St. John with its neat parsonage; and it added not a little to the interest of my visit to recall that, some years ago, I was a visitor at this little parsonage with a valued friend who is now labouring in a densely populated manufacturing town, and I little thought then that I was so near to the nursery where I was a visitor to-day. Like many of our leading nurserymen Mr. Jackman is foremost in good deeds, and as churchwarden to this rural parish has thrown his energies into the cause. I left the nursery with many pleasing thoughts, and I am sure that any

one desirous of seeing Mr. Jackman's collection of Clematis will meet with the same courtesy that I experienced.—D., Deal.

NOTES AND GLEANINGS.

We are informed that at the meeting of the Royal Horticultural Society's Fruit Committee, on the 6th of October, two prizes, £3 and £2, will be offered for the first and second best collections of EDIBLE FUNGI.

— FROM DR. HOOKER'S admirable opening address at the MEETING OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE we extract the following:—

"The greatest botanical discoveries made during the last ten years have been physiological, and I here allude especially to the series of papers on the fertilisation of plants which we owe to Mr. Darwin. You are aware that this distinguished naturalist, after accumulating stores of specimens in geology and zoology during his circumnavigation of the globe with Captain Fitzroy, espoused the doctrine of the continuous evolution of life, and by applying to it the principles of natural selection, evolved his theory of the origin of species. Instead of publishing these views as soon as conceived, he devoted twenty more years to further observation, study, and experiment, with the view of maturing or subverting them. Among the subjects requiring elucidation or verification were many that appertained to botany, but which had been overlooked or misunderstood by botanical writers, and these he set himself to examine vigorously. The first-fruits of his labours was his volume on the 'Fertilisation of Orchids,' undertaken to show that the same plant is never continuously fertilised by its own pollen, and that there are special provisions to favour the crossing of individuals. As his study of the British species advanced, he became so interested in the number, variety, and complexity of the contrivances he met with, that he extended his survey to the whole family; and the result is a work of which it is not too much to say that it has thrown more light upon the structure and functions of the floral organs of this immense and anomalous family of plants than had been shed by the labours of all previous botanical writers. It has, further, opened up entirely new fields of research, and discovered new and important principles that apply to the whole vegetable kingdom. This was followed by his paper on the two well-known forms of the Primrose and Cowslip (*Journal of the Linnean Society of London*, vi., p. 77), popularly known as the pin-eyed and thrum-eyed; these forms he showed to be sexual and complementary; their divers functions being to secure by their mutual action full fertilisation, which he proved could only occur through insect agency. In this paper he established the existence of hemomorphic, or legitimate, and heteromorphic, or illegitimate, unions among plants, and details some curious observations in the structure of the pollen. The results of this, perhaps, more than any other of Mr. Darwin's papers, took botanists by surprise, the plants being so familiar, their two forms of flower so well known to every intelligent observer, and his explanation so simple. In myself I felt that my botanical knowledge of these homely plants had been but little deeper than Peter Bell's, to whom

"A Primrose by the river's brim
A yellow Primrose was to him,
And,—it was nothing more."

"Analogous observations on the dimorphism of Flax flowers and their allies (*Journal of the Linnean Society*, vii., 63), formed the subsequent paper, during which he made the wonderful discovery that in the common Flax, the pollen of one form of flower is absolutely impotent when applied to its own stigma, but invariably potent when applied to the stigma of the other form of flower; and yet both pollens and stigmas of the two kinds are utterly undistinguishable under the highest powers of the microscope.

"His third investigation is a very long and laborious one (*Journal of the Linnean Society*, viii., 169), on the common Loosestife (*Lythrum salicaria*), which he showed to be trimorphic; this one species having three kinds of flowers, all annually abundantly produced, and as different as if they belonged to different species; each flower has, further, three kinds of stamen, differing in form and function. We have in this plant, then, six kinds of pollen, of which five at least are essential to complete fertility, and three distinct forms of style. To prove these various differences, and that the co-adaptation of all these stamens and pistils was essential to complete fertility, Mr. Darwin had to institute 18 sets of observations, each consisting of 12 experiments—216 in all. Of the labour, care, and delicacy required to guard such experiments against the possibility of error, these alone can tell who know experimentally how difficult it is to hybridise a large-flowered plant of simple form and structure. The result in this case, and in those of a number of allied plants experimented on at the same time, is what the author's sagacity predicted; and the rationale of the whole was demonstrated, and he finally showed, not only how Nature might operate in bringing these complicated modifications into harmonious operation, but how through insect agency she does do this, and why she does it too.

"It is impossible ever to enumerate the many important generalisations that have flowed from these and other papers of Mr. Darwin's on the fertilisation of plants; some that appear to be commonplace at first sight are really the most subtle, and, like many other apparent commonplaces, are what, somehow, never occur to commonplace minds;

as, for instance, that plants with conspicuously coloured flowers, or powerful odours, or honeyed secretions, are fertilised by insects; all with inconspicuous flowers, and especially such as have pendulous anthers, or incoherent pollen, are fertilised by the wind; whence he infers that, before honey-feeding insects existed, the vegetation of our globe could not have been ornamented with bright-coloured flowers, but consisted of such plants as Pines, Oaks, Grapes, Nettles, &c.

"The only other botanical paper of Mr. Darwin's to which I can especially allude is that 'On the Habits and Movements of Climbing Plants' (*Journal of the Linnean Society*, vol. ix., p. 1), which is a most elaborate investigation into the structure, modification, and functions of the various organs by which plants climb, twine, and attach themselves to foreign objects. In this he reviews every family in the vegetable kingdom, and every organ used by any plant for the above purpose. The result places the whole subject in a totally new light before us. The guesses, crude observations, and abortive experiments that had disfigured the writings of previous observers are swept away; organs, structures, and functions of which botanists had no previous knowledge are revealed to them, and the whole investigation is made as clear as it is interesting and instructive.

"The value of these discoveries, which add whole chapters to the principles of botany, is not theoretical only; already the horticulturist and agriculturist have begun to ponder over them, and to recognise in the failure of certain crops the operation of laws that Mr. Darwin first laid down. What Faraday's discoveries are to telegraphy, Mr. Darwin's will assuredly prove to rural economy in its widest sense and most extended application.

"Another instance of successful experiment in Physiological Botany is Mr. Herbert Spencer's observations on the circulation of the sap and formation of wood in plants (*Linnean Transactions*, vol. xxv., p. 405). As is well known, the tissues of our herbs, shrubs, and trees, from the tips of their roots to those of their petals and pistils, are permeated by tubular vessels. The functions of these have been hotly disputed, some physiologists affirming that they convey air, others fluids, others gases, and still others assigning to them far-fetched uses, of a wholly different nature. By a series of admirably-contrived and conducted experiments, Mr. Spencer has not only shown that these vessels are charged at certain seasons of the year with fluid, but that they are intimately connected with the formation of wood. He further investigates the nature of the special tissues concerned in this operation, and shows not merely how they may act, but, to a great extent, how they do act. As this paper will, I believe, be especially alluded to by the President of the Biological Section, I need dwell no further on it here than to quote it as an example of what may be done by an acute observer and experimentalist, versed in physics and chemistry, but, above all, thoroughly instructed in scientific methods.

"Mr. Darwin's recent two volumes 'On Animals and Plants under Domestication,' are a catacomb of data, observations, and experiments, such as assuredly no one but himself could produce. It is hard to say whether it is most remarkable for the number and value of the new facts it discloses, or for its array of small, forgotten, or overlooked observations, neglected by some naturalists, and discarded by others, which, under his mind and eye, prove to be of first-rate scientific importance. An eminent surgeon and physiologist (Mr. James Paget), has remarked to me, *apropos* of these volumes, that they exemplify in a most remarkable manner that power of utilising the waste materials of other scientific men's laboratories, which is a very characteristic feature of their author. As one of those *pieces justificatives* of his previous work, 'The Origin of Species,' which have been waited for so long and impatiently, these volumes will probably have more than their due influence; for the serried ranks of facts in support of his theories which they present may well awe many a timid naturalist into bolting more obnoxious doctrines than that of natural selection.

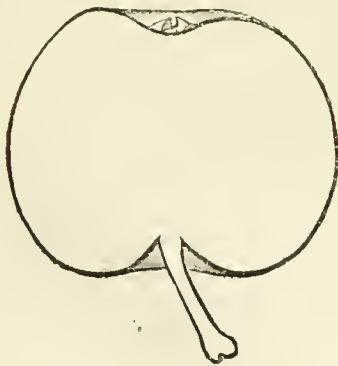
"It is in this work that Mr. Darwin expounds his new hypothesis of Pangenesis, which certainly correlates, and may prove to contain the rationale of all the phenomena of reproduction and of inheritance. You are aware that every plant or animal commences its more or less independent life as a single cell, from which is developed an organism more or less closely similar to its parent's. One of the most striking examples I can think of is afforded by a species of Begonia, the stalks, leaves, and other parts of which are superficially studded with loosely-attached cells. Any one of these cells, if referred to favourable conditions, will produce a perfect plant, similar to its parent. You may say that these cells have inherited the potentiality to do so; but this is not all, for every plant thus produced in like manner develops on its stalks and leaves myriads of similar cells, endowed with the same property of becoming such in new plants; and so on, apparently interminably. Therefore, the original cell that left the grandparent not only carried with it this so-called potentiality, but multiplied it and distributed it with undiminished power through the other cells the plant itself produced; and so on, for countless generations. What is this potentiality, and how is this power to reproduce thus propagated, so that an organism can, by single cells, multiply itself so rapidly and, within very narrow limits, so surely and so interminably? Mr. Darwin suggests an explanation, by assuming that each cell or fragment of a plant (or animal), contains myriads of atoms or gemmules, each of which gemmules he supposes to have been thrown off from the separate cells of the mother plant, the gemmules having the power of multiplication and of circulating throughout the plant; their future development he supposes to depend on their affinity for other partially de-

veloped cells in due order of succession. Gemmules which do not become developed may, according to his hypothesis, be transmitted through many succeeding generations, thus enabling us to understand many remarkable cases of reversion or ataxism. Thus, according to this hypothesis, not only have the normal organs of the body the representative elements of which they consist diffused through all the other parts of the body, but the morbid states of these—as hereditary diseases, malformations, &c.—all actually circulate in the body as morbid gemmules. As with other hypotheses based on the assumed existence of structures and elements that escape our senses, by reason of their minuteness or subtlety, this of Pangenesis will approve itself to some minds and not to others. To some these inconceivably minute circulating gemmules will be as apparent to the mind's eye as the stars of which the Milky Way is composed; others will prefer embodying the idea in such terms as potentiality, a term which conveys no definite impression whatever, and they will like it none the less on this account. Whatever be the scientific value of these gemmules, there is no question but that to Mr. Darwin's enunciation of the doctrine of Pangenesis we owe it, that we have the clearest and most systematic *resumé* of the many wonderful phenomena of reproduction and inheritance that has yet appeared; and against the guarded entertainment of the hypothesis, or speculation if you will, as a means of correlating these phenomena, nothing can be urged in the present state of science. The President of the Linnean Society, a proverbially cautious naturalist, thus well expresses his own ideas of Pangenesis:—"If," he says, "we take into consideration how familiar mathematical signs and symbols make us with numbers and combinations, the actual realisation of which is beyond all human capacity; how inconceivably minute must be those emanations which most powerfully affect our sense of smell and our constitutions; and if, discarding all preventions, we follow Mr. Darwin step by step in applying his suppositions to the facts set before us, we must, I think, admit that they may explain some, and are incompatible with others; and it appears to me that Pangenesis will be admitted by many as a provisional hypothesis, to be further tested, and to be discarded only when a more plausible one shall be brought forward."

POMOLOGICAL GLEANINGS.

THERE is a new Nectarine raised by Mr. Rivers, called ALBERT VICTOR, which belongs to the Stanwick race, and has some resemblance to Victoria, another of his seedlings. We have had fruit of both of these, and the Stanwick flavour is distinctly traceable in both, but the faults of that variety are wanting; there is no cracking of the fruit, or of the stone.

— MESSRS. BUNYARD & SONS, of Maidstone, have sent us a marvellous little Apple, of which they say, "We beg to enclose four specimens of a seedling dessert Apple, which has been in use about a month, and these sent have been gathered three weeks." The flavour is rich and sweet, with the fine high



aroma of a Nonpareil. Such an Apple so early in the season is a great acquisition. The fruit is small, roundish, and russet, with a flush of orange on one side. The flesh tender, very juicy, and richly flavoured. We hope to hear more of this fruit.

— KEEPING FRUIT.—To secure the long-keeping of fruit, a cool and dry atmosphere is indispensable; not so cold as to freeze, nor so dry that the fruit will shrivel. When winter Pears are wanted for the table, they should be brought into a warm place, where, after a few days, they will become fit for eating. Apples will ripen well enough in the cellar. Grapes will keep well where the temperature is favourable to the long-keeping of other fruits. A cool, dry temperature is the

special merit of the patent fruit houses.—(*American Journal of Horticulture*.)

WORK FOR THE WEEK.

KITCHEN GARDEN.

Cauliflowers, examine the plants for next year—namely, those still in the seed beds, those pricked out, and especially the plants from the last sowing. *Kidney Beans*, a quantity of the Early Dun, Cream-coloured, or Speckled Dwarf China, may be sown in pots in a warm place to perfect their produce under the protection of a frame or pit. No more need be sown where the plants cannot have the advantage of fire heat. *Onions* should now be dried and cleared off the ground as soon as possible. The ground should then be well dug, and with the addition of a little dung it will be suitable for the main plantation of spring Cabbages, which had better be put in without much further delay. The last crop of autumn-sown *Onions* may now be put in. *Lettuces*, the last sowing of Brown Dutch is generally made by the middle of this month. They generally keep well through the winter, because they come up slowly, and become stocky during the cool of the autumn. *Mushrooms*, there is little difficulty in procuring *Mushrooms* from this time till May, in houses where a sufficient heat can be commanded, either by a thick covering of fermenting material inside the house, or by flues or hot-water pipes. If in a house with shelves upon the Oldaker system, the depth of the bed must be regulated by the quantity of materials at command, and the period at which the produce is expected. A dung bed of 5 or 6 inches in thickness may be expected to produce for six weeks, and if scarce of material, as soon as the bed has ceased bearing profusely, the top part is removed, fresh droppings added to the depth of 2 or 3 inches, the old and the new mixed together, and the bed spawned, and earthed at the proper time, the same as a fresh bed. It is not of much consequence whether the material of the bed is rather dry or rather wet, only in the first case, after spawning, a covering of wet cow or horse dung is added, and in the second case, the spawn should be wrapped in a handful of dry litter before being inserted. In all shallow beds the earth should be put on after spawning, or as soon as the state of the bed will permit, making the thickness of the earth from 1 to 2½ inches, according to the thickness of the bed, and the time at which it is to produce, as the thinner the covering of earth, the sooner the *Mushrooms* will appear, at the expense, in general, of the solidity of the *Mushroom*, and the permanence of the crop. Both with the in-door and out-door beds the heat should be rather on the decline, and just about milkwarm before spawning, and then, if after earthing-up, the heat should not be sufficient, you may throw what heat you wish into the bed by covering. Before you can remedy too much heat the spawn is worthless. *Spinach*, the Winter *Spinach*, *Onions*, and *Carrots*, sown in rows, should have the ground well stirred between the rows as soon as the surface is dry, after every rain. *Tomatoes* will now require considerable attention in order to ripen the fruit well. Stop the shoots, and cut off the leaves very liberally, so as to expose the fruit fully to the sun. *Watercresses*, these will grow just as well on a damp, shaded border in the kitchen garden as along the brook side, and will be safer for use from such a place than in the natural way, where they are always more or less sown over with the eggs of insects frequenting pools or running streams. Now is the best time to plant slips.

FRUIT GARDEN.

In paying attention to the fruit at this season do not let the trees be forgotten, but take every opportunity of hastening the maturing of the wood. The points of the shoots of Peach trees might now be shortened. The shortening of the shoots will cause the buds left to swell better, and unless the trees receive too much assistance at the roots, there will be no danger of the buds then bursting. In extreme cases of luxuriance the stronger roots might be pruned with advantage. The principal operations to which attention is now to be directed, are the protection of Grapes and the gathering of fruit. The Grapes, which should now be swelling fast, had better be put into small gauze bags to preserve them from the attacks of wasps, which are now troublesome. With regard to the gathering of such fruit as Apples and Pears, great care is necessary to keep them from being bruised. They ought to be handled like eggs, in order to insure their keeping. The time when the fruit is ready for gathering is indicated by its beginning to drop of its own accord from the trees, by its parting freely from the stem on being slightly moved, or if, on cutting open one of the fruits,

the seeds are of a dark brown colour, it is fit for gathering. In performing the operation, however, the fruits should never be shaken from the tree, as is often done, but should be all hand-picked on a dry day. In storing, let them be taken with great care from the basket, and placed where they are to remain, and if possible, let them be arranged side by side, and not placed one upon another.

FLOWER GARDEN.

Having a little room under this head, I shall say something more on *budding and grafting*. Buds of the Rhododendron in the autumn will take as freely as those of the Rose, and it grafts in the open air as freely as the Apple. The only precaution that is necessary in this operation is to take prominent buds from the first growth of this season, as many of the family have made a second growth this year. Variegated Hollies may now be grafted and budded with the greatest freedom. The Rhododendron being thin-rinded, it does best by side-grafting, and buds of it also had better be inserted after the manner of side-grafting, with a portion of the soft wood retained behind the bud; all autumn buds may thus be inserted. The following observations may be useful to those little versed in these matters:—Insert autumn grafts as you would buds, leave about an inch of the graft out at the top of the incision, and use the firm part of the summer's growth for the stock. If the bark of the stock be very thin, or if it do not part very freely from the wood, you had better put in the grafts and buds as in side-grafting, cutting out a thin slice and preparing the grafts so as to fit the place; tie rather gently, as the stock is soft, for fear of bruising the bark. If the graft be put in on the north side of the stock it will be more secure from the heat of the sun. The best grafting clay is made by putting a lump of soft clay in the bottom of a small pot, with a little water over it, then stir the clay with a stick until it is rather thicker than paint, and with a small brush, made with strips of matting tied to a little stick, paint over the tying. While the paint is wet dust a little dry sand or soil over it, and when it becomes dry no rain will wash it off, and the sand will keep it from cracking.

GREENHOUSE AND CONSERVATORY.

What a luxury a nice light conservatory is, however small, when attached to part of the sitting-rooms, and what a contrast, too, with the heavy, ill-arranged, old-fashioned greenhouses, only fit to winter half-hardy shrubs for planting out in summer. There are scores of such greenhouses all over the country, which should be pulled down and converted into modern conservatories. With a little judgment the expense need not be much, and the enjoyment and luxury which may thus be obtained will repay all the trouble and expense in a very short time. The greenhouse should now be in thorough repair, and in a clean, sweet condition, as many of the more tender plants must soon be removed in-doors. If the weather continue dry, all the stronger greenhouse plants should be left out as long as possible. This is the time when the advantages of cold pits are most apparent, as the lights can be left off except in rainy or frosty weather; whereas the greenhouse has no such advantage.

STOVE.

Some years ago people used to light fires to ripen off their stove plants about this time, but a better plan prevails now: when the plants have begun growing freely in the spring the heat is increased, and every assistance given to them to make their growth early, so that by this time no ripening of wood or late growths is needed, and the plants are gradually put to rest by the natural decline of our seasons. Plants thus managed should never receive more than 55° of artificial heat in the dead of winter, yet there is no danger if a warm, dry day raises the temperature to 80° or 85°, with a little air. After the stove has been kept dry for some time, as is always done more or less from the end of August, the red spider makes its appearance in some collections in greater numbers than at other times. This is the worst time in the year to permit the ravages of this insect, for if the foliage is now disfigured it must remain an eyesore till next season's growth; therefore, on the first appearance of this evil, apply sulphur to the pipes, &c. See that Gloxinias are well ripened before they are set to rest. All woody plants ought now to be done growing in the stove.

PITS AND FRAMES.

Most of the cuttings of Pelargoniums will now be fit for potting-off, when potted to be placed in a pit or frame, and kept close and shaded until they have made fresh roots, when they

should be set out in an open situation to grow hardy and stocky before housing them for the winter.—W. KEANE.

DOINGS OF THE LAST WEEK.

We have often read and believed, and yet with all our belief felt an under-current of something like incredulity, of the wondrous transformation in northern latitudes, where the melting of the snow is immediately followed by the rapid growth of vegetation; and of that equally striking change in tropical countries, where, after a glaring cloudless sun has parched-up everything except plants that send their roots deep down after moisture, the earth after the rainy season is covered with the most luxuriant vegetation. This incredulity in the midst of belief is apt to linger in the mind until we can add to the evidence of testimony the evidence of personal observation, thus confirming the old maxim, "that seeing is believing." Perhaps never could we have had better ocular demonstration in our country of the changes effected in other lands by drought and rain, and, therefore, in this respect the faithful delineations of the reports of travellers, though these reports were so different from what we could in general perceive in our moderate and more variable climate. Where all in whole districts seemed merely a burnt-up waste, there is now, to gladden the eye, nothing to be seen but the richest luxuriance.

A fine lesson has also been afforded to us, that in the midst of discouragements and difficulties we ought never to give up, as we never know how soon a beneficial change may come. Meet whom we might for several weeks there was nothing but long faces, and dire forebodings of want and misery as to the coming winter, for even herds of cattle and flocks of sheep would have to be disposed of before then, as there would be nothing to keep them alive, and the only thing cheerful was the hope that we, the superior race, might manage to obtain bread if not much water. Now, what with plenty of sweet autumn grass, Turnips, and Coleseed, though the Turnips should be small, a fair yield of cereals, and an excellent yield of golden Wheat, and the pleasant change in our gardens, we can contemplate the future with feelings that might irradiate the countenances of those who seem to have a pleasure in looking on the dark side of the picture instead of the bright and the cheering.

Even in our ornamental grounds we may look for a fine autumn display. The rains are encouraging free growth now. There is hardly an earthly good, however, without some little alloy to remind us that in all things, though ever aiming at, we rarely reach perfection. Scarlet Pelargoniums that were models of splendour and loveliness looked like so many wet rags after the drenching day of the 22nd, and are only new, on this the 5th inst., as fine as they were. Calceolarias that stood the dry weather well, had their flowers washed off by the bushel, and it has taken a week or ten days to make them what they were. Many faded blooms having been picked off, the dry sunny days bring on all the beds plenty of fresh flowers; these, with the rich green carpet around them, which no dry weather will now change, will afford a good show for the autumn, and make us thankful that when matters seemed at the worst we did not quite despair, and leave the plants to live or die. We know in some cases where all the water supply was concentrated on the kitchen garden, that the flower gardens, but for the green grass, will be nothing but wrecks.

Even at the risk of being considered reiterative, we must add that the season will have failed to teach a useful lesson if, in places that suffered from a scarcity of water, efforts are not now made to secure a more plentiful supply. We have no doubt that much watering was given so as to yield merely a minimum of good, if not a considerable amount of harm; but still it would have been pleasant to have been able to give more where absolutely needed. For ourselves, even for plants in pots, we should have been in extremity in two or three days, if the rains had not come. Our Celery is now looking tolerably well, though short, but it would have been withered or bolted—of bolting it shows no signs—if several times in the hottest weather we had not covered the ground and the plants slightly all over with dry litter. We are very apt to forget these drawbacks when we feel them no more, instead of preparing to meet them. If the past season has a lesson to many gardeners, it is pre-eminently this, "Look to the means of having a good water supply." We are glad, therefore, that Mr. Wills has drawn particular attention to the securing of water, by Mr. Rutland, at Bentley Priory. There are but few places that need be deficient

in water, if means were taken to collect a good portion of that which falls from the atmosphere. On the 19th ult. we saw large streams flowing from fall ponds of water, ponds on which farmers chiefly relied for their general supply, and which had been dry for months. On the 22nd we saw streams from such ponds almost sufficient to turn the wheel of a grinding mill. The water that thus ran away did little good, as it found its level, and disappeared in ditches and holes, but saved in double or treble quantity might have been invaluable. With all the benefits to cultivation of large open fields without a tree or a hedgerow, and all the benefits of a thorough drainage of these fields, we may find such work anything but an unmixed advantage, unless we save a portion at least of the drainage water.

KITCHEN GARDEN.

Earthen-up a second piece of Celery, doing it at once after cleaning and tying, as at this early season we have no faith in the bit-by-bit system of earthing-up. When long nights and damp drizzly days come, the whole rationale of the earthing-up is quite different. As already stated, owing to the dryness, our plants will not be so large as usual. Sowed the last Lettuces, Turnips, and Radishes without protection, and Onions for spring. The last will be the best to transplant if the weather be mild. We would still plant out numbers of nice young plants of Endive and Lettuce, but have not had time to fork over the ground carefully, and examine for grubs, and if that is not done it would only be labour lost. About twenty years ago we had an attack of grubs, and after well turning the ground, using tar and ammoniacal water, in winter, we have seen little of these enemies until this season, when the ground seems to be more than usually stored with them, and nothing but constant care will enable us to free it of them, according to the present range of our knowledge.

A second summer has come, the heat being very intense, though less by 10° than what we had lately; but fancy what it would be if the days were longer; and, therefore, we gave a good watering to two plantings of Coleworts, and the two first pieces of Cabbages, and will help other crops with sewage as we find an opportunity. Our piece of spring Cabbages that stood last winter, and has done good service all the summer, we will clear of all bad and yellow leaves as soon as possible, and just leave them on the ground in the way of mulching, so that even more strength may be thrown into the young shoots. These leaves in the hottest weather shaded the young growths, and such are now coming vigorously.

FRUIT GARDEN.

No better weather could be had for gathering the earliest of the fruit. Notwithstanding the dryness of the season, Williams's Bon Chrétien Pear is of large size, and good, and should be had in successions. All Pears and Apples have swelled wonderfully during the last fortnight, and if a change of weather do not come soon, we shall have to gather before they are fully ripe, in order that they may escape the ravages of the wasps. We have gathered large quantities of Plums, which we would have left for ten days, but we knew that without gauze or Nottingham netting we could not keep them. Some of our double hand-lights contain pecks of dead wasps, and when a great number accumulate in the upper glass, we put a small pan of burning sulphur beneath them. Though we may have the right to kill wasps, we have no right to torture them. They have never had a nibble in our orchard houses, owing to the gauze over the openings.

Peaches, &c., on walls are coming in too soon for us. We hope the day is not distant when we shall have orchard houses not merely for forwarding, but for retarding, Peaches and Plums. We think a sugary Coe's Golden Drop Plum might be as great a luxury in November, as a luscious Noblesse Peach in May. After the fruit is fairly set and swelling, we see no difficulty by means of plenty of air and partial shading, or even double glass and shading, in having such fruits under glass six weeks or two months after they are over in the open air on walls, in such a season as this.

Strawberries.—After referring the reader to our remarks in the number for August 20th, we may state that we have filled nearly as many pots as we shall want until the spring is well advanced, and the first potted we shall water with manure water. Treated as previously described, the sides of the ball are supplied with fine large spongiolae like crow quills. These will soon divide into myriads of smaller fibres. To have fewer pots to look after we have prepared a piece of ground by digging and enriching it near the surface, and in that we will plant out a number of plants, previously pricked out as before described,

say 5 or 6 inches apart; and as runners can now be had we will most likely plant out a number of them closer together, and these, as we want them, we can raise with balls to force next spring, or to make fresh plantations out of doors where the ground is otherwise occupied or undergoing a process of preparation in winter. From plants so treated and planted with balls in spring, we have had better crops in the first season in stiff soil than from those planted in autumn, unless the latter had been prepared and turned out as good strong plants with balls before the beginning of September. In using such plants planted now for forcing (we have put the above words "next spring" in italics, not without consideration), they will do very well, say after the beginning of March; but for all plants that are to be taken into forcing houses before that time success will greatly depend on having the plants well established in pots, and the buds rather well matured before the middle of October at the latest. Such plants as above alluded to, when taken up with balls, say in the end of February or the beginning of March and onwards, will be better if they receive a little bottom heat, with the tops exposed until the roots are reaching the sides of the pots. After the end of March and the beginning of April, however, such plants with balls do admirably for planting in frames and pits at once, with or without more heat than what the sun gives; and in pits, with full exposure to light, the fruit will be better in flavour than where partially shaded in houses. For this late forcing no plant need be taken that does not show a good fruit bud breaking into a truss.

ORNAMENTAL DEPARTMENT.

As to much of the work we must refer to the remarks for previous weeks.

Amid the potting and pricking-off in-doors, and the blaze of bloom without, there is one drawback, and, perhaps, some readers will assist us in the matter. The pleasure grounds, and the park beyond, are becoming infested with myriads of the large grass mice, and a small one, brown in appearance, with a short tail. The worst of these is that they refuse to touch almost any kind of bait, but sometimes they will nibble poisoned corn, barleymeal, &c. A difficulty exists as to these, as pheasants might get at them, however carefully laid down, and the mice and other animals will carry out the poisoned bait. We put the poison as near the centre as possible of small drain tiles, yet even from these it has been carried out, and here is the danger. We have also sunk vessels in the ground with a little water at the bottom, just covered with something tempting. The great difficulty, however, is that the mice confine their depredations chiefly to what is green and growing. They managed to nearly clear for us a belt of *Boule de Feu* Pelargonium, just inside of a belt of *Cineraria maritima*, where it looked well, but as the weather was very dry then, we forgave them, as we thought they would be scarce of moisture. Yesterday, however, we saw the centres of two beds filled with Madame Vaucher white Pelargonium, drooping, and on examination find there is scarcely a plant they have not eaten through just below the surface, whilst dwarf Scarlets outside of them are as yet left untouched. The last feather's weight may be too much for the camel's back, and the Pelargoniums thus destroyed in a conspicuous place, would prompt us to show but little mercy to the depredators could we catch or kill them without injuring other things more prized. Can any one help us in this emergency? What they have done to these few beds they may soon do to the whole, and now there is plenty of green food without going to the flower beds. It is rather annoying that these depredations occur now, when we have entered on the glories of a second summer, and when, so far as we recollect, the lawns never looked more beautiful.—R. F.

TRADE CATALOGUES RECEIVED.

Carter & Co., 237 and 238, High Holborn, London, W.C., and Crystal Palace Nursery, Perry Hill, Sydenham.—*Carter's List of Dutch Bulbs, Fruit Trees, Roses, &c.*

Archibald Henderson, Sion Nursery, White Horse Road, Croydon, and College Grounds, North End, Croydon.—*Descriptive Catalogue of Nursery Stock. Descriptive Catalogue of Bulbous and other Roots, &c.*

COVENT GARDEN MARKET.—SEPTEMBER 9.

VEGETABLES have much improved, and prices have receded in consequence of the better supply. Turnips having fallen at least 100 per cent. in a week. Large arrivals have come to hand both by coast and rail.

They chiefly consist of Apples and Pears. Plums are sufficient for the trade, which is now chiefly confined to London and the suburbs. Potatoes remain at former quotations, and are excellent in quality.

FRUIT.

	s. d.	s. d.	s. d.	s. d.
Apples ½ sieve	1	6 to 2	0	0
Apricots doz.	0	0	0	0
Cherries lb.	0	0	0	0
Chestnuts bush.	0	0	0	0
Currants ½ sieve	0	0	0	0
Black doz.	0	0	0	0
Figs doz.	1	0	2	0
Filberts lb.	0	9	1	0
Cobs lb.	0	9	1	0
Gooseberries .. quart	0	0	0	0
Grapes, Hothouse. lb.	2	0	5	0
Lemons 100	10	0	16	0
Melons each	2	0 to 5	0	0
Nectarines doz.	0	0	0	0
Oranges 100	12	0	20	0
Peaches doz.	4	0	8	0
Pears (dessert) .. doz.	2	0	4	0
Pine Apples lb.	3	0	5	0
Plums ½ sieve	2	0	4	0
Quinces doz.	0	0	0	0
Raspberries lb.	0	0	0	0
Strawberries .. per lb.	0	0	0	0
Walnuts bush.	10	0	15	0
do. per 100	1	0	2	6

VEGETABLES.

	s. d.	s. d.	s. d.	s. d.
Artichokes doz.	3	0 to 6	0	0
Asparagus 100	0	0	0	0
Beans, Kidney ½ sieve	3	0	4	0
Beet, Rad. doz.	2	0	8	0
Broccoli bundle	0	0	0	0
Brns. Sprouts ½ sieve	2	0	0	0
Cabbage doz.	6	9	1	0
Capsicums 100	3	0	0	0
Carrots bunch	0	4	0	8
Cardiflower doz.	0	0	0	0
Celery bundle	1	6	2	0
Cucumbers each	4	1	0	0
Endive doz.	2	0	0	0
Fennel bunch	0	3	0	0
Garlic lb.	0	8	0	0
Herbs bunch	0	3	0	0
Horseradish .. bundle	3	0	5	0
Leeks bunch	6	4 to 6	0	6
Lettuce per score	2	0	4	0
Mushrooms pottle	3	0	4	0
Mustd. & Cress, punnet	0	2	6	0
Onions per bushel	5	0	0	0
Parsley per sieve	3	0	4	0
Parsnips doz.	0	9	1	0
Peas per quart	0	0	0	0
Potatoes bushel	4	6	6	0
Kidney do.	4	0	7	0
Radishes doz. bunches	1	6	0	0
Rhubarb bundle	0	0	0	0
Sea-kale basket	0	0	0	0
Shallots lb.	0	8	0	0
Spinach bushel	4	0	0	0
Tomatoes.... per doz.	1	0	2	0
Turnips bunch	0	6	0	0

TO CORRESPONDENTS.

* * * We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expence. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

REMOVING MANETTI ROSE STOCKS (A. Z.).—"I have just removed Manetti plants worked last year. I bought them in dormant bud. If the wood is not ripe, or tolerably so, you must place a covering over them for a few days, removing it at night. Give them some water, but do not keep the ground in a swampy state. The Manetti roots, with heat and moderate moisture, will strike at once.—W. F. RADCLIFFE."

ORCHARD HOUSE (J. Buars).—If you enclose four postage stamps with your address, and order No. 341 of this Journal, you will find full particulars, and the name of a builder.

GROUND CHALK (Subscriber).—Common whitening pounded and spread over your Vine border will be the same as ground chalk. You can have Brehaut's "Modern Pench Pruner" from our office if you enclose forty-four stamps with your address.

SEEDLING PELARGONIUM MANAGEMENT (H. C.).—Your seedlings in 3-inch pots should now be cut down to the fourth joint. They will push strongly, and when the shoots are about an inch long place the plants in 4½-inch pots, and remove them to an airy shelf in a greenhouse from which frost is excluded. Those now in 6-inch pots should also be cut down to four joints, and when they have shoots an inch long shake out the plants and repot them in pots 4½ inches in diameter, placing them on a shelf near the glass in a greenhouse, as above directed. Give an abundance of air in mild weather, and no more water than enough to keep them slowly growing. A close damp atmosphere must be avoided. When the shoots are 3 inches long their points ought to be pinched out, and in February they may be placed in their blooming-pots, 7-inch pots being quite large enough. The plants will grow well in a compost of two-thirds sandy fibrous loam, and one-third leaf mould or sandy peat, with the addition of a fourth of old cow dung or rotten manure, and one-sixth of silver sand. Good drainage is necessary. Training must be early attended to.

CONRDS UNFRUITFUL (Idem).—Your Conrds, most probably, have only produced male flowers instead of all female flowers. If they had been female, as you say, we think some fruit would have swelled, though they would not seed. We are unable to account for the plants not fruiting. Your treatment is proper. You may obtain seeds of the Mistletoe of some friend residing in the localities where it abounds; if not, visit the greengrocers' shops about Christmas, and buy a piece with berries on it.

POTTING BEDDING PELARGONIUMS (Idem).—If you have room you may shift your plants, now in 2½ or 3-inch pots, into 4½-inch pots in October, and in March transfer them to 6-inch pots. That would give you splendid plants, but you will winter them in much less room in the pots they are now in, shifting them in February or March into 4½-inch pots, and six weeks afterwards into 6-inch pots. By attending to stopping they will be fine bushy plants for planting out in May.

RHOODENDRONS INJURED BY DRY WEATHER (S. Bright).—The Rhododendrons being old we would advise your cutting them back, and you will obtain more dwarf and compact plants, for if left as they are, and the branches are long, the plants will be straggling and irregular in growth. If they are small we would do nothing to them until next April, and then cut away any dead and straggling shoots, so as to form compact bushes.

MANURE FOR ASPARAGUS AND SEA-KALE (Idem).—No manure is equal to seaweed. It may be placed all over the bed after the haulm is cleared off, to the depth of 3 or 4 inches. Falling seaweed, a good dressing, 3 or 4 inches thick, of farmyard manure may be given, the beds being previously cleared of weeds and haulm. Point the soil over with a fork lightly, without injuring the roots or crowns, and throw a little of the old soil from the alleys over the beds. In the case of Sea-kale the above will answer as regards the manuring, but will not be necessary if the plants are forced in the ground by covering with stable manure or hot dung; that is sufficiently enriching. If any other mode of blanching is practised, the Sea-kale may be manured as above. In March the beds should be neatly forked over, the rough manure drawn off into the alleys, the beds raked fine, and the edges straightened. Be careful in forking not to disturb the roots or crowns. A sprinkling of salt should be given in March or April.

SEA-KALE PLANTING (W. T.).—The ground should have a good dressing of manure 3 inches thick, which will be sufficient if the soil is light and sandy, but if heavy it will be well to add an equal thickness of sand and leaf mould, which should be worked into the ground in the process of trenching. Trench 2 feet deep, incorporating the fertilising agents well with the soil. The best time to plant is in autumn, immediately after the foliage decays, or in February or March. Plant in rows 3 feet apart, putting in one-year, and not older than two-year, plants three together in the form of a triangle, the plants 6 inches from each other, so as to allow of their being covered with the blanching pots.

WIREWORMS (Idem).—Lime will not destroy those pests, but a dressing of lime and soot will in most cases drive them away. The best time to apply the lime is in March, and at the rate of 100 bushels per acre. Soot may be applied at the same time, and in similar quantity. It is a good manure, as well as distasteful to most grubs.

PLANTING PANSIES (J. J.).—You may remove the plants with good balls, and plant them in mild weather any time between now and April, but the earlier it is done the better. You can safely plant them from the beginning of October to the middle of November. With your soil there will be no risk in keeping them in the open ground during the winter. We presume the situation is sheltered from cold winds. We should certainly prefer to take up and pot the most choice kinds, keeping the pots plunged to the rims in coal ashes in a cold frame during the winter, and planting out in spring with the ball entire; or you may keep some in pots and grow them to produce exhibition blooms. We do not think blooms from plants in pots are finer than from those planted out, but the plants can be more easily accommodated and attended to, and on that account are by some preferred. The bed you name will answer well, adding some leaf mould and old manure, as the Calceolarias will have taken the "heart" out of the soil. You may give copious supplies of water and weak liquid manure during the blooming season, particularly in dry weather, but avoid strong doses of liquid manure at any time.

PELARGONIUM LEAVES CURLED (Subscriber).—We do not think you have Crystal Palace Gem Pelargonium. The leaves look as if the plant had been overwatered, or as if the soil were too stiff and not well drained, otherwise we cannot account for their curling up.

DESTROYING RED SPIDER (T. J. M.).—Clear soot water and clear sulphur water will be the best liquids for syringing your plants infested with red spider; but in all cases where there is no fruit to injure, you might use soft-soap water, 1 oz. to two gallons, well dissolved and put on at a heat of 130°, and then follow next day with the above. The soapy water will also destroy the green fly, and so will smoking with tobacco in a close place. If Cucumbers and Melons in frames are much infested, all you can do will be to prevent them becoming worse. You can hardly extirpate red spider there, because you cannot get under the leaves.

FIRE NOT HEATING WELL (Idem).—A flue 3 feet in depth seems very deep for a house 12 feet square. We think half the depth would have been ample; but if the flue draws so well, it is hardly worth while filling it up. You can regulate the draught by having a close-fitting asphit door, and giving very little air there after the fire is burning well.

PETUNIAS (C. Barker, Littlehampton).—Among your numerous seedlings several are very fine, both as regards size and substance of flower, and colours and markings. The bellings of several were very bold and distinct, and others were beautifully veined.

VARIOUS (Constant Reader, Summerhill).—You give us no data by which we can arrive at the causes why Pelargoniums and Fuchsias will not flourish in your greenhouse now, when they did so formerly; but as Ferns do flourish, we can only come to the conclusion that you do not give enough of air and light to the flowering plants. The sun leaving the house at 2 p.m. would not cause the flower buds to fall, provided the sun shone on it during other parts of the day, if only for a few hours. Even in Cork, we hardly suppose, mild as the climate is, that you will do much good without a little fire heat; but you could have a small moveable stove in winter, or instead of that, you could open the door from the drawing-room in cold evenings. We have a house in which Pelargoniums stood the most severe nights of the last winter merely by opening the door of the library, in which a fire was kept burning. In two or three very severe nights the door of the room was left open all night. Ferns are very pretty, but we have no doubt in the summer months the Pelargoniums, &c., will do well if duly watered, air given in plenty, and the class kept clean and unshaded, except a little shading during a very bright forenoon. Your Arrshire Rosa on a trellis, healthy, but yielding no flowers, will most likely produce plenty of bloom next year if you let it alone, or give it the very slightest pruning, merely removing any small twigs, and leaving the most of the shoots of this year's growth at their entire length, or nearly so, just nipping off their points. We would try this before planting a Clematis; but that is good, and might go elsewhere. We would sow the Nereberga now if you can keep the young plants from the cold in the winter. If not, then sow in a sowed next February or March, and harden-off before turning out. For edgings Nierenberga gracilis is pretty; but for mixing with Scarlet Pelargoniums, N. filicaulis, which grows from 15 to 18 inches in height, will be the best. Such a mixed

bed will be very pretty. Your Virginian Stock, sown three weeks ago, will bloom at the end of September, in October, and onwards. A portion of it may stand the winter and bloom in spring; but to make sure you had better sow again before the end of September.

WEED AMONG BARLEY (North Norfolk).—It is *Myriophyllum verticillatum*, or Whorled Water Milfoil. It demonstrates that the soil requires draining, for it will not grow where there is not excess of moisture in the soil or subsoil. Write to Mr. Rivers, Nurseries, Sawbridgeworth, about the Peach.

MELON SEED GERMINATING IN THE FRUIT (H. N. O.).—This is not extraordinary. The same has been observed in Peas and Oranges. There is sufficient oxygen in the juices of the Melon, and the high temperature of the season would tend to promote the sprouting. That the leaflets were green is as easily accounted for. Plants in coal mines are green because free hydrogen is in the air of mines; and the Melon seeds, when germination had commenced, would decompose the water of the Melon's juices, retain the oxygen, and set the hydrogen free.

PROPAGATING VINES BY EYES (H. W.).—When the proper time arrives for pruning, preserve the prunings by sticking them in the ground, or in a flower-pot filled with rather moist but not very wet soil. In January or early in February you may prepare the eyes by making on the back of the shoot, opposite the eye, a cut with a sharp knife, bringing the knife out almost three-quarters of an inch below the eye. The same proceeding is to be repeated, bringing the knife out above the eye, and you have an eye with a portion of wood above and below it, and slanting from the back to the side on which the eye is situated. The eyes when prepared are to be inserted in pots or pans filled to within an inch of the rim with turfy light loam, the eyes being placed either horizontally or vertically, about 1½ inch apart, and covered with half an inch of fine soil. They should be placed in a house or frame where there is a hotbed in which they should be plunged, the temperature being not more than 90°, nor less than 75°. The top heat may be from 60° to 65° at night, and 75° by day, and 80° or 85° with sun heat. The soil ought to be kept moist but not wet until the eyes have begun to grow, then keep it moist, affording a light syringing morning and evening. When the eyes have pushed a few inches they may be taken up carefully and potted-off singly, and if kept in a hotbed, and a moist atmosphere is preserved for a time, they will grow freely. The young Vines thus produced must be repotted as often as the pots become filled with roots. Give them their last shift about June.

WATERING PEACH TREES IN POTS (Idem).—It is hardly possible to over-water Peach trees in pots; but that may happen if the drainage is imperfect. The watering would not cause the fruit to drop. You may pot them when the leaves begin to fall, but unless you wish for large trees, and if they are properly potted in the first instance, they may be kept in the same pots for years with the assistance of frequent top-dressings of rich compost. We presume the plant you have is *Rochea falcata*; if so, and you will state what is your treatment, we will endeavour to assist you.

HEADING-BACK A WALNUT TREE (Amateur).—You may head-back the Walnut tree, for that will be your only means of securing a compact head. The best time to do so will be as soon as the leaves have fallen in autumn.

STORING PEARS (Idem).—It is best to form the shelves of laths with the edges rounded off. They answer better than boards. There is no necessity to suspend the Beurré Pears, they ripen perfectly and keep well on the shelves. You could not have a better place for your Apples than the cellar, placing them on a thin layer of clean Wheat straw, and covering with the same. We presume frost can be excluded. The Pears should be placed in a room in the light, where there is a temperature of from 40° to 45°, for a few days previous to use. This will improve them both in flavour and appearance.

WINTERING VERBENA VENOSA (Flora).—*Verbena venosa* is hardy, and if left out of doors during the winter will come up again in spring, but only in sandy warm soils. It is best to take up a few plants, winter them in a frame, and propagate from them in early spring; or cuttings may be put in now and kept from frost. Young plants grow more freely than old, and make the best plants.

CERASTIUM TOMENTOSUM AND VARIEGATED BALM (Idem).—Both are best planted in March or April, the young offsets or suckers with a small portion of root being put in about 6 inches apart.

GOLDEN FEATHER PYRETHRUM (Idem).—Golden Feverfew is identical. It is probably the best of golden-leaved edging plants. We think it best to sow the seed in the end of August in a frame, pricking off the seedlings, when large enough to handle, about an inch apart in pans, and wintering them in a cold frame. The pans should be plunged in coal ashes to the rim, abundance of air given, and protection from frost afforded. By sowing in spring, and treating like a half-hardy annual, good plants may be had by planting-out time. The seed has been several times advertised in this Journal.

SPED FOR DESTROYING THISTLES (W. S.).—We do not remember the maker's name; but any implement maker or ironmonger dealing in implements would be able to supply you on your naming it to him, or would procure it for you.

PRUNING VINES (Oxonian).—Do not prune them until the chief part of their leaves have fallen.

METALLIC LABELS (T. G. S.).—We do not know the address of the maker. They should be advertised.

FLUELESS STOVE (H. K.).—No stove consuming fuel of any kind can be used among plants without great risk of injuring them.

NAMES OF FRUITS (J. F. L. Dublin).—1, *Amande d'Été*; 2, *Brown Beurré*; 3, *Comte de Lamy*; 4, *Beurré d'Amsalis*. (*Mrs. Phelps*).—1, *Conseiller de la Cour*; 2, Not known. (*Rev. C. J. Marsden*).—1, *Allriston*; 2, *Rymer*; 3, *Yellow Ingestrie*; 4, *Kerry Pippin*; 5, *Summer Red Calville*; 7, *Norfolk Beefing*; 9, *Scarlet Nonpareil*. We cannot make out the Peach.

NAMES OF PLANTS (Clermont).—*Empetrum nigrum*, the Crowberry.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending September 8th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 2	30.232	30.187	79	45	63	61	W.	.70	Heavy fog, fine; clear and fine; fine, very clear.
Thurs. 3	30.113	30.074	82	47	63	61	S.W.	.09	Hazy; very fine; clear and fine at night.
Fri. .. 4	30.083	30.050	84	46	63	61	W.	.00	Very fine; clear and very fine; fine at night.
Sat. .. 5	30.151	30.072	77	49	63	62	N.W.	.00	Very fine; fine and clear; fine, moonlight.
Sun... 6	30.102	30.073	87	50	63	62	S.E.	.00	Clear and fine; very fine; fine, clear, very close.
Mon... 7	30.026	29.970	91	49	69	63	S.	.01	Hazy, fine; clear and fine, very hot; clear at night.
Tues.. 8	30.147	30.093	69	53	64	63	N.E.	.00	Cloudy, very dull; densely clouded; dark, brisk wind.
Mean	30.122	30.075	80.85	48.43	62.85	61.85	..	0.00	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

HARTLEPOOL POULTRY EXHIBITION.

The comment given at page 162 causes me to reply that the Judge there was a gentleman who is fully competent to undertake the duties of judge, and is considered second to none in the north of England in a knowledge of the good qualities of poultry. As I was an exhibitor I took a little interest in looking through the pens before the Judge arrived, and I and another of the fancy marked in the catalogue what we thought would be first and second. I now see in the catalogue that we have only one pen marked in the clergyman's favour, that is pen 123, Rouen Ducks, which was not noticed by the Judge.

I beg to make a few remarks on the classes that the writer showed in. "Game, any other variety." Here he was easily beaten by a splendid Duckwing cock of superior colour. The second prize was given to a Brown Red pen; hens very good, but cock inferior. The commended pen was of Duckwings much better in colour than the clergyman's. In Rouen Ducks I expected to find the clergyman had gained the first prize; but I found after a close inspection that his birds were less in size, and if I remember, their bills were not of good colour. In "Any other variety not named above," the clergyman gained a second prize with a nice pen of French fowls. The first prize went to a good pen of Houdans.

I write to show that I believe justice was done, and no favour shown to any exhibitor, for I believe the Judge had no knowledge of a single bird exhibited. The office of Judge is not pleasant, and he cannot always give satisfaction. I believe poultry are correctly judged nine times out of ten, although losers do not always see this.—R. HAWKINS, *Seaham*.

CRAVEN AGRICULTURAL SOCIETY'S POULTRY SHOW.

(From a Correspondent.)

As regards the number of entries, this was the greatest success which the Society has had. Owing to the Show clashing with that of the Halifax and Calder Vale Society, it was anticipated that the entries would suffer, and the success achieved was therefore all the more encouraging.

The adult *Spanish* and *Game* were of high merit, but the *Dorkings* poor, while the *Cochins* were of average quality. Gold and Silver-pencilled *Hamburgs* were shown in fine feather and condition for the season; but the Gold-spangled do not deserve especial mention. The Silver-spangled cock in the pen shown by Mr. Beldon was of unusual whiteness for an adult bird, and showed his remarkably rich markings to great advantage. The first-prize Black *Hamburg* cock was fine, which is uncommon in this breed, as a great amount of coarseness has crept in of late years. *Polands* were very fine. The *Game Bantams* were had, except the prize-takers, which were good.

In chickens, the *Spanish* were very fine, and all were highly com-

mended. The winning pens of *Game* were good, but most of the rest had bad feet. Of the *Hamburgs*, several of the best pens were out of condition, probably from being shown too frequently; but the winning pens were also of great merit. Among Black *Hamburgs* two neat pens won the prizes. The first-prize *Polands* were very young, but beautifully marked, though the second were much larger birds. In the "variety" class *Brahmas* and *Houdans* won the prizes, and an extra second was awarded.

The *Geese*, both *Toulouse* and *White*, were birds of very large frame, fitting occupants of the pens of an agricultural meeting. *Aylesbury Ducks* were large and good, and the first-prize *Romans* were of extraordinary size. A very perfect *Duck*, but badly matched with a drake, won the second position.

Pigeons were excellent. The Carrier cock shown by Mr. Smith was well worthy of his first position. In Pouter cocks a white cock of great size was first. Pouter hens were of average merit, both prize birds being *Blues*. *Almond Tumblers* were but poor. The first-prize *Barbs* were good birds, and the hen in the second-prize pen was a neat little bird. The *Jacobins* were of high quality, also the *Mottled Tumblers*. Of the *Rants*, the first-prize pair were fitting companions for the *Geese*. The *Fantails* formed the most extraordinary class in the Show, and four prizes were awarded; but the pens in which they were shown were, unfortunately, too small for them to be seen to advantage. *Antwerps* were next in the list, and these (as has often been suggested), had been divided into Long and Short-faced birds, and the result was that the two classes had thirty-eight entries in all, within one of the number of entries contained in six of the first classes containing *Pouters*, *Carriers*, *Tumblers*, and *Owls*, thus showing the interest taken in this very handsome and useful breed of birds. The "variety" class was well filled. The first prize went to *Trumpeters*, the second to *Turbits*, and the third to *Swallows*, while most of the birds exhibited in the class were commended.

PIGEONS AT BINGLEY POULTRY SHOW.

The entries in nearly all the *Pigeon* classes were very good, amounting to 133 pens. The first and second-prize Pouter cocks were very good *Blues*, and in the hen class a magnificent *Blue* hen measuring 19 inches in feather, obtained the first place. The *Carriers* were good. Of *Almonds*, the first-prize pen was remarkably well matched. In *Balds*, *Beards*, or *Mottles*, a splendid pair of *Black Mottles* took the first prize, and a good pen of *Red Mottles* the second prize. In the class for any other variety of *Tumblers*, good *Kites* were first, and *Yellows* second. In the *Barb* class a very good pair of *Reds* obtained the first prize, *Blacks* were second, and *Yellows* third. The winning pen of *Jacobins* consisted of a very fine pair of *Reds*; very rarely has a better pen been seen at any show. Mr. Fielding's three winning pairs of *Owls* were very good. *Blues* were first, and *Whites* second and third. Mr. Horner's three pairs of winning *Trumpeters* were birds of great merit. *Mottles* were first and third, *Blacks* second. The *Fantailed* class contained some very fine birds. Among *Turbits*, a splendid pair of *Blacks* was first, and good *Reds* second. In the *Dragon* class a good pair of *Blue-rumps* took the first prize; and in the "variety" class *Black Swallows* were first, *Yellow-headed Nuns* second, and *Yellow Magpies* third, all being remarkably good.

In the prize list given last week, Mr. W. Cannan should have been first, and Mr. E. Horner second and third, for Pouter hens. In the selling class Mr. E. Horner was first and second. Mr. Ridpath was Judge of *Pigeons* and *Rabbits*; Mr. Hartley, of Colne, judging *Cage Birds*. Besides Mr. Beldon, Mr. Jesse Thompson, the Secretary, did not compete for prizes.

OLDHAM POULTRY SHOW.

THE second annual Exhibition of Poultry, Pigeons, Cage Birds, and Rabbits was held in the mill of J. Robinson, Esq., North Moor, Oldham, on the 1st and 2nd inst. The following is a list of the awards:—

SPANISH (Black).—First, Messrs. J. & E. Comber, Warrington. Second, W. A. Taylor, Manchester. Third, D. Gellatly, Meigle.
DOBKINGS.—First, H. Pickles, jun., Earby. Second, D. Gellatly. Third, E. Ryder, Stockport.
COCHINS (Buff and Cinnamon).—First, W. A. Taylor. Second, E. Brindley, Derby. Third, J. Lee, Middleton. Highly Commended, W. Bamford, Harpurhey; C. Sidgwick. Commended, H. Yardley.
COCHINS (Any other variety).—First and Second, J. A. Taylor. Third, W. Bamford.
 BRAHMA POOTRA.—First, J. Sichel. Second, E. Ryder. Third, H. M. Maynard, Ryde, Isle of Wight. Highly Commended, W. B. Etches, Whitechurch. Commended, E. Leech.
GAME (Black Reds).—Prize, F. J. Astbury, Enfield, Prestwich.
GAME (Brown Reds).—Second, J. Bowness, Newchurch.
GAME (Any other variety).—First, T. Wakefield, Golburn. Second, Green & Sutcliffe, Queensbury, Halifax.
HAMBURGHS (Golden-pencilled).—First, T. Wrigley. Second, S. Lord, Rochdale. Third, R. Ogden. Highly Commended, Miss Wrigley.
HAMBURGHS (Silver-pencilled).—First, T. Sharples. Second, H. Pickles, jun. Third, J. Robinson, Failsforth. Commended, S. Newton.
HAMBURGHS (Golden-spangled).—First, E. Brierley. Second, T. Broadhead, Delph. Third, J. Buckley, Tamton. Highly Commended, S. & R. Ashton, Mottram. Commended, T. Scholes, Hollinwood.
HAMBURGHS (Silver-spangled).—First, J. Wild, Ashton. Second, J. Fielding, Newchurch. Third, H. Pickles.

HAMBURGHS (Black).—First, C. Sidgwick. Second, Mrs. S. Lancashire, Chadderton. Third, J. Hope, Hollinwood.

POLANDS.—First and Third, P. Unsworth. Second, J. A. Taylor, Manchester.

BANTAMS (Black or Brown Red).—First, J. R. Robinson, Sunderland. Second, J. Hope, Washbrook, Hollinwood. Third, E. Ryder.

BANTAMS (Any other variety).—First and Second, S. & R. Ashton (Black and White). Third, W. A. Taylor.

ANY OTHER VARIETY.—First, C. Layland, Warrington (Houdans). Second, H. M. Maynard. Third, T. Robertshaw, Illingworth.

DUCKS (Aylesbury).—First, S. H. Stott, Rochdale. Second, E. Leech. Third, F. Platt, Oldham.

DUCKS (Rouen).—First, T. Wakefield, Golburn. Second, E. Leech. Third, J. Hope, Washbrook, Hollinwood.

DUCKS (Any other variety).—First and Second, C. W. Brierley. Third, C. N. Baker, Chelsea.

GEESE (Any variety).—First, S. H. Stott. Second, E. Leech. Third, W. Golding. Highly Commended, E. Brooks. Commended, A. Broderick.

SELLING CLASS.—First, W. A. Taylor. Second, H. Wilkinson. Third, A. Bamford.

SINGLE COCKS.

SPANISH (Black).—First, W. A. Taylor, Manchester. Second, J. & E. Comber, Warrington.

DOBKINGS.—Second, T. Briden, Earby. Third, H. Pickles, jun., Earby.

COCHINS (Buff and Cinnamon).—First, W. A. Taylor. Second, C. Sidgwick, Keighley.

BRAHMA POOTRA.—First, E. Leech, Rochdale. Second, J. Sichel, Timperley. Third, H. Maynard, Ryde, Isle of Wight.

GAME (Black Reds).—Prize, C. W. Brierley.

GAME (Brown Reds).—Prize, J. Green & Sutcliffe, Queensbury.

GAME (Any other variety).—Second, T. Robertshaw, Illingworth, Halifax.

HAMBURGHS (Golden-pencilled).—First, Miss Wrigley, Tonge. Second, H. Pickles. Third, T. Wrigley.

HAMBURGHS (Silver-pencilled).—First, T. Sharples, Crawshaw Booth, near Manchester. Second, H. Pickles, jun.

HAMBURGHS (Golden-spangled).—First, J. T. Broadhead, Woodbrow, Delph. Second, R. Simpson, Chadderton. Third, E. Brierley, Heywood. Highly Commended, E. Brierley.

HAMBURGHS (Silver-spangled).—First, H. Pickles, jun. Second, J. A. Taylor. Third, J. Lancashire, Chadderton.

HAMBURGHS (Black).—First, C. Sidgwick. Second, S. Lancashire, Chadderton. Third, J. Robinson.

POLANDS.—First and Second, P. Unsworth, Lowton, Newton-le-Willows.

BANTAMS (Black or Brown Reds).—First, withheld. Second, W. T. Entwistle, Leeds. Third, E. Ryder.

BANTAMS (Any other variety).—First and Third, T. Burgess, Brighouse (Pekin). Second, S. & R. Ashton.

ANY OTHER VARIETY.—First, J. Sichel (Crève-Cœur). Second, H. M. Maynard (Houdan).

PIGEONS.

CARRIERS.—First, H. Yardley, Birmingham. Second, L. Brierley, Manchester.

TUMBLERS.—First and Second, J. Fielding, Rochdale. Third, J. Hawley, Brighouse. Highly Commended, J. Hawley; H. Yardley.

FANTAILS.—First, J. Hawley. Second, H. Yardley. Third, H. M. Maynard.

OWLS.—First and Second, J. Fielding, Rochdale.

BARBS.—First, H. M. Maynard. Second, J. Fielding. Third, H. Yardley.

DRAGOONS.—First, J. Robinson, Newton Heath. Second, S. Dronfield, Oldham. Third, H. Whittle, Newton Heath. Highly Commended, H. Yardley; A. Boote, Creve.

ANY VARIETY.—First, J. Hawley. Second and Third, H. Yardley.

CANARIES.

BEST CRESTED BREED (Not crested).—First, L. Shaw, Oldham. Second, S. Knight, Oldham. Third, J. Tattersall, Oldham.

LIZARD (Golden-spangled).—First, J. Tattersall. Second, A. Hamer, Oldham. Commended, S. Knight.

LIZARD (Silver-spangled).—First, J. Tattersall. Second, E. Shaw.

CRESTED (Buff).—First, S. Knight. Second, J. Allen, Oldham. Third, E. Shaw. Highly Commended, A. Hamer. Commended, J. Tattersall.

CRESTED (Yellow).—Second, L. Shaw. Third, J. Barlow, Lees.

BELGIAN (Clear Yellow).—First, J. Lees, Hollinwood, near Manchester. Second, Mrs. Lees, Hollinwood. Third, S. Pollitt, Failsforth.

BELGIAN (Clear Buff).—First, J. Lees. Second, Mrs. Lees. Third, E. Crossley, Rochdale. Highly Commended, S. Pollitt.

BELGIAN (Variegated).—Second and Third, J. Tattersall, Oldham.

BRITISH BIRDS.—First, Mrs. Allen, Oldham. Third, J. Tattersall. Commended, J. Kershaw, Oldham. *Larks.*—First, J. Moss, Ansterlades, near Oldham. Second, A. Holden, Oldham. Third, S. Taylor, Saddleworth. Highly Commended, J. Dowson, Hollinwood.

RABBITS.

LOP-EARED.—First, A. H. Easton, Whitty. Second, T. Schofield, jun., Rochdale. Highly Commended, S. Lloyd, Grimshies, Oldham; J. Lee, Ashton-under-Lyne.

SILVER-GREY.—First, A. H. Easton. Second, T. Schofield, jun.

ANY OTHER BREED.—First, S. Lloyd (Angola). Second, T. Schofield, jun. Highly Commended, J. Warrington (Angola).

James Dixon, Esq., North Park, Bradford, and Richard Teebay, Esq., Fulwood, Preston, were Judges for *Poultry*; and W. Walker, Esq., Droylesden, for *Cage Birds*.

SOUTHPORT POULTRY SHOW.

The prize schedule issued by the Manchester and Liverpool Agricultural Society was most liberal, and we should certainly have expected to have found a far greater number of entries for the Show of the 2nd and 3rd inst. than there were. There is, however, just now so large a number of poultry shows taking place within so brief a space of each other, and not infrequently on the same days, that it is astonishingly nearly all continue successful. The birds entered for South-

port were, as a rule, of the highest order, and the condition of the generality of them was exceedingly good. The Duke of Newcastle exhibited half a dozen pens, which were especially remarkable for first-rate condition. The *Cochins* were very excellent, and the competition in the *Brahma* classes was severe. The *Hamburgh* classes proved to be a chief feature of the Exhibition; and for *Turkeys*, *Geese*, and *Ducks* few shows can bear favourable comparison with that held at Southport. The whole show of *Pigeons* was excellent; and its popularity was evidenced by the crowded state of this portion of the showyard immediately it was opened to the public, and the attendance never flagged throughout the whole time the birds were on view. The weather was most favourable.

CHICKENS.

DORKING.—First, J. Stott, Healey, near Rochdale. Second, The Hon. H. W. Fitzwilliam, Wentworth Woodhouse, Rotherham. Third, Duke of Newcastle, Clumber. Highly Commended, Mrs. M. Seamons, Aylesbury. Commended, W. Cople, Eccleston, Prescott; The Hon. H. W. Fitzwilliam. *Cockerel*.—First and Second, Hon. H. W. Fitzwilliam.

SPANISH—First and Second, M. Farrand, Dalton, near Huddersfield. Third, T. Comber, Myddleton Hall, near Warrington. Highly Commended, T. Comber; W. Paterson, Langholm. Commended, H. Beldon, Goitstock, Bingley. *Cockerel*.—First, T. Comber. Second, M. Farrand. Highly Commended, T. Comber.

COCHIN-CHINA (Buff or Cinnamon).—First and Second, W. A. Taylor, Manchester. Third, C. Sidgwick, Ryddlesden Hall, Keighley. Highly Commended, G. Fell, Springfield, Warrington. *Cockerel*.—First, W. A. Taylor. Second, C. Sidgwick.

COCHIN-CHINA (Brown and Partridge-feathered).—First and Second, W. A. Taylor. Third, E. Todman, Ash Grove, Whitechurch. Highly Commended, J. K. Fowler, Aylesbury. *Cockerel*.—First, W. A. Taylor. Second, E. A. Todman. Commended, E. Shaw, Pica Wilnot, Osewtry.

BEAUFIA POOTRA.—First, J. Sichel, Lark Hill, Timperley. Second, Duke of Newcastle. Third, J. K. Fowler. Highly Commended, J. H. Pickles, Southport. *Cockerel*.—First, J. K. Fowler. Second, G. H. Roberts, Penwortham, near Preston. Highly Commended, J. Sichel.

GAME (Black-breasted Reds).—First, Duke of Newcastle. Second, J. Halsall, Ince, near Wigan. Third, W. Bourne, Heavily, Stockport. Highly Commended, J. Holland, Manchester. *Cockerel*.—First, C. Chaloner, Whitwell, Chesterfield. Second, J. Holland.

GAME (Brown and other Reds, except Black-breasted).—First and Second, J. Wood, Wigan. Third, T. Dyson, Halifax. Highly Commended, A. Haslam, Hindley, near Wigan. Commended, J. Holme, Knowsley, Preston. *Cockerel*.—First, W. Bourne. Second, J. Wood. Commended, A. Haslam.

GAME (Any variety except Black-breasted and other Reds).—First, J. Halsall (Duckwing). Second, J. Holland. Third, C. Chaloner. Highly Commended, Duke of Newcastle; J. Halsall. *Cockerel*.—First, C. Chaloner. Second, J. Halsall.

HAMBURGH (Golden-pencilled).—First, H. Beldon. Second, W. Parr, Patricroft, near Manchester. Third, Duke of Sutherland, Trentham. Highly Commended, J. Robinson, Failsworth, near Manchester. *Cockerel*.—First, H. Beldon. Second, W. Parr.

HAMBURGH (Silver-pencilled).—First, H. Beldon. Second, Duke of Sutherland. Third, T. Hanson, Keighley, Yorkshire. Commended, J. Preston, Allerton, near Bradford. *Cockerel*.—First, H. Beldon. Second, T. Hanson.

HAMBURGH (Golden-spangled).—First, J. Chadderton, Hollinwood, near Manchester. Second, T. Scholes, Hollinwood, near Manchester. Third, H. Beldon. Highly Commended, N. Marlor, Denton, near Manchester. *Cockerel*.—First, H. Beldon. Second, N. Marlor. Commended, R. Ellia.

HAMBURGH (Silver-spangled).—First, J. Fielding, Newchurch, Manchester. Second, W. M'Mellon, Glossop. Third, J. Robinson. Commended, H. Beldon. *Cockerel*.—First, M. A. Fielding. Second, H. Beldon.

HAMBURGH (Black).—First, G. Fielding, Newchurch, near Manchester. Second and Third, C. Sidgwick. *Cockerel*.—First, C. Sidgwick. Second, W. Parr.

POLISH (Any variety).—First, H. Beldon. Second, T. Comber. *Cockerel*.—First, H. Beldon. Second, W. A. Taylor.

ANY VARIETY NOT INCLUDED IN THE FOREGOING CLASSES.—First, Hon. H. W. Fitzwilliam (Crève-Cœur). Second, Duke of Newcastle (Hondans). Third, W. A. Taylor (White Cochins). Highly Commended, L. Bibe, Manchester (Hondans); J. K. Fowler (Crève-Cœur).

GAME BANTAMS (Black-breasted Reds).—First, W. F. Entwisle, Leeds. Second, J. Crossland, jun., Wakefield, Yorkshire. Third, J. W. Morris, Rochdale. Highly Commended, J. Crossland, jun.; J. W. Morris. Commended, W. F. Entwisle. *Cockerel*.—First and Second, J. W. Morris. Highly Commended, W. F. Entwisle.

GAME BANTAM (Any variety except Black-breasted Reds).—First, T. Dyson (Brown Reds). Second, J. W. Morris (Duckwings). Third, G. Birtwistle, Haslingden (Brown Reds). Commended, J. Holme (Duckwings). *Cockerel*.—First, J. W. Morris. Second, T. Berry, Merridale, Ormskirk (Duckwing).

BANTAM (Any variety except Game).—First, W. H. Tomlinson, Newark-on-Trent (Black). Second, N. Marlor (Black). Third, T. C. Harrison, Hull (Silver-laced). Highly Commended, W. A. Taylor (Black); S. & R. Ashton, Mottram (White).

DUCKINGS (Rouen).—First, T. Wakefield, Golborne, near Newton-le-Willows. Second, J. Wood, Wigan. Third, J. J. Stott. Highly Commended, E. Leech; J. Halsall.

DUCKINGS (White Aylesbury).—First and Third, E. Leech. Second, J. K. Fowler. Highly Commended, E. Leech; M. Seamons.

ANY OTHER VARIETY.—First, T. Wakefield (Brown Call). Second, T. Rigg, Winsford, (Black East Indian).

GOSSINGS.—First, E. Blundell, Southport. Second, J. K. Fowler. Third, J. Bryers, Ormskirk. Highly Commended, E. Leech; Rev. J. C. Macdon, Sefton Rectory, Liverpool; S. H. Stott.

TURKEYS.—First and Second, E. Leech. Third, F. E. Richardson, Bramshall, Uttoxeter. Highly Commended, M. Kew, Market Overton, Oakham.

PIGEONS.

POUTERS (Any colour).—First and Second, R. Fulton, Deptford. **CARRIER** (Black).—*Cock*.—First and Second R. Fulton. *Hen*.—First and Second, R. Fulton.

CARRIERS (Any other colour).—*Cock*.—First and Second, R. Fulton. *Hen*.—First and Second, R. Fulton.

CARRIERS (Any colour).—First, R. Fulton. Second, H. Yardley.

DRACOONS.—First, J. Hawley. Second, H. Yardley.

ANTWERPS.—First, H. Yardley. Second, J. Crossland, jun.

JACOBS (Any colour).—First, J. Thompson, Bingley. Second, T. H. Ridpath, Risholme, near Moorchester.

NUNS.—First, F. Graham, Birkenhead. Second, H. Yardley.

BARBS.—First and Second, Capt. H. Heaton, Lower Broughton.

TURBITS.—First, J. Fielding, jun. Second, J. Thompson.

OWLS.—First, J. Fielding, jun. Second, F. Graham, Birkenhead.

TRUMPETERS.—First and Second, J. Hawley.

FANTAILS.—First, F. Graham. Second, H. Yardley.

TUMBLERS (Almond).—First, J. Fielding jun. Second, R. Fulton.

BEARDS.—First, J. Fielding, jun. Second, H. Yardley.

BALDS.—First and Second, J. Fielding, jun.

TUMBLERS (Any other variety).—First and Second, R. Fulton.

ANY VARIETY.—First, J. Hawley. Second, H. Yardley.

JUDGES.—*Poultry*: Mr. Edward Hewitt, Sparkbrook, near Birmingham; Mr. Richard Teebay, Folwood, near Preston; Mr. Joseph Hindson, Barton House, Everton, Liverpool. *Pigeons*: Mr. F. Esquilant, Effra Road, Brixton, London.

WAKEFIELD POULTRY SHOW.

THE West Riding Society's fourth annual Show was held in the Bello Isle Fields, Sandal Road, Wakefield, on the 5th inst. There were upwards of 260 entries of Poultry, Pigeons, and Rabbits, and altogether it was the most successful Show the Society has held.

Game and Game Bantams mustered in good force, and both contested stoutly for the cups offered in their respective classes. The *Hamburgh* class contained some excellent birds, the Spangled varieties being far more numerous than the Pencilled. In Gold-pencilled, although Mr. Beldon and Mr. Pickles competed, the first prize for chickens was not awarded.

Pigeons were a good show, Mr. J. Hawley, of Bingley, taking the silver cup for the best pen on the ground.

GAME (Black-breasted or other Reds).—First and Cup, C. W. Brierley, Middleton. Second, E. Ayrkroyd, Bradford. Highly Commended, H. M. Julian, Hull. *Chickens*.—First, Master G. Crossland, Wakefield. Second, G. Noble, Staincliffe, Batley. Highly Commended, H. Jowett, Idles.

GAME (Brown-breasted Red).—*Chickens*.—First, J. Preston, Allerton, Bradford. Second, H. M. Julian.

GAME (Duckwings, Blues or Greys).—First H. Jowett. Second, H. M. Julian. *Chickens*.—First, W. Fell, Adwalton. Second, R. B. Riley, Ovenden. Highly Commended, J. Hodgson, Bradford. Commended, F. Sales, Crowle.

ANY OTHER VARIETY.—First, C. W. Brierley. Second, J. Sunderland, Halifax. Highly Commended, E. Noble, Halifax. *Chickens*.—First, H. C. Mason, Drighlington. Second, E. Noble.

GAME BANTAMS.—Cup, Master J. Crossland. Second, G. Noble. Highly Commended, Master J. Crossland; R. Swift, Southwell. Commended, J. J. Cousins, Chapel Allerton; W. F. Entwisle, Leeds.

ANY OTHER VARIETY.—First and Second, Master C. Crossland. Highly Commended, R. Swift, Southwell; G. Noble; R. B. Riley.

ANY VARIETY EXCEPT GAME.—First, T. Burgess, Brighouse (Pekin). Second, R. B. Riley. Commended, Ackroyd & Scott, Sunderland; J. S. Senior, Dewsbury.

HAMBURGHS (Golden-spangled).—First, J. White, Whitley, Netherton, Wakefield. Second, H. Beldon, Goitstock, Bingley. Highly Commended, H. Pickles, jun., Earby, Skipton; J. White; J. Walker, Knaresborough. *Chickens*.—First, Master E. Crossland. Second, J. White. Commended, J. Walker.

HAMBURGHS (Silver-spangled).—First and Cup, H. Beldon. Second, H. Pickles, jun. *Chickens*.—First, J. S. Senior. Second, H. Pickles. Commended, H. Beldon; J. Walker.

HAMBURGHS (Golden-pencilled).—First, H. Beldon. Second, H. Pickles. *Chickens*.—First, Withheld. Second, H. Pickles.

HAMBURGHS (Silver-pencilled).—First, H. Beldon. Second, H. Pickles. *Chickens*.—First, H. Pickles. Second, J. S. Senior. Highly Commended, H. Beldon.

SPANISH.—First, H. Beldon. Second, J. Thresh, Bradford. *Chickens*.—First and Second, M. Farrand, Dalton.

DORKINGS (Any variety).—First, C. W. Brierley, Middleton. Second, J. White, Warlaby, Northallerton. *Chickens*.—First, T. E. Kell, Wetherby. Second, J. Anderson, Meigle.

COCHIN-CHINA (Any variety).—First, C. Sidgwick, Keighley. Second, H. Crossley, Halifax. *Chickens*.—First and Cup, R. E. Brown, Wass, Oswaldkirk. Second, W. A. Taylor, Manchester.

BEAUFIA POOTRA (Any variety).—First, E. Leech, Rochdale. Second, J. Walker, Haya Park, Knaresborough. *Chickens*.—First, G. H. Roberts, Preston. Second, E. Leech, Rochdale.

ANY OTHER VARIETY.—First, H. Beldon. Second, H. Pickles.

DUCKS (Aylesbury).—First, E. Leech. Second, H. Crossley.

DUCKS (Rouen).—First, E. Leech. Second, J. White.

GEESE.—First, E. Leech. Second, J. White.

EXTRA (Any variety of Poultry).—First, C. W. Brierley, Middleton. Second, C. N. Baker, Chelsea (Gold Pheasants).

PIGEONS.

CARRIERS.—First and Cup, J. Hawley, Bingley. Second, G. H. Roberts, Highly Commended, J. Crossland, Huddersfield; E. Horner, Harewood, Leeds.

DRACOONS.—First, H. Yardley, Birmingham. Second, E. Horner.

POUTERS.—First, E. Horner. Second, J. Hawley.

TRUMPETERS.—First and Second, E. Horner.

BARBS.—First, J. Crossland. Second, J. Hawley.

OWLS.—First and Second, J. Fielding, jun., Rochdale.

TURBITS.—First, E. Horner. Second, J. Thompson, Bingley. Highly Commended, J. Thompson; R. Wilson, Thirst.

FANTAILS.—First, J. Hawley. Second, E. Horner.

JACOBS.—First, E. Horner. Second, J. Thompson.

NUNS.—First, J. Thompson. Second, E. Horner.
TUMBLERS.—First, J. Fielding, jun. Second, J. Hawley.
ANTWERPS.—First, Maater E. Crossland. Second, J. Thompson. Highly Commended, Master E. Crossland; J. Hawley.
ANY OTHER VARIETY.—First, E. Horner. Second, H. Yardley. Highly Commended, E. Horner; J. Thompson.
RABBITS (Any variety).—First and Second, A. H. Easton, Hall (Lop-eared fawns, and Silver-Greys). Third, C. Rayson, Prestwich.
JUDGES.—*Poultry:* Mr. J. Douglas, Clumber, and Mr. E. Hutton, Pudsey; *Pigeons:* Mr. T. J. Charlton, Bradford, and Mr. J. Dixon, North Park, Bradford.

KNARESBOROUGH POULTRY SHOW.

This Show improves from year to year, and the Committee seem to be determined to spare no effort to command success. The day on which the Show was held—namely, the 1st inst., was fine throughout, though at intervals the sky threatened heavy rain. The Show eventually proved more successful than any of its predecessors. It was remarkable for the excellence of the Hamburgh classes.

COCHIN-CHINAS.—First, G. Holmes, Great Driffield. Second, W. Lord Starbeck. *Chickens.*—First and Second, W. Lord.
DORINGS.—First, G. Holmes. Second, C. Triffitt, Cattal. *Chickens.*—First, G. Holmes. Second, A. C. Thompson, Kirby Hall. Highly Commended, C. Triffitt.
SPANISH—First and Second, W. & F. Pickard, Thorner. Highly Commended, W. Bearpark, Ainderby Steeple; G. Holmes. *Chickens.*—First, W. & F. Pickard. Second, G. Holmes. Commended, W. Bearpark; F. Powell, Knaresborough.
GAME (Any Description).—First and Highly Commended, J. Watson, Knaresborough. Second, G. Holmes. *Chickens.*—First, W. Bearpark. Second, J. Watson. Commended, A. C. Thompson; J. Watson.
HAMBURGS (Golden-spangled or Pheasant).—First, J. Walker. Second, B. Marshall. Highly Commended, G. Holmes. Commended, C. Triffitt. *Chickens.*—First, J. Walker. Second, B. Marshall. Commended, G. Holmes.
HAMBURGS (Golden-pencilled).—First, F. Horsman. Second, G. Holmes. *Chickens.*—First, J. Walker. Second, F. Horsman. Commended, A. C. Thompson; G. Holmes.
HAMBURGS (Silver-spangled or Pheasant).—First, G. Holmes. Second, J. Walker. *Chickens.*—First, G. Holmes. Second, J. Walker. Commended, W. Bearpark.
HAMBURGS (Silver-pencilled or Chittapratt).—First, H. S. Hardcastle. Second, G. Holmes. Highly Commended, J. Walker. *Chickens.*—First, J. Walker. Second, W. Bearpark.
BRAHMA POOTRA—First and Commended, F. Powell. Second, J. Walker. *Chickens.*—First and Highly Commended, F. Powell. Second, J. Walker. Commended, F. Powell; J. Walker; S. Rhodes.
GAME BANTAMS (Any variety).—First, G. Holmes. Second, C. Triffitt. Highly Commended, F. Powell; J. Watson. Commended, J. Watson.
BANTAMS (Any variety not before mentioned).—First, G. Holmes. Second, T. Wheatley, York.
GEERE—First, J. Walker. Second, G. Holmes.
DUCKS (Aylesbury).—First and Second, C. Triffitt. Highly Commended, G. Holmes.
DUCKS (Any other breed).—First, C. Graham, Boroughbridge. Second, H. S. Hardcastle. Highly Commended, J. Walton; G. Sadler.
TURKEYS.—First, J. Walker. Second, C. Triffitt.
GUINEA FOWLS.—First, G. Holmes. Second, M. & R. Gray.
BARNDOR FOWLS.—First, G. Holmes. Second, M. & R. Gray.
EXTRA STOCK.—Commended, J. Walker.
PIGEONS.—*Tumblers.*—First, M. & R. Gray. Second, G. Holmes. Commended, G. Sadler. *Fantails.*—First, M. & R. Gray. Second and Highly Commended, G. Sadler. *Croppers.*—First, G. Sadler. Second, J. Walker. *Jacobins.*—First and Second, G. Sadler. *Carriers.*—First and Second, G. Sadler.

Edward Hewitt, Esq., of Sparkbrook, Birmingham, officiated as Judge.

PIGEON JUDGING.

I BELIEVE I express the opinion of every fancier, and in general of every exhibitor, when I say that we cannot possibly afford to lose the most valuable services of the greatest of English Pigeon judges, Mr. Harrison Weir, nor those of Dr. Cottle, whose absence from the greatest of English shows last year has been severely felt.

I respectfully suggest to Mr. H. Weir the following plan for judging. In my opinion there is no judge or fancier in existence who admires every variety of Pigeons; we all have our likes and dislikes: therefore I consider it injudicious for any judge to undertake the judging of any variety which he dislikes, as in such a case, never having kept birds of the variety, he would not be sufficiently acquainted with their merits. For example, the author of "Pigeons" is not the judge for Antwerps. What he has written about them proves that he has not discovered their merits, which are invaluable to every fancier, as lately proved in this Journal. I consider that a judge must only judge the varieties he admires, as this being the case, he must have studied them, consequently must know their merits, and can do them justice.

From careful observations I have discovered that in some cases there is too much attention paid to "ill-matched," "worse matched," and "badly matched" pairs, for in certain classes it is impossible to match the birds exactly in colour,

and this being the case, birds of a superior quality have been passed over for those which are inferior, but well matched. In the varieties I allude to quality is a much more valuable property than colour, and should not be sacrificed because there is just a shade of difference between the cock and hen.

I know well that a certain judge says that a certain variety has had enough prizes yearly, and his opinion is that others must have a turn, which is anything but just; and I know that certain judges do not like to patronise too much one variety, otherwise they will be told that they are too partial to it.—A FOREIGNER.

[We have a communication from "A YOUNG FANCIER," from which we extract what follows. We have omitted all he repeats about Mr. Hedley being appointed a third judge of Pigeons "at the eleventh hour" at Birmingham. He was appointed as soon as it was evident that a third judge would be required, and there could be nothing unfair in the proceeding.—EDS.]

"I am well aware that the office of judge is anything but a pleasant one, for two reasons—first, I consider it almost impossible for any man to go through two hundred pens of birds, consisting of nearly all varieties, without making some mistakes; and secondly, that exhibitors' views as to what constitutes a good bird differ in many cases. However good a judge the gentleman may be who is adjudicating, and whatever birds he may have bred, or compared, he cannot please everyone. I hope for the future my own and fellow-fanciers' birds will never meet with worse judgment than they will receive at the hands of Harrison Weir.

"Now, a word to exhibitors. I should be pleased to see judges disqualify all birds either trimmed or dyed, or in which the tail or wing feathers are wanting, and likewise when two cocks or two hens are shown as a pair. Trimming and dyeing are the most paltry tricks a man can practise. An intimate friend of mine purchased about nine months ago two pairs of birds exhibited in the selling class by one of the largest prize-takers of the present day, and, to his utter disgust, when they had been at home about a fortnight they were worthless, so badly had their feathers come up.—A YOUNG FANCIER."

DRAGOONS AND ANTWERPS,

The Dragoons have for many years been kept by English fanciers, with little improvement in them in any way, until Mr. Percivall brought out his matchless Blue-rumps. Most of your readers will remember the handsome pairs of Blue-rumped Dragoons exhibited by him at the Birmingham Show, and deservedly admired by all. Mr. Percivall's strain has not been equalled by any fancier as yet. No show would he complete without a Dragoon class.

Antwerps, as they are called, are useless for exhibition purposes; they are about equal to other mongrels of the Skinnum tribe, and do very well to feed the young of valuable sorts, but I find any other half-bred Pigeon does as well.

To prohibit dealers exhibiting would prevent many good birds from being shown, especially by the wealthy fanciers, who generally buy the prize pens at our shows. Those who cannot afford to compete with the dealer should not try to deprive him of bread.

Mr. Ludlow gives a good description of what a Dragoon should be, but cannot help touching upon the worn-out crotchets that White-rumps are equal to Blue-rumps. Three of the best judges in England have decided that Blue-rumps have the palm, and I believe it is the opinion of most good fanciers.—AN OLD FANCIER, Birmingham.

LEAVE WELL ALONE—ARE BEES CARNIVOROUS?

I HAVE three hives of bees; now, if I thought it advisable, for the sake of better stocks, not for the honey, I would unite some two of the three. I say "not for the honey," because maiden honey in the comb is being offered for sale in Galway at 5d. per lb. I am sure you will agree with me, that whilst I can obtain honey at that price it would be foolish to risk the bees, except for the sake of making the stocks stronger. As they are, they appear healthy and strong. Would you advise me to drive any of the bees?

It is customary with bee-keepers in this and other parts of Ireland to give their bees in winter chickens or birds for food. They pluck the feathers off the fowl; some give it to them

cooked, others raw. All I have spoken to about the matter state that the bees leave nothing but a perfect skeleton. Do you approve of this?—H. C.

[If your three stocks are, as you state, healthy and strong, and you neither wish for their honey nor desire to diminish their number, we should by no means advise you to risk the bees of either of them for the sake of attempting to strengthen one of the others.

A discussion on the supposed carnivorous propensities of bees took place in our columns during the autumn of 1864. It ended by one of our most valued contributors submitting the alleged fact to the test of actual experiment in a variety of ways, and reporting the result, which was, as might have been expected, that bees can make no use whatever of animal food in any shape or form.]

UNITING BEES.

The two failures related by "H.," in page 162 of "our Journal," lead me to believe that an article enunciating what I conceive to be the true principles to be observed in order to effect peaceful unions of adult bees, and also describing some of the various modes in which these principles may be put into practice, will not be without interest to apiarian readers.

In the first place, then, I am so convinced by experience that I think we may lay it down as an axiom, that bees are never more likely to unite peaceably than just after they have been subdued by the operation of being expelled from their hives by driving.

Secondly, That a number of bees presenting themselves peaceably at the entrance of a hive, and, as it were, asking for admittance with vibrating wings are very frequently received without demur, and that the chances of peaceful fraternisation if sought in this manner are much increased when the suppliants present themselves with well-distended honey-bags.

It will be perceived, therefore, that both these conditions were most perfectly fulfilled by the Rev. P. V. M. Filleul, better known, perhaps, to the present generation of readers as "B. & W.," who when writing to the then COTTAGE GARDENER, about eighteen years ago, under the *nom de plume* of "A COUNTRY CURATE," declared that he had found that if the inhabitants of two or more stocks of bees were driven in succession into the same empty hive a peaceful union would be the result. I may, indeed, at once confess that I do not believe that this simple process can be improved upon, and that it is the one which I should myself adopt if I were desirous of uniting the inhabitants of two common hives situated in the same apiary or within a short distance of each other.

Mr. Payne's process, on the other hand, is based entirely on the second of my two propositions. He advises that the bees which have been expelled from a hive by driving should in the evening of the same day be knocked out on a cloth spread on the ground, and the stock to which they are to be united having been placed over them supported on a couple of sticks, it is expected that a peaceful union will be effected by the morning. In this case the houseless bees are just in such a state as to render it likely that they will be favourably received: they are well filled with honey, and we may be very sure that they make their ascent into the inhabited hive with uplifted tails and vibrating wings. I believe that in the majority of cases their advances are well received, the urgently-required shelter being unhesitatingly and ungrudgingly granted to them, and in this case, as Mr. Payne says, "all will be peace and harmony." But unfortunately there is a reverse to this delightful picture, and in far too many instances, as was experienced by "H.," daylight reveals, as I have before stated, a sickening scene of slaughter so extensive as to make it more than doubtful if sufficient bees survive to render the attempted union of the slightest advantage to the stock intended to be benefited thereby.

Some of the various modes in which the principles which I have enunciated may be reduced to practice, will, I think, be best illustrated by describing my proceedings after a bee-driving expedition, which took place on the 27th ult., and which resulted in my bringing home three lots of bees. The first was a large mass of bees, being the entire population of a very strong stock, the second a comparatively small cluster from a weaker colony, and the third the combs and bees of an unfortunate swarm the whole of the combs of which had by some accident been detached from their foundations, and remained when the hive was lifted in a confused heap on the floor-board.

I commenced proceedings the following morning by looking over a frame-hive containing a colony of black bees, the queen of which I captured and placed in a cage which I secured inside an empty box in contact with the crown-board. Putting this box on the old stand, I fixed immediately in front and in close contact with its entrance, a platform consisting of a half-inch plank some 4 feet long by 16 inches wide, upon which I shook and brushed off the bees from the combs of the frame-hive, which as fast as they were cleared I conveyed in-doors out of the reach of robbers, whilst their rightful owners skeddaddled in profound dismay to avail themselves of the cheerless shelter afforded by the empty box, and solace by their presence the captivity of their queen. When all the combs were cleared they were again arranged in their own hive, which was once more replaced on its stand and deepened by a square frame about 2 inches in depth being added above the frames. The cage containing the queen having been transferred to the crown-board of her own hive, all her bees were knocked or brushed out of their temporary refuge on the top of the exposed bars, and the crown-board put in its place. Whilst the confusion thus produced was at its height, I brought out the mass of fallen combs, and separating layer after layer brushed off the bees upon the platform, keeping a bright look-out for the queen. All these houseless strangers rushed with vibrating wings to the nearest shelter, which was, of course, the disturbed hive, where, as I had expected, they were received without opposition, but no queen could I find, and I am disposed to believe that none was present. As soon as this was finished, and the denuded and fragmentary combs conveyed in-doors, I brought out the hive containing the bees from the weak stock, and whilst the rear-guard of their predecessors was still buzzing forth what the Germans call the "swarm-tune," the entire cluster was knocked out amongst them on the platform; the same result partially followed, and the bulk of this second immigration of strangers speedily found their way inside. Still in this case success was evidently not perfectly complete, and finding after some time that a good deal of confusion continued to exist at the entrance whilst many bees obstinately clustered and hung about the platform, I raised the latter and keenly scrutinised the recusants, whose stubborn obstinacy I was inclined to attribute to the presence of a queen. Nor were my anticipations unfounded, for her majesty was almost the first bee that met my view. Attempting to seize her, she eluded my grasp, and taking wing was in an instant out of sight. Her absence under the circumstances was, of course, no loss, and I replaced the platform in the full belief that the truants would speedily betake themselves to the proffered shelter. In this expectation I was, however, doomed to be disappointed, for things remained as before, and finding that no change for the better had taken place, I again lifted and examined the platform and with the like result, for there once more I speedily espied the errant queen. I did not bungle this time, but at once seized her and popped her in at the top of the hive. The change that ensued was almost instantaneous—confusion was at an end, and the platform being replaced the former recusants at once set up the "swarm-tune," and in joyful procession marched directly into their new home. Next morning I examined the hive and finding a fine queen at liberty therein, I removed the captive but rightful monarch and left the usurper in the enjoyment of the sovereignty which she had won. I should add, that this union of the inhabitants of three colonies was most successful, not more than a score or two of bees being lost in effecting it.

The large body of bees which I had secured from the strong stock were manipulated in a somewhat different manner. In this case the queen had been removed some days previously from the stock to which they were to be united, and I commenced proceedings by standing the straw hive containing the new comers in the place of the queenless colony, erecting the platform which I have before described immediately in front of it. Upon this I shook and brushed off all the bees from the combs of the removed stock, eradicating every royal cell during the operation, and conveying the combs in-doors. Having then replaced them in their hive and deepened the latter by the addition of an empty box above the bars, I returned it to its place and knocked down into it the now conjoined cluster of bees, putting on the crown-board immediately, and leaving it undisturbed for the rest of the day. Next morning I lifted off the upper box and was rather surprised to find that it contained the great bulk of the bees, comparatively few having congregated among the combs in the lower hive. Having put a shallow wooden frame on the top of the latter, I cautiously

lifted the crown-board from the box, thinking to transfer it with the adhering cluster of bees to the hive itself; when lo, just as I had raised it a few inches the entire cluster became detached and fell in a mass to the ground! Many would, doubtless, be somewhat nonplussed at such an accident, but I was too old a hand to be much disconcerted, so after putting on the crown-board with such bees as still adhered to it, I merely covered the cluster on the ground with an empty box propped up on one side, and turned my attention to other matters. Numbers of bees at once took wing and flew to the mouth of the hive, and on returning in about half an hour I found that the remainder had sought refuge within the empty box whence they were speedily shaken into their own hive on the top of the bars, and the crown-board being replaced this apparently formidable mishap was rectified with but little trouble and no appreciable loss of life. The entire operation was indeed very successful, although there was rather more quarrelling than in the former case, and in the whole from one hundred to two hundred bees might probably have been killed.—A DEVONSHIRE BEE-KEEPER.

IMPRESSED WAXEN SHEETS.

IN reply to the inquiries of "Aris," in page 161, I last year used embossed wax sheets in frames largely, and with uniform success when care was taken to hang them by their thickest edge, failing which they are apt to break down, especially with a new swarm. The combs are built much more rapidly, and on several occasions queenless stocks were compelled to build worker comb instead of drone. In supers partly fitted with sheets and partly with guide comb, I found the bees, however, pertinaciously reject the sheets and build from the comb, causing much irregularity and delay. I therefore this year used nothing but guide comb in the top supers; but when they were well advanced introduced intermediate supers fitted with wax sheets, on which the bees at once fastened, and filled the supers very rapidly.

The expense is, however, a great objection, the makers charging 6d. a-piece for the sheets; considering which, and the fact that the bees always reduce the thickness of the sheet very greatly as they build, it struck me that the embossing was a superfluous, and I therefore resolved to try the effect of plain unstamped sheets. This I have done all the present season, using plain and stamped sheets in the same hives, and I find that the latter are in no respect superior to the former, whilst the plain sheets have the advantage of considerably greater strength, as the embossed ones are apt to crack if not very carefully handled. They are easily made as follows:—Procure a tin kettle without a lid, like a narrow fish kettle; mine, larger than necessary, is 2 inches wide at the top, 4 inches wide at the bottom, 16 inches long, and 12 inches deep. Fill it with water to within 3 inches of the top, and melt a pound or two of wax in it. Have a piece of thin smooth board, mine is 20 inches by 12, and three-eighths of an inch thick; soak it in a flat-bottomed sponge bath for half an hour, dip it endwise into the kettle of wax, and withdraw it rapidly. If you wish the sheets thick (I prefer them about one-sixteenth of an inch), dip again. The wax sheets will peel off easily and unbroken. Cool the board in the bath, dip again the other end of the board, letting the first-used end cool, and so on, using either end alternately. The thickness of molten wax must not be diminished to less than one-quarter of an inch, or it will fail to adhere evenly to the board. Instead of a board, a piece of glass dusted with whitening may be used, but I prefer the board. The sheets are thus produced for the value of the wax, about 1d. each.

With respect to the use of narrowed communications between hive and super, I have adopted them this season, and find no inconvenience whatever in consequence; so that in future I shall never put on a super without such a protection. My plan is to take a common Woodbury adapter, and divide each side slit into two by a longitudinal bar about one-quarter of an inch thick, thus leaving in each slit two passages three-sixteenths wide; the adapter thus guarded, I generally place with the slits across the hive instead of at the sides.—*ARICOLA, Murraythwaite, N.B.*

MANAGEMENT OF FERRETS.—No. 3.

THE Ferrets may be taken from the mother at any time after they are two months old, as they will then be able to take care of themselves. I have one Ferret that was most amusing with her family. She is now too old to breed. Her anxiety

consisted in keeping her family in the nest; she would drag them in one by one, making them squeak all the time. No sooner had she put one back than out she would run and seize another. Of course they would not stay there, and I have seen her do this for a long time. The same Ferret was once taken to a neighbouring farm on a hunting expedition. I suppose she was not very closely watched, for she came home alone, walked under her hutch, and waited for some one to put her in. I find Ferrets can go back to a place where they have been kept, if not too far. Mine are very gentle, and will play with my children without ever showing a tendency to bite. They will let a child two years of age play with them. I believe they detect a stranger, for I have seen them look timid when one approaches.

After the young are removed the old one should still have milk or water. Keeping them without drink is very cruel. One of my children had one given him, because it was so spiteful. The owner never gave it drink. My boy gave it milk, petted it, and it became so gentle, that it would follow him anywhere, gambol about his feet like a playful kitten, and run all over him; it was never spiteful afterwards. So much depends on treatment.—L. B.

MY DOGS.

(Continued from page 69.)

OUR hearts—that is, the dog-loving part of them, a very warm part—were sore for a long time after the death of old Keeper; so sore that we could not think of a successor. It sufficed for us to talk of his good deeds, and to point to his picture, with "Poor old fellow!" or "Dear old fellow!" or similar expressions of affection. But we were not let alone in our grief. Other suitors to our favour came, or rather were brought. The old dog had been a hero; he had been pointed to in the streets as the dog who had won such and such a battle—just as, I fear, a retired pugilist has a number of admiring eyes fixed upon him by a number of very indifferent characters. So it had been with Keeper. Hence when the grand old hero with the many scars on his face was missed from the streets and lanes of the town, it was naturally thought by persons interested in the sale of dogs that we should wish for a successor of the same breed. So sundry "bankers,"—afterwards called "navvies" when the railways came to be made, but before that era employed to make and repair the embankments which kept out the Wash—sundry of these gentlemen made their appearance, and a pretty appearance they themselves had. You all remember Bill Sykes of one of Dickens's tales. The bankers were so many Bill Sykeses. They wore stout laced boots, speckled worsted stockings, corduroy breeches, and very full-pocketed fustian shooting jackets; their necks encircled by a red handkerchief, and above that decidedly unprepossessing figureheads, close-shaven, and not unfrequently a long curl on each side hanging between the ear and the eye, and the creature crowned by a flattened wideawake. Many pairs of such gentry found their way into the old surgery. Mysteriously did they shut the door—I mean with a mysterious air, leaving a couple of friends or more outside, probably in fear lest the dear lambs should come to harm. Out of the huge pockets were brought divers blind and shuddering bull pups, which the mother eyed from behind the thick boots fondly yet jealously. The one dear lamb began with the invariable "My mate Bill," here he jerked his thumb towards Bill, who acknowledged the words with an understanding grunt, "heard a chap say as he heard you was in want of a dawg." I need hardly add that we declined the "dawg." Weloathed the thought of a second edition bound in rough of our old hero; and so our favour was sought, but sought in vain.

At length time, the great healer of broken hearts, healed ours. Have you never known a widow who was wont to gaze at the likeness of her dear deceased, and talk of his merits often and long? She was besieged by suitors, but in vain. At last a handsome stranger quite unlike her late spouse comes on the stage; and the widow's parlour-maid declares in the kitchen that "she just now went suddenly (by mistake, of course), into the drawing-room," the handsome stranger being there, "and missus's face was scarlet, and her cap was the least bit on one side." This is an odd metaphor for us (I speak this once in the dignified plural), to use, as we were ever guiltless even of a nightcap.

Well, the handsome stranger who won our hearts was a young liver-and-white spaniel from "the high country," as feamen call it, though Northamptonshire is not very high either.

My young eyes glistened. I was a very young boy then, and I fell in love head over heels with the handsome stranger, and begged hard that I might have the dog; so after some bargaining the dog was ours. But what was his name? That had been forgotten by the man who brought him into the fens, but he promised he would inquire the next time he went to the high country. Meanwhile at a venture we named him "Rockwood," and Rockwood became the dog of my early boyhood, as old Keeper had been of my little childhood. Have you ever marked carefully, gentle reader, those nice minute gradations in life? First the unknowing infant; but how soon it begins "to take notice," to use a common but very suitable expression. The little child learns very early to smile. As Wordsworth says—

"On its face
Smiles are beginning, like the beams of dawn,
To shoot and circulate.
Feelers of love put forth, as if to explore
This untried world, and to prepare its way
Through a strait passage intricate and dim."

After the infant, then the little child, obedient, trusting, trusting every one; but bigger children overawe it. In play with them it gets confused, upset in mind, overwrought in nerve, and leaves them for its mother's lap. It is a manful little thing in its home and its garden, but a few hundred yards away it becomes a baby again. Then comes playful, ever-playing young boyhood. All life is a play, a very play then. Bats, balls, tops, strings littered about; doors slammed; the feet always run, for they cannot merely walk; noise, noise; rushing hither and thither pell-mell. This is the grand play-time of life, when the meals are shortened in order to get out the earlier to play; not the sprucest neatest time—far from it—nails, and hands, and face too, not over-clean; clothes torn. What boy thinks of his breeches when he sees a bird's nest?

During all my early boyhood, this playtime of life, Rockwood was my prime playfellow. Like many handsome strangers, as widows of the cap-on-one-side school often find when the cap is put quite aside, he had not much brains, but he could hunt through the hedges—there were a few, drive out the birds from their nests on the side of the fen drains; and then, more than all, he could play cricket, and, best of all, he was always on my side. This is how it came to pass: Four houses from ours (each house had a paddock at the back), lived my prime school friends, four in number, all brothers. They were sons of a Waterloo officer, and therefore smitten with a perpetual scarlet fever. Every Saturday afternoon away I and Rockwood went for a game of cricket. Bat home-made, stumps ditto, ball oblong—never mind, we enjoyed the game just as much as the gentlemen players at Lord's, and a great deal more than the tired professionals, who must long for the winter to begin in August. The sight of a cricket ball acted upon Rockwood as does a gun upon a pointer. I bowled, Rockwood fielded, and with the speed of a racehorse he brought the ball to my feet; so together we were a formidable pair. But when I was batting Rockwood declined to field, knowing "his side was in." He therefore rested near, seeing how the game went on, extending his handsome form on the grass until I was again on the "out" side. Oh, those Saturday afternoons! those scramblings from paddock to paddock, Rockwood galloping by my side! Oh, those jolly games of cricket! I have often played since; I stand to a wicket still; but now I have a backbone, boys have none.

Time which will go on—time which usually will also separate friends, separated me from mine. Two of the four went into the army, and, alas! both have long since slept beneath the sun-parched plains of Bengal, one of them a victim to the Indian mutiny. The third I have not seen these twenty years and more. The fourth I meet now and then, the "now" separated a long way from the "then;" but when we do meet we shake hands as only old schoolboy friends know how. When we do meet, then we talk the old talk—open, free, generous, kindly; then we bring the past years and faces before us; then among other questions he put this, "Have you forgotten Rockwood?" Oh! the pleasure of having old, old friends—friends who grew up with you, whose life's associations are blended with yours, who met you not the first time in stiff heart-freezing manhood, but in open-hearted boyhood. Yet let not this thought deter us from making new friends, for they in turn will become old friends. We must go on in the battle of life. "Forward!" is the word; then let me go on shoulder to shoulder with friends new and old, old and new. "Have you forgotten Rockwood?" How much that little question brings to my mind!—the Saturday afternoon holidays, the glee, the high spirits,

and the old school friends who joined in the game. What! is the paper suffused with a mist? or is aught wrong with my eyes?—WILTSHIRE RECTOR.

(To be continued.)

OUR LETTER BOX.

GAME FOWLS.—"Absence from home has been the cause of my not replying to 'NEWMARKET'S' paragraph in the Journal of August 27th. In reply, what I advertised was a quotation from 'NEWMARKET'S' letter. I have also letters by me respecting the birds. The following are extracts:—"Good and handsome fowls." "Will breed the richest colours." "Are the handsomest hens in this place." "These birds are really good and are dirt cheap." Any one is welcome to see the correspondence who may be thus interested.—WILLIAM H. WHEELER." [Here this controversy must cease.—Eds.]

BRABMA FOOTRAS SELF-FLUCKING (*Brahma*).—Fowls are prone to eat the feathers from each other's legs at this time of year if they are confined. They seldom do it when at liberty. It arises from a morbid state of appetite, and this is more benefited by an ample supply of lettuce than by anything else. If they have no grass run give them large sods of growing grass, cut with plenty of earth. Legs stripped of their feathers in any way will disqualify Brahmas and Cochins.

WHITE SPANISH AND WHITE MINORCAS (*Subscriber*).—White Spanish fowls should have white faces. Minorcas have red faces.

FOOD FOR MOULTING HENS—MARKS OF AGE (*A. B.*).—Ground oats are the best food for poultry at all times. Growing green meat is good for them when moulting. Indian corn, rice, and vegetables are all bad, except as amusements and for a change. They require better food when moulting than at other times, but it should not be of a stimulating nature. After a fowl has once passed from the chicken to the adult state there are no means of ascertaining the age with certainty. The most experienced are often deceived.

HEN'S FLESH SPOTTED (*Warwick*).—We cannot account for the white spots. We have seen them many times in our lives, and if this fowl were in other respects in good condition, we should consider it fit for food.

LENGTH OF LOP EARS IN RABBITS (*Rabbit fancier*).—The length you speak of is a hereditary quality. The length may be increased by a judicious system of pulling, and by suspending leaden weights to the extremities. If, however, it is not in the breed to reach extreme length such as you desire, no management will effect it.

BUCKWHEAT AND APPLES FOR POULTRY (*E. A. S.*).—We have tried buckwheat, but our fowls neither liked it nor did well upon it. We do not consider any of the oily foods good for chickens. We think apples good for fowls, but we always give them raw. They make a change, and the birds are very partial to them.

POINTS OF HOUDANS (*Gallina Bankiva*).—The few reddish brown spots are not a disqualification. In all these breeds the cocks acquire colour as they increase in age. The same rule applies to the Houdan and Crève-Cœur; yellow or light straw-coloured feathers are admissible, red ones are a disqualification. The convex back is fatal to success unless it be so trifling as to escape notice. If the crest feathers are pulled out, the feathers will grow again at once; if they are broken off they will not grow till the bird moults.

REJECTED FOWLS (*Fair Play*).—The "person near Longton, Staffordshire" certainly treated you very unfairly. If your man turned the pullets out, and they were both then sound, he should not have brought it back, for the injury was inflicted in some way on the purchaser's premises. As it was taken back, and as you afterwards received the other pullet, we think you have no remedy. The proposing purchaser would act no more than equitably if he paid the expenses you incurred.

GOLDEN PHEASANTS ON A LAWN (*E. E. K.*).—It will do your Golden Pheasant good to feed always on the lawn. Pheasants never do so well as when kept on grass.

WHAT IS A PEN AND WALK OF POULTRY? (*J. Smith*).—The pen depends on the decision of a show committee. In some places the prize is offered for the best pen of —, containing cock and three hens; others require cock and two hens; others cock and one. There is no fixed number. A "walk" formerly consisted of a cock and four hens.

OLD AND YOUNG CANARIES TOGETHER (*T. C. H.*).—"I usually put all my breeding hens into a large flight-cage for the winter. My old breeding cocks I put into separate cages, and the same with those young ones which bid fair to moult into something good. When they will agree and do not show any disposition to attack each other, I put two together, but where there is plenty of cage room a separate compartment is best.—W. A. BLAKSTON."

BEE HIVES (*E. Pater*).—You will find engravings and descriptions of hives in "Bee-keeping for the Many," which you can have free by post from our office for five postage stamps.

LECTURE ON BEE-KEEPING.—We have received a copy of a little, a very little pamphlet, which is stated to contain the substance of a lecture on this interesting subject, delivered on the 7th ultimo by the Rev. J. B. Hughes, of Tiverton, Devon, at the Cottage Garden Show held on that day, at Dulverton, in the neighbouring county of Somerset. The rev. gentleman appears to have judiciously eschewed the more recondite mysteries of bee-keeping, and to have confined himself to pointing out the advantages which every bee-keeper may realize by the use of suet, and recommending the autumnal union of bees by means of driving, instead of pitilessly consigning them to the brimstone pit.

SWARMING FROM SUPERED HIVE (*A Reader*).—It may be laid down as a general rule, that if a supered stock swarms the super becomes deserted, and that no more honey will be deposited in it. Your bees, therefore, were no exception to the rule. You should weigh the hive and judge for yourself whether it requires feeding. It would, we think, be well to unite the weak swarm to the parent stock, which, if properly done, may be accomplished without much risk of a quarrel. Read Mr. Woodbury's article on "Uniting Bees," in another column.

TOMATO JAM.—"T. W. W." would be obliged if "LOVEAPPLE" would make public the receipt for making tomato jam.

WEEKLY CALENDAR.

Day of Month	Day of Week.	SEPTEMBER 17—23, 1868.	Average Temperature near London.			Rain in last 41 years.		Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year		
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	m. h.	m. h.	Days.	m. a.						
17	TH		69.1	44.6	56.9	16	39	af	5	9	af	6	52	7	21	7	2	5	41	261
18	F		68.3	43.5	57.4	19	40	5	7	6	52	7	21	7	2	2	6	5	5	262
19	S	Royal Horticultural Society, Promenade.	67.8	45.0	56.2	20	42	5	5	6	10	9	50	7	8	8	6	26	263	263
20	SN	15 SUNDAY AFTER TRINITY.	67.8	44.0	55.6	19	44	5	2	6	25	10	20	8	4	6	47	8	47	264
21	M		66.8	45.2	55.7	23	46	5	0	6	31	11	55	8	5	7	8	8	8	265
22	TU	Autumn commences.	66.4	46.9	55.2	20	48	5	58	5	after.	65	9	6	7	28	7	28	8	266
23	W	Aberdeen Horticultural Show.	66.8	45.8	56.0	21	50	5	56	5	35	1	20	10	7	49	7	49	8	267

From observations taken near London during the last forty-one years, the average day temperature of the week is 67.9°; and its night temperature 45.3°. The greatest heat was 84°, on the 17th, 1843; and the lowest cold 29°, on the 17th, 1810. The greatest fall of rain was 1.21 inch.

PEACH CULTIVATION.—No. 2.

In cold situations, but not unsuitable for the growth of the Peach on walls, it may be desirable to plant the hardiest kinds; for in the case of the Peach, as with every other kind of fruit, there are degrees of hardiness. The hardiest Peaches seem to me to be the following—viz., Mountaineer, the fruit of which is sometimes partly smooth, flesh melting, ripe about the beginning of September; Violette Hâtive, large and good, ripe in September, the hardiest of all Peaches, and which, having a good constitution, succeeds where others do not: Early York; Malta; Barrington, and Chancellor.

From the list of twelve varieties I have left out Early Grosse Mignonne, finding Early York much larger and finer; indeed it is fully as large and fine as the September Peaches, and cannot be too highly praised, as it is of a splendid colour, firm, but melting and juicy. If the Sulhampstead supersede, as I believe it will, the Noblesse for walls, the Dymond, a large, very fine, and good-flavoured sort may be added to the first twelve in place of the Noblesse. Dymond is ripe from the middle to the end of August. The old Red Magdalen, or Madeleine de Courson, owing to its being tender, I have omitted. It is, however, one of the best-flavoured Peaches, medium-sized, and handsome. I have seen it die off against a wall where other varieties succeeded, and it appears to be of the same type as the Royal George, Royal Charlotte, and, I think, Early York; all being subject to mildew, and occasionally producing smooth-skinned fruit, though in general very downy. All are highly coloured, and roundish or globular, flattened at the base.

The NECTARINE requires the same cultivation as the Peach. The best Nectarines for walls are:—

Rivers's Orange, large, melting; the flowers are splendid, well worth growing for decorative purposes. It ripens a few days earlier than Pitmastou Orange, its parent, and is harder, and a great bearer.

Elruge, medium-sized, juicy, and of good flavour. End of August and beginning of September. It is an abundant bearer.

Violette Hâtive, medium-sized, melting, juicy, and excellent. End of August and beginning of September.

Hardwicke, large, juicy, and rich-flavoured. End of August and beginning of September.

Pitmastou Orange, large and excellent. September.

Balgowan, large, melting, and fine-flavoured. September.

All these are of good constitution, and hardy. Three of the best varieties are Rivers's Orange, Violette Hâtive, and Hardwicke. For one variety I would select Violette Hâtive.

Hunt's Tawny is evidently of bad constitution, being very subject to aphid and mildew, otherwise it is early, but mealy, and not rich in flavour.

New White is large and good, but does not succeed against a wall, except in warm situations.

Peterborough, or Vermash, is the only Nectarine ripening in October, but that is its only recommendation.

Early Newington is large, and of excellent flavour. It is a cling-stone, ripens in September, and should be left on the tree until it is slightly shrivelled. It is then very rich.

SOIL.—There is a prevailing opinion that strong soils

are the best for the Peach. This, I am convinced, is a mistake. Heavy clay soils are as unfavourable as poor sandy soils, if not more so. The latter can be improved by the addition of cool manure and adhesive compost, so that the liability of the tree to curl and aphid in spring, and to red spider in summer, may to a great extent be avoided; but heavy clay soils have such a tendency to cause late growth, and to encourage the production of shoots which do not become thoroughly ripened, that a Peach tree ought not to be planted in them for out-door cultivation. The best soil for the Peach against a wall is a calcareous sandy rather than heavy loam, and yellow rather than black. All soils, however, are not of that description, neither are subsoils the same. The latter must first engage our attention.

If the subsoil is wet the ground must be well and efficiently drained, so as to carry off all water that would become stagnant in the soil, otherwise the trees will make a poor growth in spring from the coldness of the soil, and the injury the roots sustain in winter; and owing to the moisture in summer, the trees will grow rapidly, but late, so that the shoots will be imperfectly ripened. They will in consequence be liable to die off at the points, and the roots drawing vitiated watery nutriment from the soil, the trees cannot be otherwise than unhealthy. Besides, it is a mistake to plant a Peach tree on the Plum stock in a wet soil, for the Plum does not thrive in such, and the stock will become unhealthy. Wet soils should not only have drains with a proper fall and outlet, but the drains should be not less than 3 feet deep, for it is not the surface water but that passing from the surface to the subsoil that requires to be taken off. If no drain can be made en account of there being no fall or outlet, then the border must be raised; it is better to take from the height of the wall than to plant in ground wholly unsuitable.

Some subsoils are extremely dry. In soils resting on a subsoil of gravel the trees are apt to be injured in hot weather. When there is an excessive evaporation from the leaves, and the roots do not supply moisture sufficient for their requirements, there is a drawing from the tree itself to supply the deficiency; mildew appears on the young shoots and fruit; if not that, red spider attacks the trees with a determination requiring the syringe to be almost constantly at work to keep it under. Draining gravelly soils is of no use unless there is water in the gravel, which is rare. Some sandy soils, however, have quite as much if not more water in the subsoil than clay soils, and must therefore be drained. If there is nothing but a dry gravelly subsoil, it will be necessary to take out the soil, or some part of it, and make a proper border 2 feet 6 inches deep. A light as well as a gravelly soil may in most cases be made excellent by putting on a dressing of heavy loam, clay, or marl in autumn, before frost, 6 inches thick, and after the first frost digging it in and mixing it with the old soil. This will make the soil more retentive of moisture, and the trees will not suffer from drought nearly so much as they would otherwise do; and in March a top-dressing of cow dung, 3 inches thick, should be given, and pointed in with a fork. When the

ground becomes dry tread it firm, and give a top-dressing of cow dung or littery stable manure to the depth of 2 inches, and do not crop the border, but keep the surface firm, and enriched with good surface-dressings of rich compost. Turf taken from a pasture where the soil is a good loam, laid up for six months in alternate layers with cow dung, will form an excellent top-dressing. The deficiency of light soils in respect to openness and dryness must be counteracted by rendering them more firm, and affording top-dressings of cool composts retentive of moisture.

If the soil is naturally a good, friable, yellow or hazel loam, all that will be required will be to drain it effectually, trench it to the depth of 2½ or 3 feet, and work in a liberal quantity of manure, 3 or 4 inches in thickness being a good dressing. Almost any good fresh soil will grow the Peach, but soils that are from long cropping worn out, by adding fresh soil, turning the top soil to the bottom of the trenches, and bringing the bottom to the top, may often be made as suitable as they were before unsuitable, and the trees will become as vigorous as they were dwindling when the exhausted black soil was at top. Old borders long occupied by Peach trees are not suitable for planting fresh trees. The soil must be changed, or a considerable quantity of fresh soil should be added, and the greater part of such fresh soil ought to be turfy loam.

If the soil is wholly unsuitable—a stiff clay, or a poor, sandy gravelly soil—and excellent crops and well-covered walls are wanted, a good border must be made. The soil ought to be taken out to a depth of 3 feet next the walk, and 2 feet close to the wall, which should go as deep as the border. The border will slope to the front, and there should be a drain about a yard from the edge of the walk. If the subsoil is a stiff clay, or cold and wet, it would be advantageous to concrete the bottom with fine gravel and lime, two parts gravel and one part lime, brought to the consistency of mortar, putting on a 3-inch layer, and then ramming firm, then an inch layer, which need not be beaten, but which when it hardens must be rolled firm and left to dry. If it then crack run it with Portland cement, and make it smooth. Not a root will pass through this; it will keep out the roots of trees growing near which not unfrequently pass under walls, and encroach on their neighbour's domain. Six inches of rough gravel, stones, or brickbats, may be placed on the concrete, and then a layer of turf, grass side downwards. For the border 2 feet 6 inches of soil may be put in, consisting of the top 3 inches of pasture where the soil is a good yellow loam, neither light nor heavy, and it need not be chopped fine, but used roughly, adding to every ten loads a load of marl or chalk in pieces from the size of a walnut to that of a hen's egg, and a load of cow dung or rotten farmyard manure, adding as many bushels of half-inch bones as there are loads of loam, and well mixing and incorporating the whole. The border should be made at least 6 inches higher than the intended depth, and should slope from the wall to the front or walk; an incline of 1 foot in 12 will be sufficient. The surface ought to have a covering of 3 inches in thickness of the loamy soil without turf. This border will be quite rich enough and very durable.

The width of the border should equal the height of the wall, which may be of any height between 7 feet and 12 feet; but in the case of an artificial border being formed, part may be made at first not less than 6 feet wide, and then increase the width in a corresponding degree to the advance of the roots. Borders, especially Peach borders, are so valuable for early crops, that they rarely escape the ruinous practice of cropping with vegetables. In that case they ought to be wider than when they are not cropped, as the upper part of the border is of very little value to the roots, from the digging or disturbing of the surface. The border, therefore, may be 15 feet or 18 feet in width, according to the extent of the garden. It would be well, however, in all cases to have a border of proper extent solely devoted to the trees, and in no case to crop it or dig it; but if this cropping cannot be avoided, it will be well once the system of cropping is begun to continue it, for the alternate digging and cropping, and then not digging for an equal length of time, are injurious. I have seen splendid trees where the border was annually cropped; but I have also seen the same border go without a crop two or three years with evident improvement in the crop of Peaches, and on a return to cropping the border the trees, from the loss of roots consequent on the digging, received a check they did not recover for three years.

PLANTING.—The height of the wall, and mode of training will determine the distance between the trees. Against a 12-foot wall the trees should be 18 feet apart; on a 10-foot wall, 21 feet;

and on an 8-foot wall, 24 feet apart, if fan training, which is the best for the Peach in this country, is practised. The best time to plant is autumn, as soon as the leaves have fallen, or are falling. In selecting the trees, give preference to those which are healthy and moderately vigorous, and that have side shoots of corresponding vigour. See that they have no strong leading shoot or shoots, for if their upper shoots are more vigorous than the lower ones, no one can make good trees of them; and see that there is no appearance of gum. Avoid the vigorous plants, they never have good roots, and are sure to disappoint by their growth after planting. Do not be afraid of making too large a hole at planting, but let it be wide enough to admit of the roots being laid out straight. The hole ought not to be deep, at least the tree should not have its roots more deeply covered than 3 or 4 inches, and it would be well to place a few inches of rich soil under and over the roots. The stem should be kept 4 inches from the wall, the head slightly inclining towards it, and the root portion of the stem inclining from the wall. The ground should be mulched with littery manure as far as the roots extend, and beyond their extremities. The shoots ought to be loosely nailed to the wall. The trees should have clear, straight stems; the first pair of branches about 9 or 10 inches above the surface, but this stem ought not to be a portion of the Plum or other stock, but that of the Peach worked on it. I can perceive neither benefit nor ornament in the Plum stock being seen above ground. As it does not increase in thickness in proportion to the Peach, it is quite as well to have the Plum stock budded so low that its stem may safely be buried, and the ugly swelling formed at the point of union will then have the appearance of being the stem.—G. ABBEY.

JERSEY FRAGMENTS.

A LITTLE girl, after reading the epitaphs in a country churchyard, all extolling the excellencies of those they commemorated, asked very naturally, "Where are the *bad* people buried?" And I had often considered mentally, until I voyaged the other day to Jersey, where disagreeable people go in their periods of holiday. I now think that they are to be found on board steamers at pitch-and-heave times in the British Channel. However, those who are then disagreeable improve wonderfully soon after they get on shore; and I think all must, for even the most disagreeable man on board the "Cygnus" steamer was actually sprightly so soon as he reached the Imperial Hotel at St. Helier's. I would not mind being sea-sick, which I never am, and I should cease from being ill-tempered, but I never am, to be at a hostelry so excellent as the Imperial. It is a palace, and has befitting gardens with long shady walks, and a Mulberry tree loaded with fruit. Think of that, ye who, like Shakespere, love Mulberries so well that you plant Mulberry trees without even a hope to live to partake of their fruit.

Then the Fig trees—these you see all over the island—20-foot-high standards, and branches extending as far, so that people literally realise the blessing of "sitting under" their own Fig trees.

I shall say nothing about the island's Pear trees, because every one has heard of its Chaumontels, though every one does not know that if he asks a friend to send him some he asks for a present that makes his friend come down handsomely—that is, if his friend does what he is asked to do. A Pear weighing 12 ozs. costs about 9d., and one weighing 1 lb. about 1s. 6d. But I will say something about the island's Apple trees, for these are not talked about so much as they deserve.

I know of no space of similar extent that contains so many Apple trees as Jersey. You may travel far through an almost unbroken series of orchards. In 1866 were exported from the island 170,687 bushels of Apples, and this year the crop is abundant, and the exportation probably will be larger. Last year the crop was light, yet 75,275 bushels were exported. Notwithstanding these exports there were also exported in 1866 of cider 33,995 imperial gallons, and 36,662 in 1867. How many more bushels of Apples were required to produce that cider others are better judges than I am.

Of other fruits of all kinds, 15,589 bushels were exported in 1866, and 19,876 in 1867.

Of Potatoes, 4080 tons were exported in 1866, and 6251 tons in 1867. This year the crop is above an average, and quite free from disease.

The Parsnip crop this year is an average, for though the roots are rather smaller than usual, they are of superior sweetness, and the crop of Parsnip seed both here and in Guernsey

is very good. Our seedsmen in England resort for their supply of this seed to these islands.

The success of the Parsnip crop during the late protracted drought is another testimony to the good effect of deep stirring of the soil. This deep stirring for the Parsnip crop is quite an annual festival in the Channel Islands. It is called "*la grande charrue*," or, as we should say, "the great ploughing." The holdings in Jersey and Guernsey are very small, varying from four to eight acres, and all devoted to cow-keeping, at the rate of a cow per acre. The owners of such small plots keep, at the utmost, one horse or pony, and to stir the soil deep enough for the Parsnip crop, four at the very least of these animals are required for each plough. Neighbours, therefore, render aid to each other, and the farmer at whose plot of land the neighbours assemble thus to help, feasts them and their families. It is "*la grande charrue*" of the year. A customary junket on the occasion is called "a goshe." I do not know whether I spell it correctly. It is a Yorkshire pudding, containing a layer of sweetmeat, and made so rich, that it is a jocular observation that butter always rises 2*d.* per pound at the "charrue" season.

No mere forcible evidence of the forcing power of the past summer could be adduced than that a farmer in the parish of St. John's, in this island, planted a field with Potatoes on the 20th of February, took up the crop they produced on the 3rd of June, planted Potatoes again the same day, and took up their produce in perfect condition during the second week of last month—August.

The only fruit that does not succeed either here or in Guernsey is the Filbert. It has been repeatedly planted, and as often failed. I am told that not a Filbert or Hazel Nut bush is to be found in these islands. The Spanish Chestnut and Walnut, however, thrive well.

Not long since, I remember, that the ornamental gardening of Jersey was noticed in your columns, and that a committee of the Agri-Horticultural Society of the island reported on some of the most distinguished of its gardens, so I pass them over; but I must record my protest against the prevalence of topiary work near St. Helier's. It is far more often observable than is compatible with good taste. Here are evergreens clipped into huge cones, reminding one of "Jack in the green" in the chimney-sweeper's May-day procession; others rounded into perfect globes; pyramids also are numerous; and these geometric figures are in rows, rendered more grotesque by being put in totally irregular association. One long hedge of Evergreen Oak is absolutely clipped into an uniform series of scollops, and one of Yew is cut so as to represent a battery and its embrasures. In the graveyard around that fine old Anglo-Norman church at St. Brelade, the evergreens are as tastelessly cut as are the pillars within coated over with incrustations of whitewash. Ornamental shrubs attain a size quite unknown in England, except in its most south-western counties—Magnolias 20 feet high, and Hydrangeas and Fuchsias large in circumference and half that height.

The Cow Cabbage is almost peculiar to this island, being rarely seen even in Guernsey. It is chiefly cultivated for its leaves, which are used for wrapping round the butter before conveying to market. The stems of this Cabbage are often 10 feet long and stout. The regularly-placed scars on each stem, caused by the falling-off of the leaves, produce a variegation in the colour of the stems, and when these are stained and varnished and furnished with a fernle, they are admired as walking-sticks by some, with whose taste mine does not coincide. One gent near Mount Orgueil I saw with six of these Cabbage-wort truncheons under his arm!

That Mount Orgueil Castle is one of the island's "places to be seen," and that many do see it is told, after the manner of Englishmen, by the names, initials, and dates pencilled upon its fabric. These are not usually the suggestions of vanity, but are written in the hope that some friends in after days may be gladdened by this written greeting. Sometimes, however, the record is dictated by vanity, and one "J. P.," I remember, has written those initials, and his place of residence, most disfiguringly, on about twenty difficult places of Sandsfort Castle, near Weymouth; and though I do not know the scribe, I would wager a broad acre against a foot's breadth of Weymouth sand, that he never perpetrates anything more worthy of remembrance. Strange, too, is it how unworthy are the entries in the "Visitor's Book" usually kept at places of celebrity. Tennyson was at Waterloo in the August of 1866, and this note written by our Poet Laureate, I read in the album of the Hotel du Muséum, "Good fare, civility, and moderate charges." I

should have expected such a sentence in such a place from the man with the six Cabbage-stalk truncheons.

On one of the battlement stones of Orgueil Castle, I observed "W. P." inscribed, and though not by the pencil of William Prynne, yet they reminded me that that stont-hearted Reformer, but offensively bad rlymester, had there been imprisoned, and had written such lines as these—

"Mount Orgueil Castle is a lofty pile,
Within the eastern part of Jersey isle,
Seated upon a rock, full large and high,
Close by the sea-shore, next to Normandie."

Prynne was not puritanical in all his ways, for one of the charges Lempriere brought against him was, that "Mr. Prynne (whilst imprisoned here) played at cards with my Lady Cartaret and her daughters till midnight, or two of the clock in the morning."

Whilst confined in Mount Orgueil Castle, he wrote, "Monnt Orgueil; or divine and profitable meditations raised from the contemplation of these three leaves of Nature's volume. 1, Rocks. 2, Seas. 3, Gardens. With a poem of the Soul's complaint against the body, and comfortable cordials against the discomforts of imprisonment. London, 1641." The third of the leaves on "Gardens," I am told, for I have not seen the volume, is rhapsodical, like Austin's meditations in his Orchard, and Hervey's in his Flower Garden.

My last fragment shall be about Pigeons. They were formerly far more highly prized than now as a dainty for the table. The interior of the upper stories of two of the towers of Hurstonceaux Castle, near Eastbourne, were devoted to Pigeons, the recesses for their nests all round those interiors still remain. So in Jersey more than one ancient farm house may be seen with its front thickly pigeon-holed. I was told that this evidence of the original proprietor's right to keep Pigeons, showed that he was closely allied to the Lord of the Manor, and that the permission had been granted by him to the proprietor. Few of your readers, probably, are aware that the law is similar in England. A Lord of a Manor may establish a Pigeon house or Dovecot upon his land that is part of his manor, but a tenant cannot there establish one without the lord's permission. Formerly it was decided that no one but the Lord of the Manor, and the Parson, might erect a Dovecot, but later decisions have established that any freeholder may erect one on his own ground.—G.

GOLDEN CHAMPION GRAPE.

FAVOURABLY impressed as I have been with this Grape from its appearances on the exhibition tables, and the flavour of the few berries I had tasted, I was quite astonished to see it in its full magnificence at Dalkeith to-day, to taste its most exquisite flavour, and judge correctly of its merits in direct comparison with other varieties growing in the same house under precisely similar conditions. Mr. Thomson has several rods of it grafted on the Muscat of Alexandria. They are thus fruiting side by side in the same house.

For size of berry, colour, and general appearance the Golden Champion is far before the Muscat, and for flavour it is superior also. Yes! berry for berry, as I had them to-day, I decidedly prefer the Golden Champion. It is more juicy, more refreshing, and equally rich, if not richer, without cloying the palate as the Muscat does. The flavour is of a particularly rich and agreeable kind, and very lasting. I tried some well-ripened Hamburgs afterwards; they seemed to have no taste at all, the powerful flavour of the Golden Champion had completely killed theirs. As a white companion to the Hamburg is its place, however, although it is far superior to it in flavour.

The Golden Champion requires exactly the same treatment as the Hamburg, and is of the same free habit of growth and vigorous constitution. If anything it grows somewhat too strongly. What a glorious Grape this will be for the early-summer months! It can be had ripe in April, May, June, and July, months when ripe, truly ripe Muscats are never seen, or very rarely so. Mr. Thomson intends devoting some entire houses to its cultivation. The Vines in one house of Hamburgs (at least the top part of the rods), are already grafted with it, and they are doing well, and so likewise are those on the Muscat, but Mr. Thomson prefers the Hamburg stock. It is doing equally well planted out on its own roots. There are canes as thick as one's thumb from plants only planted this season.

I feel I cannot say enough in praise of this splendid Grape,

although, indeed, it requires no help of mine. Its high merits will soon be universally known and appreciated.

Another seedling of Mr. Thomson's, the Golden Lady Downe's, is a very excellent Grape. It is just a white counterpart of the Lady Downe's, whose high merits as a late-keeping Grape are well known. This White variety is a very welcome addition. Mr. Thomson states that it will keep fully longer than the Black variety.—ARCHAMBAUD.

ORCHARD-HOUSE RAILWAY.

I HOPE I may be allowed to make a few remarks upon an article which appeared in your Journal of September 3rd, signed "ARCHAMBAUD," the subject being the orchard houses at Sawbridgeworth. At the latter part of the article your correspondent is kind enough to consider an invention of mine, now at Messrs. Rivers's nurseries, worthy of his notice—namely, "the orchard-house railway." I should not think it necessary to do more than thank him for his courtesy in doing so, were it not for some inaccuracy of statement, arising, no doubt, from his having taken only a superficial view of the question. I hope your correspondent will pardon me for endeavouring to correct this. He says at the close of his remarks, "Granted that it is beneficial to the trees to have the fresh air, they can easily be carried out if necessary, and that at one-twentieth part of the expense." Now, I hope he does not think me so absurd as to deem it necessary to incur this expense merely for one removal of the trees into the open air to ripen their fruit in the summer, which his comparison of figures implies; the fact being that it is used constantly through the whole year, and especially for Apricots, also for Peaches, Nectarines, Plums, and Pears, and brings them to such perfection in respect to the flavour of the fruit, largeness of the leaves, and general appearance of the trees, as I have never seen in any orchard house.

Now, as the outcry has constantly been want of flavour in too large a proportion of the crop, this is at least worth a consideration—a pause, before condemnation is carelessly administered. There is no doubt that flavour diminishes as you recede from the ventilators (I think your correspondent admits this in his article); nor will top ventilation remedy this. But even taking the position "ARCHAMBAUD" assumes, that the railway is only required for one removal, and that the expense in consequence is twenty times as much, the summing-up of his statistics in the next sentence rather contradicts it—"It just resolves itself into this, whether a tree is to cost 5s. a-year or 50s., as by this plan." But this is only ten times as much. If he were to halve it again he would be beside the mark. I hope he will forgive me for saying that firing off these random figures like grape shot is calculated to do mischief by misleading; but I quite acquit him of any such intention, and will at once give him credit only for wishing to be understood to say in round numbers that the expense is great.

I am perfectly aware that the first cost is considerable, but he is wrong in stating that it is a yearly expense, exactly the reverse being the case, for after the railway is once made it is guaranteed to last as long as the house, and the yearly saving of labour is very great. Take the case mentioned of removing the trees annually by hand. My gardener engages to say that in the same number of minutes which it would occupy two men to remove the trees by hand from a large house, and plunge them in the garden (where, be it observed, they must continue, whether the weather be good or bad), one man could move the trees in and out of the house fifty times in the course of the year, and this without disturbing the roots in the pans from first to last. These pans all turn upon their axes to expose any side of the tree to the sun, or for pruning also, without disturbing the roots.

It takes a man a considerable time to water all these trees; whereas the time required to give them the benefit (as much or as little as you pleased), of any showers that occurred through the year, to say nothing of the dew in summer nights, would be five minutes; and a strong boy, the lowest help in the garden, could do it without the possibility of making a mistake, unless it were in running the wheels over his toes, and even that little error he would not commit twice. Now, whether natural showers or artificial watering be best for the trees I leave your readers to decide.

The truck at Sawbridgeworth is not placed quite to advantage, being raised on a mound, and consequently exposed too much to the wind. But do not let it be supposed that this was Mr. Rivers's wish. Nothing could exceed the kindness

both of himself and son in trying to find some suitable place in which to fix it; but the ground is so very undulating, and, as may be supposed, in a well-arranged garden like Sawbridgeworth, every available place so preoccupied, that we had great difficulty in arranging it. Now, the man has no small mind who cheerfully admits within his own penitential an invention which professes, *in limine*, to found its prospect of success upon a flaw (if it may be fairly called so), or rather want, in the great work which he has devoted a long and useful life in bringing to perfection. I appreciate it proportionably, for there is no money question between us. He has tried it this year with "fine old Apricot trees." He tells me the crop was most abundant and of delicious flavour, and that everybody liked it, but sighed over the first cost, which is, after all the fuss made, not nearly what "ARCHAMBAUD" would make out, and nothing to the money John Bull loves to fritter away in cheap failures.

One Apricot tree which had an extraordinarily fine crop of fruit on it, Mr. Rivers had occasion to remove from the pan, and he informed me that the roots had "eaten up the soil," and filled the pan with delicate fibrils. This is exactly what I expected, and consider so desirable—namely, the avoidance of long rosy roots striking deeply into the soil, but at the same time a gentle assistance given in the most natural way from good sweet earth below, unmanured, which of course is renewed every year. This, with the open air in favourable weather, and a rich top-dressing as recommended by Mr. Rivers, gives such flavour to the fruit as cannot be surpassed.

Mr. Rivers has been kind enough to allow me to append a full description of the invention at the end of his new "catalogue," and also new edition of "The Orchard House." I hope "ARCHAMBAUD" will pay me the compliment to read it—aye, and criticise it too, for the invention must be able to hold its own against that, as well as a very large amount of prejudice; but being based upon principles theoretically and practically sound, it must come sooner or later as an assistant to the orchard house in every gentleman's garden, where the gentleman himself understands anything about it, and where certainty of crop combined with fruit of the highest quality, colour, and size, is a desideratum.—J. F., *Southacre Rectory, Brandon.*

DUC DE MALAKOFF STRAWBERRY.

MR. DOUGLAS is convinced that he has the true Duc de Malakoff Strawberry, in which case I cannot have it true. The description given by Mr. Douglas answers better to the foliage here than Mr. Radclyffe's. I received my runners four years since, indirectly from an eminent fruit grower in this county (Lancashire), and I had no doubt as to their being true to name, as plants of the kind were largely grown, and are so up to this day, for market. In general, market gardeners do not like to grow fruit that is soft when ripe, and which, therefore, soon spoils. I believe they are quite alive to their interests in these little matters. However, I do not wish to affirm that the true variety is claimed in this locality, and it is not for the name that I desire to recommend it so strongly, for a name is only a secondary consideration, when you have a good and useful fruit, one that can be depended upon as a general cropper under pot culture, or in the open gardens. I may state that the variety in question is cultivated extensively in this locality, and I feel persuaded it will be grown universally when it becomes better known. I have seen since I wrote the letter which appeared on August 6th, a Duc de Malakoff that answers more to Prince of Wales, which was sent out with several other varieties from one of the leading nurseries in England. The gardener has received plants from me to replace his so-called Duc de Malakoff, which he had been cultivating with much care to bring it to perfection, knowing that it was one of the leading Strawberries grown in this neighbourhood. As for seeing any barren plants, that is out of the question, provided good runners are planted, but it is well to be always careful to select runners from fruiting plants, which will amply pay for care and attention. I generally plant out good runners by the middle of August, and am sure of a crop in the following season in proportion to the foliage. In the second season there has been something like a quart on a plant, and I have seen the variety equally prolific in other gardens.—W. Broos, *Sandfield Park, Liverpool.*

LILIUM TIGRINUM SPLENDENS.—In your report of what was said at the Royal Horticultural Society's meeting of September

let on the *Lilium tigrinum splendens*, there is a slight error. Mr. Eyles sent me a single flower from M. Van Houtte's; it was Mr. Allen, of Shepton Mallet, a great Lily cultivator, who informed me that he had bloomed *L. tigrinum splendens*, and considered it a splendid variety. This description was confirmed by Mr. Waterer, who had seen it at M. Van Houtte's.—GEORGE F. WILSON.

THE WHORTLEBERRY TOMATO.

Among the horticultural novelties that have been introduced to this country from the United States is one which is called "The Whortleberry Tomato." We are not aware that it has yet found a place in our seedsmen's catalogues; and lest in the rage for novelties, which is now too much the fashion, it should by any chance be pressed on the notice of our countrymen, we feel it our duty to raise a note of warning of the danger consequent on such an event. This Whortleberry Tomato is neither more nor less than the common Nightshade (*Solanum nigrum*), a weed common in waste or cultivated ground, the berries of which have the reputation of being very deleterious, and have in some instances proved fatal to those who have eaten them. It is true that Dunal, of Montpellier, administered the berries without any serious results, and that in the Isle of Ascension they are used in plum puddings; but when cases are known in which they have caused the death of children who have eaten them, the public cannot be too much on their guard respecting them. All constitutions are not alike, and what would kill one man has sometimes no effect on another.—H.

RULES OF THE AMERICAN POMOLOGICAL SOCIETY.

1. No new seedling fruit shall be entitled to the recommendation of this Society until its qualities shall be ascertained by at least five years' experience in more than one locality, and which is not at least equal to any similar variety of the first rank already known; or which, if only of second-rate flavour, is superior in vigour, hardness, productiveness, or other important quality or characteristics.

2. No new fruit shall be considered as named until it has been accurately described by some person or committee known to be conversant with existing varieties, and such description shall have been published in at least one horticultural or agricultural journal, or some pomological work of acknowledged standard character.

3. The originator, or he who first makes known a new variety, shall be entitled to name it; and such name, if suitable, shall be adopted by the writer describing the fruit for the first time. But if the name proposed is inappropriate, or does not come within the rules of nomenclature, the describer shall be at liberty to give a name.

When two persons have named or described a fruit, the name and description first published, if according to the rules, shall have the priority.

4. In giving names to new varieties, all harsh, vulgar, or inelegant names, such as "Sheep's-nose" and "Hog-pen," should be avoided; and no name should consist of more than two words, excepting only when the originator's name is added. Characteristic names, or those in some way descriptive of the qualities, origin, or habit of fruit or tree, shall be preferred. They may either be of intrinsic properties, as Golden Sweeting, Downer's Late; or of local origin, as Newtown Pippin, Hudson's Gage; or of the season of ripening, as Early Scarlet, Frost Gage; or of the form and colour, as Golden Drop, Blue Pearmain; or which commemorate a particular place or person, as Tippecanoe, La Grange, Baldwin; or any other titles which may be significantly applied.

5. The descriptions of new varieties of fruits shall embrace the following particulars:—

1st, An account of their origin.

2nd, The fruit, its size, form, and exterior colour, texture, and colour of the flesh, flavour, and time of ripening; with the addition, on stone fruits, of the size of the stone, adherence or non-adherence of the flesh, form of the suture, and the hollow at the stem; and in kernel fruits, of the size of the core and seeds, the length, position, and insertion of the stalk, and form of the eye.

3rd, The tree, its marked characters of growth, young and bearing wood, foliage, and blossoms. In Peaches, the form of

leaf, glands, and size of blossoms; in Strawberries, the character of the blossoms, whether staminate or pistillate; in Grapes, the form of bunch or berry.—P. BARAY, *Chairman*.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 15TH.

FRUIT COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. There was a good display of fruit at this meeting, and especially of Peaches, though these were not on the whole of such large size as we have seen them in other years.

Prizes were offered for the best and second best dishes of Peaches from an open wall, and these were well contested by several competitors. Mr. Earley, gardener to F. Pryor, Esq., Digswell, was first with very good examples of Late Admirable; and Mr. Whiting, of the Deepdene, Dorking, was second with Walborton Admirable, also good. Late Admirable likewise came from Mr. Bailey, of Shardeloes; Barrington, from Mr. Earley, and Mr. Richbell, gardener to L. Heathcote, Esq., Tadworth Court, Epsom, who also sent small fruit of Bellegarde. Mr. Dixon, Holland Park, Kensington, had Yellow Admirable, splendid in colour, but of poor flavour; and Mr. Marcham, gardener to E. Oates, Esq., Hanwell, Chancellor, of medium size and well coloured. Mr. McIndoe, gardener to the Archbishop of York, sent excellent examples of Late Admirable, but they arrived too late for competition.

For the best dish of Nectarines no first prize was awarded, the only exhibitor, Mr. Cox, of Redleaf, taking a second prize for small but very good fruit of *Violette Hâtive*.

For Apricots, both from walls and orchard houses, prizes were offered, but the date of the meeting was too late for this fruit in such an early season as the present.

For orchard-house Peaches, Mr. Tillery, gardener to the Duke of Portland, was first with very fine examples of Walborton Admirable; and the second prize went to Mr. Martyn, gardener to S. P. Kennard, Esq., Harrow Weald, for Late Admirable, very fine as regards size and colour, but the flavour tainted by the cotton wadding used in packing. For orchard-house Nectarines, no first prize was awarded, but a second was given to Mr. Tillery, for Rivers's Victoria.

The best three dishes of Plums came from Mr. Cox, of Redleaf, and consisted of Ickworth Impératrice, Coe's Golden Drop, remarkably fine, and St. Martin's Quetsche. Mr. Whiting was second with Diamond, Coe's Golden Drop, rather small but very good, and Reine Claude de Bavay, which though scarcely ripe enough, was richly flavoured.

Of Figs only two dishes were exhibited, and both were very good. Brown Turkey, or Lee's Perpetual, from Mr. Earley, was awarded the first prize, being rather better ripened than the same kind from Mr. Bailey, who was second.

Among miscellaneous subjects, fine, well-ripened Black Hamburgh and Foster's White Seedling Grapes, grown in ground vineries, were exhibited by C. T. Wells, Esq., of Southend, and received a special certificate. A similar award was made to Mr. Chaff, gardener to A. Smea, Esq., Wallington, near Carshalton, for an exceedingly fine collection of Apples, which, in the rich well-watered soil of that place, had attained a very large size. Putt's Seedling, Blenheim Pippin, Lord Derby, Lord Suffield, and Cellini were especially fine. From Mr. Rivers, of Sawbridgeworth, and Mr. F. Dancer, of Little Sutton, Chiswick, came very fine examples of Belle de Septembre Plum, a first-rate variety for culinary purposes, and the latter also exhibited two other varieties, which were to be subjected to further examination. Transparent Gage, from an orchard house, shrivelled, but of very fine flavour, came from G. F. Wilson, Esq. Mr. Warner, of the Abbey Nurseries, Leicester, sent Warner's Seedling Apple, a large yellowish green sort, but it was not considered to possess sufficient merit to deserve a certificate. From Mr. Richbell came a green-fleshed Melon, but it was unripe; and from Mr. Rast, Eridge Castle, Tunbridge Wells, a seedling Peach, called "The Thompson." It was raised by Miss Thompson, The Rectory, Frant, was highly coloured and of good flavour, and was stated to be very hardy. Very good examples of Beurré Hardy Pear, and of excellent flavour, were shown by Mr. Whiting, likewise Ingram's Golden Russet Pear. Mr. Turner, of Slough, sent fine samples of Paterson's Victoria and Regent Potatoes, which it was requested should be sent again, when they could be cooked; and Messrs. Stuart & Mein, Kelso, a Kidney Bean with large deep violet purple pods, which is said to be very ornamental and prolific, besides being useful. Its colour when cooked is said to be brown. J. R. Reeves, Esq., Woodbays, Wimbledon, exhibited two gigantic Puffballs (*Lycoperdon bovista?*), grown in the kitchen garden there, and measuring at least 8 or 10 inches in diameter.

FLORAL COMMITTEE.—On this occasion there was a varied and interesting lot of plants staged, though not so numerous as at the past two or three meetings. From Mr. J. Wood, Hockliffe, Dunstable, came a variegated form of *Solanum dulcamara*, or the Bittersweet, the leaves broadly edged with pale yellow, as in the case of *Ageratum mexicanum variegatum*; it was awarded a second-class certificate. From Mr. W. Bull came an interesting collection of plants, including *Alternanthera amabilis*, which appeared to be a larger and more robust form of *A. spatulata*, and the Committee desired to see it again; *Shimmi oblonga* in berry, which is quite hardy and makes a

good decorative shrub; a large specimen of *Monstera deliciosa* in flower; *Amaryllis Josephina lateritia*, with a large truss of pale reddish flowers, &c. A special certificate was awarded to the group. From Mr. William Holah, The Gardens, Rufford Abbey, Ollerton, came a plant of a yellow bedding Pansy, which he has used this season with great effect, but which did not appear to differ from the Cliveden Yellow bedding kind.

A very interesting group of plants was also furnished by Messrs. Veitch & Sons, including *Ficus dealbata*, which bears an excellent character, but the specimen shown was considered too small to justify the Committee in giving it an award; *Maranta Wallisii* with bright pale green leaves, having patches of dark shading; *M. Wagneri*, in the way of *fasciata*, but not so good or so bright-looking as *M. roseopicta* and others; *M. Baraquiniana*, considered to be no improvement on the old *vittata*; *Guzmania tricolor*, an old plant, in flower, but well grown; *Chirita sinensis foliis variegatis*, the foliage slightly pale-veined, but the veining said to be often more apparent on the leaves; *Sinningia purpurea major*, a cool stove plant, with ornamental foliage, having a greenish bronze colour on the upper side of the leaves, and red on the under side, scarcely striking in character as shown; *Alsophila Van Geertii*, a distinct and handsome Fern, but some doubt being expressed as to its being an *Alsophila*, it was requested to be sent again; *Caladium Anguste Riviere*, a distinct and beautiful kind, the bright green leaves stained and blotched with carmine, very handsome and effective, and deservedly awarded a first-class certificate; *Caladium Lucy*, the leaves stained red; *Yucca albo-spica*, the long lance-shaped and somewhat drooping leaves having white filaments on either side, also awarded a first-class certificate; *Allamanda nobilis* in bloom; some specimens of *Odontoglossum grande*; the beautiful *Cattleya Demianiana alba*; a small plant of the handsome *Ilippeastrum pardinum*, with two fine flowers; the curious *Madevallia Veitchiana*, &c. A special certificate was awarded to the group.

Mr. William Paul, Waltham Cross, sent *Aucuba salicifolia*, a slender-leaved form of the *A. longifolia* type, the character not sufficiently developed. Mr. Paul also contributed a charming collection of cut Roses, among which the light flowers predominated, and a large group of cut flowers of bedding *Pelargoniums*. To each group a special certificate was awarded. From Mr. Aslett, gardener to C. Butler, Esq., of Hatfield, came a good-sized and well-grown plant of *Impatiens Jerdonia*, a plant seldom seen now-a-days, though well worthy of cultivation. From Mr. Green, gardener to W. Wilson Saunders, Esq., came *Odontoglossum Alexandre*, var. *Bowmani*, with six handsome fully expanded flowers, and examples of *Vallota purpurea major* and *V. eximia*, the flowers of the last-named being of a fine round shape, and the truss much larger, and quite distinct from the foregoing.

An interesting lot of plants was furnished by Messrs. Carter & Co., of Holborn, consisting of two triangular-shaped baskets, the one filled with *Echeveria metallica*, having a carpet of *Sedum glaucum*; the other filled with *Echeveria sanguinea*, carpeted with *Antennaria tomentosa*. There were also two circular baskets, one filled with the dwarf double golden French Marigold, edged with *Alternanthera spatulata*; the other with *Amaranthus tricolor Gerdoni*, var. *pumila*, a compact-growing kind, with bright reddish foliage, broadly edged with claret, in the way of *A. elegantissimus*; also capital and well-grown specimens of the two new Ivy-leaved *Pelargoniums*, *L'Elegante* and *Duke of Edinburgh*. A special certificate was awarded to the group.

From Mr. John Coember, gardener to Col. Wilkinson, Highgate, came plants of Variegated Zonal *Pelargonium*, Mrs. Wilkinson, a bright-looking variety with a regular edging of creamy white, and regular narrow zone of deep pink; it promises to make an effective bedder.

A collection of *Odontoglossum grande* was also furnished from the gardens of the Society.

*Dahlia*s and *Verbenas* were plentiful, the former bearing traces of being out of condition. A first-class certificate was awarded to Mr. George Rawlings, Romford, for King of Primroses, a very pleasing flower of a soft primrose hue, of good substance, full high centre, and outline. Second-class certificates were awarded to Mr. C. Turner for Queen of Beauty, blush tipped with magenta, a very pleasing and taking flower, but wanting outline and depth; and to Louisa Burgess, a Fancy flower of a salmon buff ground, striped and flaked with crimson, good petals and outline, but somewhat flat. Mr. Turner also had twelve fine and finished blooms of Unique, which received a first-class certificate at the last meeting of the Committee; Firefly, bright orange scarlet, a hue of colour much wanted, but the flowers coarse and thin; Lady Dunmore, a Fancy, orange ground tipped white, and slightly flaked with crimson; Eclipse, shaded puce, good form and substance; Countess (Fellowes), pale ground, heavily tipped with magenta; Formosa (Fellowes), peach blush, a pleasing flower of passing outline; Magdala (Fellowes), yellow ground, shaded on the edge with rosy fawn, and flaked with crimson; and six blooms of Polly Perkins, a Fancy flower, awarded a second-class certificate at the last meeting of the Committee. Mr. Rawlings also had Monarch, one bloom a rich dark shaded but undersized flower; the others tipped red and white on the dark ground; Goldfinch, pale yellow, tipped with lake; two fine blooms of Indian Chief, awarded a first-class certificate at the last meeting of the Committee; and some blooms of a crimson bedding kind of a dullish hue, of good shape, but small in

size. Mr. G. Wheeler, Warminster, had Lord Heytesbury, salmon brick red; and Mr. Keynes, Salisbury, had One in the Ring, pale ground, edged with rosy purple, very promising; one of the blooms was of fine shape and substance; Annie Neville, cream white; Lady Alderson, a Fancy, bright crimson scarlet, tipped with white; and Miss Margaret Dombraim, yellow ground, tipped with pale rose.

First-class certificates were awarded to Mr. C. J. Perry, Castle Bromwich, for the following *Verbenas*:—Perfection, silken pale pink, the pip large and of very fine shape; Madel, salmon pink, with large deep rose centre, fine shape, and large size; and Wonder, pale pink with rosy purple eye, fine shape and good truss. The same award was made to Mr. Eckford, of Coleshill, for Anna Keynes, a very fine and distinct variety, of a dark crimson purple hue, very fine pip and truss; and a second-class certificate was given for Lotty Eckford, brilliant plum colour, with small lemon eye, very novel and bright. Several other seedlings were shown but not in good condition, the cold weather having evidently affected them injuriously.

GENERAL MEETING.—J. Russell Reeves, Esq., F.R.S., in the chair. The business was chiefly confined to the election of three new Fellows, and the announcement of the Committee awards. The next meeting will be held October 6th, when prizes for edible Fungi will be competed for.

THE ORANGEFIELD TOMATO AND ITS CULTIVATION.

AFTER one season's experience with this Tomato, I am of opinion that it is an introduction of real worth. Its chief qualities consist in its being early and dwarf, very prolific, and that it bears forcing well. With regard to the quality and size of its fruit it is, perhaps, not preferable to older varieties, the best of which is yet the old Common Red; but for pot cultivation it is far superior to any variety I am acquainted with. One plant well grown in an 8-inch pot will bring to perfection two dozen fair-sized fruit, and it does not grow more than 18 inches high. Pot plants have an excellent and very ornamental effect in forcing houses, or arranged along each side of the pathway among fruit trees in orchard houses.

Though the Orangefield Tomato is so dwarf, and its fruit produced almost at one time, it retains the property which the older varieties possess of ripening the fruit by degrees, thereby affording daily gatherings. Amateurs and others who have a limited wall space will find this Tomato especially valuable, for it produces and ripens its fruit well when planted out in a sunny border, each plant about the same distance apart as one would plant Brussels Sprouts. They must be trained to a stout stake on account of the heavy fruit, but the stake need not be more than 2 feet out of the ground; and if well planted in a deep, rich, and rather heavy soil they will produce from the bottom of the stake to the top, and have an appearance not unlike that of a rope of Onions.

The fruit must be thinned out when about to swell off, the quantity left being regulated according to the vigour of the plant; at the same time apply a mulching of 4 inches in depth of rotten manure. The Tomato being a gross feeder, frequent applications of liquid manure will much improve the size of the fruit, and increase the quantity of pulpy matter to be extracted for making either sauce or jam.

The treatment which I have described is applicable to the scarcer-growing sorts, with just this addition—they require nailing and frequent thinnings of the shoots, while those that are retained must be pinched just beyond the clusters of bloom. With the exception of a gross shoot or two, the Orangefield Tomato makes no more wood than it requires.

With regard to sowing, my advice is to sow in pots early in March, and encourage the growth of the plants so as to have them planted out in the first week in May, and get the bulk of the fruit ripened by September. After that time the weather is often unfavourable to the ripening of the Tomato, and much fine fruit is spoiled in consequence.—THOMAS RECORD, *Lillesden Gardens, Hawkhurst*.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

SPIREA PALMATA (Palmate-leaved *Spiraea*). *Nat. ord.*, Rosaceæ. *Limn.*, *Icosandria Pentagynia*.—Introduced by Messrs. Noble, of Bagshot. Stems, branches, and flowers crimson. A beautiful plant. Native of Japan.—(*Bot. Mag.*, t. 5726.)

MYRICIA NAGI (Yungmæ Fruit of China—Yamamo-moki of Japan). *Nat. ord.*, Myricaceæ. *Limn.*, *Monœcia Tri-ocandria*.

—Cultivated in China and Japan for its sub-acid fruit, eaten either raw or cooked. Berries blood-coloured.—(*Ibid.*, t. 5727.)

AERIDES MITRATUM (Mitre-spurred Aerides). *Nat. ord.*, Orchidaceæ. *Limn.*, Gynandria Monandria.—Native of Moulmain. Flowers white and purple.—(*Ibid.*, t. 5728.)

SARCOCAULON BURMANNI (Burmans's Sarcocaulon). *Nat. ord.*, Geraniaceæ. *Limn.*, Pentandria Pentagynia.—Native of South Africa. Flowers white, plaited. Its stem is woody and resinous, and its branches prickly.—(*Ibid.*, t. 5729.)

LEAVENWORTHIA AUREA (Golden Leavenworthia). *Nat. ord.*, Crucifere. *Limn.*, Tetradymania Siliquosa.—Native of the Southern States of North America. An annual, introduced by Mr. Thompson, of the Ipswich Nurseries. Flower pink, and golden-edged.—(*Ibid.*, t. 5730.)

EPIDENDRUM PANICULATUM (Panicked Epidendrum). *Nat. ord.*, Orchidaceæ. *Limn.*, Gynandria Monandria.—Native of Peru, and Bolivia, at 7000 to 8000 feet elevation. Flowers lilac, edged with pink, and these being fragrant, it is a great acquisition to our cool-house Orchids.—(*Ibid.*, t. 5731.)

LASIANDRA MACRANTHA.—"It is a grand plant, the blossoms being no less remarkable for their size than for their depth and brilliancy of colouring; but what is most remarkable of all is, that these monster blossoms are produced abundantly on the tiniest plants, while in its more developed state it forms a freely branching slender shrub of moderate size, the beauty and profusion of whose flowers will render it a noble acquisition for our flower shows, no less than for our warm conservatories.

"The plant was first made known by Dr. Seemann, who published a figure (not, however, giving the blooms of the size they have since attained), in his 'Journal of Botany' for 1864. Dr. Hooker has just published a figure in the 'Botanical Magazine,' under the name of *Pleroma macrantha*, the genus *Lasiandra* being by him merged in *Pleroma*.

"We are indebted to M. Linden for the introduction of this fine *Melastomad*, it having been sent by his collector, Libon, from the province of St. Catherine, in Brazil. M. Linden first flowered it in 1864, and it has since been produced at several of our London shows during the present year, little plants of 4 or 5 inches high bearing six or seven flowers and buds. The elegantly-shaped oblong-ovate acuminate leaves, with their deep green rugose hairy surface, set off to great advantage the large smooth-petaled saucer-shaped intense violet purple blossoms.

"As a stove plant it is of very easy culture, requiring to be treated in the same manner as *Pleroma elegans*, and while it resembles the latter in general features, it quite eclipses it in the magnitude of its flowers."—(*Florist and Pomologist*, N.S., i. 193.)

NOTES AND GLEANINGS.

A CORRESPONDENT, "F. G.," has sent us a report of the annual dinner given by the Lord Mayor to the Fruiterers' Company. On the 10th inst., he thus entertained the Master, Wardens, and the rest of the governing body of the Fruiterers' Company, at the Mansion House. "From time immemorial the Guild of Fruiterers has been accustomed to present annually to the Lord Mayor and Lady Mayoress for the time being, gifts of choice fruits of great variety, and to attend through their representatives, the Master and Wardens, at the official residence of the Chief Magistrate of the city for that purpose in autumn. The fruit is always neatly packed in clean white baskets, and covered with white napkins, and formerly it used to be borne there by a file of men servants of the Company, preceded by their beadle carrying his mace. On its reaching the Mansion House the fruit is uncovered and arranged in the saloon, and the Master of the Company usually accompanies the gift with a complimentary address to the Lord Mayor and Lady Mayoress. The ceremony concludes with an invitation to the Master and Wardens to dine there on a day named. The dinner on the present occasion was served in the Long Parlour, and covers were laid for nearly fifty guests." Our correspondent proceeds to ask whether this presentation of fruit and the convivial return are the entire duties devolving upon "the Master, Wardens, and the rest of the governing body of the Fruiterers' Company?" We acknowledge our inability to answer the query; but if the Company's Clerk, Mr. O. C. T. Eagleton, 84, Newgate Street, were applied to, he might afford some relative information. Stow, in his Chronicle, says that the Fruiterers are a very ancient brotherhood, but were first incorporated in the third year of the reign of James I.—that is, in 1605. We published in our second volume a copy of the armorial bearing

of the Company—Azure, Adam and Eve, one on each side the forbidden Apple tree, and the serpent twined round its stem. The Company now have no Hall, but when Stow wrote they had one in Worcester House, Worcester Place, in the Ward of Vintry. In 1735, they met in the Parish Clerk's Hall, in Wood Street. Seymour states that the Company consists of a Master, two Wardens, seventeen Assistants, and thirty-nine Liverymen. Noorthouck says the Livery fine is £5. Like most of the other Livery Companies its "occupation's gone." We suppose its sources of income are not. What are they? The only Companies having an efficient control over the trades they were founded to benefit, are the Goldsmiths and the Apothecaries.

—MR. VAN DER SCHELDEN, of Ghent, has discovered that the Hop contains a first-class textile material, and has invented a process by which the fibres of the vine can be used for cloth without in the least interfering with the crop of Hops. The following is said to be Mr. Van der Schelden's process of separating the fibres:—When the Hop blossoms have been gathered, the stems are cut, put up in packets, and steeped like hemp. This maceration is the most delicate process, since if it be not made with all due precision, it is very difficult to separate the threads of the bark from the woody substance. When the stalks have been well steeped they are dried in the sunshine, beaten like hemp with a beetle, and then the threads come off easily. These are carded and worked by the ordinary process, and a very strong cloth is obtained. The thickest stalks also yield the material for several kinds of rope.

POMOLOGICAL GLEANINGS.

A SEEDLING NECTARINE marked S. 238 has been received from Mr. Rivers, with the following note:—"The origin of the seedling Nectarine is unknown, but supposed to be from Victoria. It is remarkable for its marvellous richness. The fruit was produced on a tree three years old growing in a small pot." There is no doubt that this Nectarine has the Stanwick "blood" in it, and the conjecture that it may be from Victoria is not very wide of the mark. The fruit is medium-sized, and of an uniform pale yellow with a tinge of green in it; and the flesh is very melting, juicy, and richly flavoured.

—WE received at the same time two fruits of Prince of Wales Nectarine, grown against a brick wall, protected by Dr. NEWINGTON'S GLASS SCREENS; and the result is that the ripening has been hastened from ten to twelve days, and though protected in this way, the tree is perfectly free from red spider, owing to its free exposure to the rain and dew. This simple and cheap invention seems to give a healthy ripening climate, and will prove very valuable.

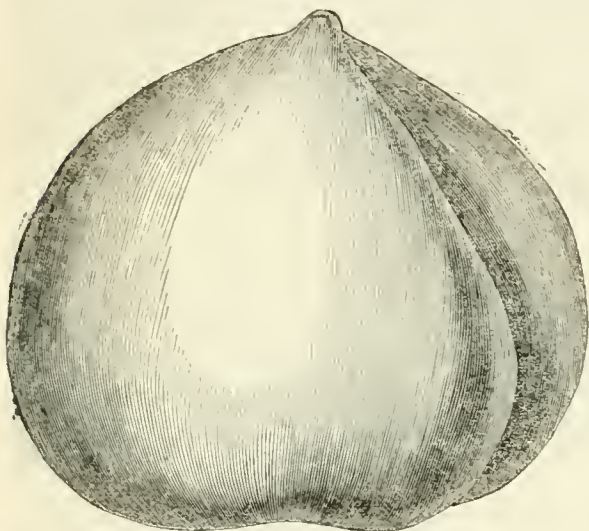
—REV. W. KINGSLEY writes: "The SUSQUEHANNA PEACH went to the flower show at Thirsk. One weighed well over the pound, and was 12½ inches in girth. I gave it away, and it was not eaten for nearly a week, and was then said to be excellent. The other big fellow we ate ourselves, and it was better than Exquisite, which grew in the adjacent pot. Rivers's Princess of Wales ran up to three-quarters of a pound on a heavily-cropped tree, and was grand in flavour, and few fell below 8 ozs. The pierced pots have proved their value this dry season, as they allowed the water to spread all round. I shall soon be taking them up, and then we shall see how the roots have fared."

—BUDDEN Peaches, no doubt, as a rule make better trees than those grafted; but does it not, therefore, stand to reason that the common way of grafting has something wrong in it? I believe you will find in all cases of PEACH TREES GRAFTED by the ordinary process, the bark of the scion becomes hard to such a degree as to prevent good early growth, and so the check to the roots ruins the health of the tree; yet I possess grafted trees more vigorous than any others where attention was paid to this matter. In all cases of grafting I insert the scion, so as to have a bud *close* above the stock, and two beyond it if I can; these three buds are kept clear from the clay or grafting wax, and the shoot from the bud just above the stock is made the leader, the scion being cut off closely above it after the tree has plenty of leaves on it to keep the roots in health. In this way there is very little difference in appearance after a year between the budded and grafted tree; but the three eyes in the grafted tree work the roots better at the first start than the single eye from a bud, unless the same attention is paid to keeping an eye or two of the stock working for a time, and in

that case the leader does not get as much strength as in the case of the graft.—W. K.

— Mr. RIVERS writes: "ALBERT VICTOR NECTARINE has a curious history, showing what perseverance will do. Some twenty or more years since I found on a wall at Culford Hall, near Bury St. Edmunds, a 'Late Melting Nectarine,' sent from Lee's under that name, which ripened in October. I thought it was the Peterborough, but it seemed larger, it was at any rate of the same race. When orchard houses came in I commenced to raise seedlings from it, they all proved late but not large, and were not first-rate. I kept on *breeding in continuation* (mind, this is my term, and it should be adopted)—*i.e.*, sowing the stones of each generation. No good move was made till, I think, the fourth generation, in the ALBERT VICTOR NECTARINE, which is a superb fruit."

— THE NECTARINE PEACH was noticed for the first time in the last edition of the "Gardeners' Year-Book." After another



year's trial we find that it retains the great richness of flavour which we observed in it last year. The fruit is large, and is remarkable, for being terminated by a nipple, like Téton de Venus and A Bec. There is rather more down on the skin than we observed last year, when it had barely enough to distinguish it from a Nectarine. The skin is yellow, and with a bright mottled red on the side next the sun; the suture well defined, particularly near the nipple. The flesh is semi-transparent as is the case with almost all Mr. Rivers's seedlings, and with a brilliant red stain round the stone, from which it separates, leaving some strings behind it. It is melting, very richly flavoured, and with a fine racy smack. The stone has a tendency to split, and the kernel has a very mild bitter taste. It ripens in the middle of September. Flowers large. Glands kidney-shaped. This was raised from a Dutch Nectarine called Grand Noir.

— THE extraordinary summer we have lately experienced has had its effect in developing some characters of fruits with which we have been hitherto unacquainted. An instance of this we have found in the Pear Doyenné Boussoch, which in ordinary seasons requires to be eaten as soon as it ripens, otherwise it speedily becomes what is termed "sleepy." This year, notwithstanding it has been "dead ripe" on the tree, it has, after being gathered, kept for several days in a condition of soundness and of flavour rarely met with.

ECONOMY IN COMMERCIAL PLANT HOUSES.

ECONOMY OF CONSTRUCTION.—In regard to the walls of the plant house, the most economical are those constructed of wood. Procura good Cedar, Chestnut, or even Oak posts of the required length, plant them solidly in the ground, as in making a board fence; cut them off to the required height, and level by a chalk line and spirit level; nail on the top of them flatwise, and horizontally projecting about 1½ inch beyond the front of the posts, a piece of 2 inches by 4 Hemlock or White

Pine scantling; and within about a foot of the ground, saw and mortise out notches in the front of the posts about 2 inches wide and 1½ inch deep, and nail in them, edgewise, a piece of 2 by 3 scantling. Then on these two pieces of scantling nail vertically or up and down, 1½-inch second common White Pine boards, ploughed and grooved, and well seasoned and dried in the sun. The boards should be bought of 16-foot lengths, so that they may be cut up more economically. If the path to the house is dug 2½ feet below ground, the front wall or side of the house need not be more than 3 feet 1 or 2 inches high, which will enable you to cut five lengths out of a 16-foot board, or if the house is intended for small plants 2 feet 7 inches high, or six lengths.

If it is thought too expensive to have the boards ploughed and grooved they can be nailed on and left until they are thoroughly shrunken in the sun, and then nail plastering laths over the joints; the gable end walls can be built on the same principle, if the house is low, but if a high one they had better be regularly frame-morticed and tenoned.

If the ground on which the house is built is uneven, the boards in the side walls should be cut of one uniform length, and the earth banked-up to them. This saves board and makes the house look better. If the house is on the fixed-roof principle—that is, with permanent sash-bars instead of moveable sashes, there should be nailed in a slanting position on the upper 2 by 4 scantling, a board about 8 inches wide.

If a more durable house is required, or in cities where wooden buildings are prohibited, stone or brick must be substituted for wood. In all cases the foundation walls below the surface should be of stone, as brick under ground soon becomes soft. If stone is plentiful and cheap, the walls may be built 16 inches thick, with foundations 18 inches thick. If brick is used, a 9-inch hollow wall is the cheapest, driest, and warmest. I am surprised that houses of this kind are not more frequently built. There is no difficulty in building them even by a brick-layer who has never seen one. On the solid stone or brick foundation, about 12 inches thick, lay two courses of brick on edge, so that the wall will measure 9 inches thick, with binders on edge between each, as shown in the annexed (*fig. 1*), *a* being the brick-on-edge, and *b*, the binders.

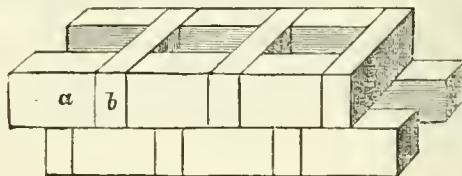


Fig. 1.

Very good specimens of this kind of building can be seen in this city, built some twenty-five years since. They consist of two extensive greenhouses and a one-storey dwelling-house, and they are at this time as strong and substantial as when first erected. Sashes or windows are seldom, if ever, introduced in the front of commercial greenhouses, as they add to the expense and make the houses colder; but in houses on the fixed-roof principle, ventilators of inch board working on hinges are frequently introduced at short distances along the front immediately under the plate or top scantling.

Having thus briefly described the construction of the end and side walls of the house, we come next to consider the construction of the roof, including the glazing.

The fixed roof is the most economical and expeditious in construction, and if carefully glazed, the warmest and driest. This mode of building is now so common that it is scarcely necessary to describe it. Take 1½-inch, or better still, 2-inch second common White Pine boards of the required length—say 10, 12, or 16 feet long. Send them to a sawing and planing mill and have them first planed, then ripped up into strips of 2½ to 3 inches in width, then rebated so that the glass will have a bearing of not less than one-quarter nor more than half an inch on each side. These sash-bars should be securely nailed or screwed at the upper end, to the ridge pole (if a double-pitch roofed house), or to the wall-plate if a lean-to house, and also to 2 by 3 purlins running lengthwise of the house, supported every 6 feet by pieces of 3 by 4 scantling. If the sash-bars are 10 or 12 feet long, one purlin will be sufficient, but if from 16 to 20 feet long, two will be required. These purlins are not only necessary for strength, but also to prevent the sash-bars from warping in the sun, which would cause

leakage, and in some cases would allow the glass to fall out. Although a fixed roof is the warmest, driest, and cheapest, yet it is frequently the case that the nurseryman is compelled by various reasons to use moveable sashes, as, for instance, when the ground is rented on a short lease and frequent removals are the consequence, or when plants are grown in the open ground inside the house, instead of in pots, and the removal of the sashes during the summer is necessary.

Moveable sashes as usually made, are expensive on account of the great amount of manual labour expended on them, but I have recently had made, principally by machinery, a large number of greenhouse and hotbed sashes that I have found sufficiently strong, and that cost but little more than a fixed

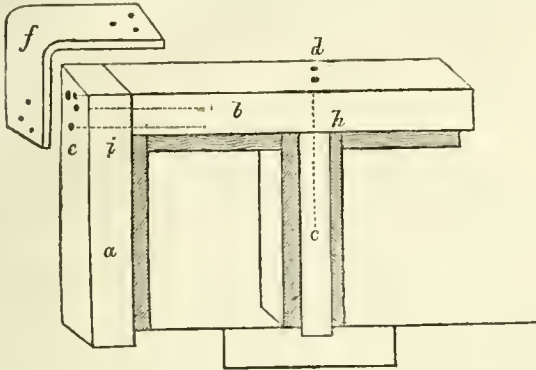


Fig. 2.

roof. Fig. 2, is a section of the greenhouse sash. *a* and *b* represent the three outer sash-bars—viz., the two sides and top, which can be either 2 or 3 inches wide, but I have found for 8-foot sashes 2 inches sufficiently strong and stiff. They should be of good, clean, second, common 2-inch White Pine, sawed, planed, and rebated by machinery on one side only, the rebates a quarter of an inch wide and half an inch deep. The middle sash-bars, *c*, should be made of the same stuff, 2 inches wide, and rebated on each side, a quarter of an inch wide and half an inch deep. The length of the sash should, if possible, be regulated by the length of the plank, so as to avoid waste. If 12 feet long, the sash-bars can be nearly 6 feet long; if 16 feet long, 8 feet, and so on.

If the sashes are intended for a greenhouse, where they are not often moved, it will answer to put them together with three ten-penny nails at each corner, as shown at *e*; but if for hotbed sashes, screws should be used. Corner pieces of hoop iron, punched by a blacksmith (as shown at *f*), and put on with large-sized lath nails, serve to stiffen the joint and prevent the nails from drawing; but this is not absolutely necessary.

The upper and lower cross-bar of the sash *b*, should be notched-in, as at *h*, the depth of the rebate, to receive the sash-bar *c*, and the side or outer-bar *a*, should be notched-in, as at *i*, for the same depth. This not only is necessary in

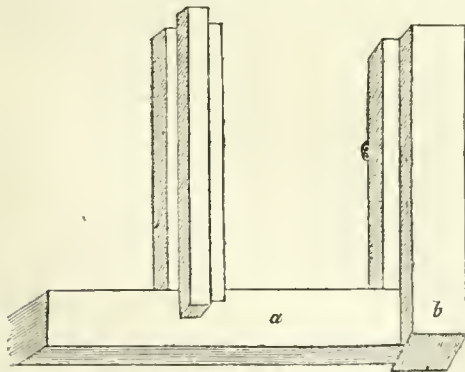


Fig. 3.

order to bring the rebates together, but adds greatly to the strength and stiffness of the sash.

The lower cross-bar, as shown at *a*, fig. 3, should be of less

thickness (say half an inch), than the other sash-bars, and should be perfectly plain without any rebate. This allows the glass, when the sash is glazed, to project over the bar *a*, so that the water runs off without obstruction. If the sashes are intended for hotbeds, the side bars should extend 5 or 6 inches beyond the top and bottom bars. These ends are convenient to handle them by, and also serve to strengthen them. If the sashes are over 6 feet long, they should be braced across the middle with an iron brace one-eighth of an inch thick, or a wooden one half an inch thick.

The great saving in these sashes is in the labour. The ordinary carpenter cannot generally make more than three, or at most four, common hand-made sashes in a day; whereas, I have had fourteen, and sometimes more, of the above-described sashes made in the same time. Indeed, it does not require a carpenter at all to put them together. Any person accustomed to the use of the saw and chisel can make them. Some ten or fifteen of the bars as they come from the planing mill can be laid side by side on a work bench or table, and all of them marked out by a standard measure and a square, and then all of them can be sawed to the proper lengths at once.

We next come to the glazing of the roof. Putty has been pretty generally discarded in glazing the roofs of greenhouses, except for bedding the glass in, and this is necessary in order to exclude the cold air and to prevent leakage. In glazing, the first operation is to take soft putty, and with a glazing knife or your thumb and forefinger, coat the rebate with putty to the depth of one-sixteenth of an inch, or the thickness of the glass used. Then, commencing at the bottom of the sash-bars, put in a pane of glass with the rounded-side uppermost. This is important, as nearly all common window glass has a curve in it, and by keeping this curve always uppermost, the glass fits closer, and more effectually excludes the air and moisture. When the pane is in its place, press it down firmly at its upper end until you feel it touch the wood of the sash-bar. Then secure it in its place by half-inch cut sprigs as follows:—One on each side at bottom, to keep the glass from slipping down, and one on each side, within quarter of an inch of the top of the glass, to keep it in its place, and also to keep the pane above it from slipping down.—(Read before the Pennsylvania Horticultural Society, by Ex-President D. Rodney King.)

WORK FOR THE WEEK.

KITCHEN GARDEN.

Cabbage plants should be well earthed-up, and the soil kept loose between the rows while they are young. *Cauliflowers*, those who preferred August to September for sowing may now plant out the young plants where they are to remain and receive the protection of hand-lights; these should not be put on until absolutely necessary. *Endive* and *Lettuce*, some of each of these should be tied up for blanching when they are in a fit state and dry. *Capsicums* and *Tomatoes*, of which very little hopes were entertained early in the season, have made rapid progress since the middle of July, and will yield a fair crop after all. *Weeds* will now be springing up in abundance from seeds carried into the garden, or shed in it, and this is the stage at which they are most easily destroyed. *Pot* and *Sweet Herbs*, this is a very good time to break up old beds of these, and plant young offsets in a bed or border. Any work of this kind, which can be done in the autumn, should never be put off till the spring. A row of *Chives* is useful in any garden; they may be divided and planted as an edging. Old *Camomile* beds, and many other things, may be renewed. *Water Cresses*, try a bed on a north border in the kitchen garden. They may be planted for weeks yet, but the sooner they are put in now the less likely they are to be thrown out of the ground by frost.

FRUIT GARDEN.

In consequence of the fine summer weather we have had this season, the growth of all trees and bushes is in a fair way of being well ripened, affording a good prospect of an excellent crop next season. Notwithstanding the repeated observations respecting the impropriety of cutting off the leaves of *Strawberry* plants, upon the proper development and full exposure of which the maturation of the buds for next season depends, the practice is still extensively adopted, and it is not unusual to meet with individuals who proudly contrast the neat appearance of their beds with the somewhat rough aspect of those where only the runners have been removed, the smallest buds

singled out, and full exposure given to these remaining. The treatment of Strawberries, as of everything else, should be varied according to circumstances and the object aimed at. The mowing-off the leaves will succeed better in light soils and in warm situations than it will do on cold stiff soils; as in the first case the mowing will be earlier performed, and a succession of healthy leaves will be produced, but at the expense of the stored-up nourishment existing in the bud. It may also be adopted in those cases where the unworkman-like practice exists of depending chiefly on the runners of the present season. It is true that an abundance of Strawberries may be procured by such a system, but the results of our practice and observation seem to show that such fruit is not for a moment to be compared either in quantity or quality with that produced by the plants when their leaves were left uncut. Besides, this system of cutting off the leaves renders the plants very susceptible of injury from the first keen frosts. The spaces between the rows may now be slightly forked, and a little manure put on at the first opportunity.

FLOWER GARDEN.

Where extensive alterations and improvements in pleasure grounds are contemplated after this time, the sooner they are proceeded with the better. There are many advantages in commencing early. In the first place, more work can be done in a given time now that the ground is in a workable condition, than it is possible to perform after the rains of winter have set in, and not only can much more be done, but it can be performed in a much more satisfactory manner. Secondly, by commencing early, we have the choice of the nurseries for such plants as are required, and there is a better chance of the transplanted shrubs succeeding, because, if the autumn is mild, they will strike root at once, and if it is not mild they will become so firmly fixed in the ground as to receive little injury. New ground work should, if possible, be completed by Christmas, and all planting by the middle or end of November. Choice evergreens, especially if removed from nursery beds, are transplanted in April, as we have always found them succeed better then than when removed in autumn. The last, and perhaps the greatest advantage of autumn planting is, that it sets the gardener's hands at liberty for spring work, which, if anything like high keeping is desired in the grounds, is essentially necessary. Tulip seed may now be sown in shallow pans or boxes, covering it very slightly. Now is a most excellent time to take off and pot Carnation layers; and look well after wireworms in the compost. There is nothing like the grower's eye to detect these mischievous deprecators. Keep Auriculas from the heavy autumnal rains, but let them have all the air possible.

GREENHOUSE AND CONSERVATORY.

Everything in the conservatory should be clean and sweet, the plants should never be crowded, therefore little air is wanted through the ventilators while the plants are at rest; indeed, letting in strong currents of air after this time does much mischief by drying the soil in the pots too much, and thus rendering large supplies of water necessary, when none at all should be wanted. Plants in sitting-rooms now require a very different treatment. Housemaids will ventilate their rooms as long and as often as they can, and make large fires in cold weather, very much to the injury of plants, which must have water freely every day, and should be changed as often as the stock will permit.

STOVE.

Plants here, and indeed all house plants, have ripened better this season than they generally do, owing to the hot clear weather in the end of spring and through the summer. This corresponds with the treatment generally recommended for some years past, which is, after vegetation has fairly begun in spring, to increase the temperature of the house, and by way of gentle forcing to assist Nature. Plants thus treated, and stove plants in particular, cannot be too cautiously watered late in the autumn. Nothing is now wanted but to keep the soil from becoming quite dry. In dull or rainy weather slight fires should be made in the forenoon, not so much for the purpose of raising the temperature as for drying the house. Allow a little ventilation, as stoves are generally too much crowded, and so damp that more or less air is always necessary to maintain a healthy atmosphere.

PITS AND FRAMES.

By the middle of September Violets should be planted out in pits within a few inches of the glass. After they are well watered lay half an inch of very dry soil over the surface,

in order to keep down the damp until the plants are firmly established and inured to confinement. Pots of Mignonette must also be protected from rain, but they should not be kept close. Heliotropes often become too strong at this time; if they are in the open air when this happens they never flower so freely in winter; a sparing allowance of water with some covering will soon check them. China Roses of all classes that have been closely pruned in August should now be encouraged in pits, and they will soon begin to bloom. Dwarf Neriums that have been hard forced to make young wood after flowering, should be hardened to stand over the winter in cold pits, merely keeping the frost from them. In about another fortnight the season for propagating will be over, therefore where sufficient stock is not already in, there is little time to lose. Plants that are standing out to be hardened should be so arranged as to be readily covered in case of frost, which may now be expected, and choice plants in beds, which it is intended to take up and pot, should also be protected during cold nights.—W. KEANE.

DOINGS OF THE LAST WEEK.

We were very busy in such a week of second summer, which presented so many varied sources of augmented interest as greatly to counterbalance all drawbacks and seeming evils.

KITCHEN GARDEN.

In this department we thinned out lots of Turnips, which we hope will yet come to something valuable in the autumn, and watered when thinned, as the ground is now becoming dry again, and would in the present weather be nearly as dry as ever but for the shorter days and the dewy nights. Watered Coleworts that we wish to succeed the Cabbage young and old. The main piece of the old Cabbage planted last autumn offers to do good service for a long time yet. Planted out a nice piece of Cabbages that had previously been pricked out, lifting the plants singly with small balls, and planting with the trowel, as then they are less likely to be cut down by grubs or other enemies; and to counteract the grubs this season, where they have troubled us much, threw some lime over the ground, and turned it over and examined it minutely before planting. Watered Cauliflowers now coming in, and planted out stout plants, hoping they will give us a return late if the weather be mild. Gave also a good watering to Celery tied up and not tied up, as even in beds it was becoming dry again, and but for the watering would have needed shading.

The Beans, Kidney and Runners, had also to be watered to keep them in good bearing, and from a piece of Dwarf Kidney Beans had every pod inclined to become old enough picked off, as one pod seeding will do more to exhaust the plant than a dozen pods rather more than half grown, and which will break as easily as a piece of thin glass. Whenever a pod will not break easily it is of little use in the kitchen, and should be cleared from the plant if continuous bearing is an object. Keeping this in view, we have frequently gathered last from our first sowing—in fact, but for allowing plants to produce seed pods, one sowing of Dwarf Kidney Beans, if well attended to, would just answer as well as several sowings, but in such a case close picking is the secret of success. Seed-saving must not be thought about, unless, indeed, a few plants are set aside for the purpose. By watering Vegetable Marrows they also continue to yield well. Our out-door Cucumbers were burnt up chiefly from want of clean water to treat the foliage to a shower bath.

Our chief drawback as to kitchen supply this autumn is the want of fine Peas, so great a treat in September and October for shooting parties. We did give our crops a watering too, but not what they wanted; but the parching heat was the great evil, and hence such things are scarce or not to be seen in this district, even in places where water was to be had. The mulching and the watering saved to us our Dwarf Kidney Beans and Runners, but they naturally stand a higher temperature than the Pea; as with us, with our little water at command, all our mulching, and even partial shading, failed to prevent the Pea coming weak and spindling, and ultimately succumbing altogether.

Celery.—Our most forward Celery is pronounced to be very good and sweet, but smaller than usual; and that is saying something, as we have given up aiming at having Celery monstrous in size, and for two reasons—first, that in such large Celery there was not a proportionate amount of material fit to send to table; and secondly, that when such large heads were

fit for use they could not be kept sound in drizzling weather, unless they were protected by a waterproof covering, as the rain, when it found its way to the heart of the plants, could not escape, but remained there, turned in time fetid, and then the heart, the valuable part of the plant, rotted and decayed, and all the labour went for nothing but a huge assemblage of outside leafstalks, of little use except for soups, if the cook could be coaxed to use them for that purpose.

Two or three inquiries have been made as to our reasons for not earthing-up early Celery by degrees, as last week we stated we had not the same objections in reference to late Celery, when the evaporation of moisture from the leaves is almost counterbalanced by the drizzling rains, the mists, and the dews of a late autumn. Our reason for not earthing-up gradually early Celery is based on the natural habitat of the plant, and what we have noticed as the results when these natural arrangements are greatly interfered with. The Celery is naturally a ditch plant, where in general the roots will have a sufficiency of moisture to meet the ample evaporation going on from the large expanded foliage. In such a position it will also receive less or more of shade. Deprive it of all shade, drain the moisture from the ditch, and then in the dry summer weather, the Celery plant, naturally a biennial, would in self-defence be forced to become an annual, and throw up its flower stalk the first instead of the second season. Under culture the same conditions will produce the same results. We generally give a little shade to early Celery by having Peas on the tops of the ridges, the Celery being planted in the bed trenches. The trench is just a makeshift for the ditch, and serves the purpose of retaining moisture better than planting on the level ground would do. In stiff ground the trenches should be shallow for late Celery to stand the winter. Now in the bit-by-bit earthing-up of Celery we do much the same thing for the plants as draining the ditch would do. We may water well before we give a little earthing-up, but if we place 2 or 3 inches of earth over the roots, and then in a week or two a few inches more, and so on, in order, as it is said, to encourage the heart to rise, we never think, or seldom, of the state of the roots, whilst the leaves are throwing off so much moisture every day, and then a great surprise is felt when the greater part of a bed bolts and throws up flower stalks, rendering the plants useless with cheese or for the salad bowl. Examine the roots, often as dry as if standing close to an oven, and the whole surprise need be a surprise no more. The roots could obtain no moisture near at hand, whilst the leaves were continually evaporating it in dry and sunny weather. The bit-by-bit earthing-up prevented all moisture reaching the roots of the ditch plant more effectually than if you had thoroughly drained the ditch, and the bolting of the Celery was the consequence of the roots being dry. Even as to the rising of the heart of the plant, that is sufficiently secured by first cleaning and then tying-up each plant rather loosely, and even the tying helps on the blanching process. If Celery is worth having, it is worth tying, as that keeps the heart leaves so nice and close.

Whilst for all early work—say heads for use in September, or earlier, and the first week of October, we object to the bit-by-bit earthing-up. We have no objection to an extra inch or two of soil over the roots, in which they may root upwards as well as downwards. In fact, after each heavy watering, we generally follow in an hour or two, sprinkling over the bed some well-broken soil from the sides, which, being dry, helps to keep the moisture about the roots, giving no free outlet to it except through the foliage. For early use, provided the plants are tied some time previously, the once earthing-up will do, if performed about three weeks before the plants are wanted; and, therefore, on the principles alluded to above, only a small piece is done at a time, for if large beds were earthed-up at once, before they were used, we would expect the roots to be dry just as in the bit-by-bit system, and then the same results would follow, in plants throwing up their flower stalks. The theory is borne out by results, as whenever we could give anything like common attention to our Celery, we never have had an early head bolted. In fact, such a thing has been unnoticed for many years. So much for our theory and practice, which we think of some importance, but others may know a still more excellent way.

And now a word as to earthing-up. In light soils, with tying previously, nothing is better than the garden soil. Many other materials are used. Mr. McDonald, of Woodstock, Ireland, uses moss, and few things could answer better. Old tan has also been used, but new tan is apt to give a taint, and if much is put on, it is also apt to heat. We have used leaves, but they,

too, are apt to heat. A correspondent last week recommended sawdust. We would only say, that used liberally at a time, it is apt to heat, and if from resinous wood, it will leave something of a taint. Sawdust from hard wood and rather old, is, therefore, best. In light soils, and in any soil for early produce, the soil will do for blanching. In heavy soils, and for winter supply, some coal ashes are a good material to place next the plant, and if scarce, enough just to go round the plant will do. A simple mode of giving this small supply is to have two semicircular pieces of tin—say 15 inches long and 6 inches at the semicircular diameter. These should be placed nearly together, so as to enclose the tied-up plant, and the ashes trundled down whilst the soil is put against the rim, and that removed as the earthing-up proceeds. Even a small quantity round the plants saves them considerably from worms and slugs. In heavy soils, even with ashes, it is not advisable to earth-up so high as in light soils; not more than about half would do, and then as the weather becomes cold, the plants could be packed close up to their stems with litter, placed rather firmly, and that will soon cake, and throw much water off. Plants so managed will stand the winter better than others if it is cold, and be little liable to damp off if the weather should be open and drizzly.

Prepared material for another Mushroom bed, and took the chance of such fine dry weather to run the Dutch hoe through all growing crops, Strawberry borders, &c.

FRUIT GARDEN.

Planted out thickly lots of *Strawberry plants* that had been previously pricked out, so that we may lift them in spring as wanted for forcing. In relation to this see previous remarks, and that all the more particularly, as an amateur was disappointed last season when he used such plants for early forcing. For early forcing the plants *must* be established now in pots. We recollect a great authority throwing cold water on all our gardening preparations, because from plants lifted from the open ground fine results were obtained in May and the beginning of June. Hence the folly of summer potting and autumn attendance. If the learned gentleman had tried his raised-up plants in January, we imagine where his triumphant notes would have been. Pricked out thickly a number of sorts in case they should be wanted, as even these will be good plants in spring, and when small they thrive all the better for company. We have had all our runners late this season, and some rows almost parched up are now like the grass, becoming green again. Had we waited for runners rooting in the open ground we would have been nowhere with our young plants in pots. By taking them off as soon as they showed, and pricking them out by the string in beds under protection, we soon had good plants for potting, many of which have now crammed the soil in the pots with fine roots. We do not think we ever had the plants potted more firmly, and they are all the better of it. This weather is just suitable for them, as maturing is helped as well as growth, and the latter all the more, as we can feed them with waterings containing something stronger than mere water. So far as these Strawberries in pots are concerned, we by no means wish rain to fall on them, except now and then, and if expected we strew the pots with a little soot, guano, or superphosphate. After many trials, however, we have come to the conclusion that we can do very well with our home manures without the help of artificial ones; but all plants, like animals, delight in a change, and though soot water is much relished by the Strawberry, something less nitrogenous is welcome as a change, as cow dung, sheep dung, &c.

One drawback there is in all this fine weather, reminding us of this, as respects ourselves and our doings, that we live in a world where all is not overbright, though we would often do well to look at the bright side, so as to check all the beginnings of grumbling. The drawback is, that with the exception of a few Plums, our stone wall fruit is gone. The Peaches and the Nectarines stood our first tropical summer well—not one fell, partly owing to mulching where we could not water; but even with the help of watering they could not stand the heat of this second summer. Late Peaches swelled too fast, and Nectarines swelled and shrivelled too in the heat, and the wasps coming in legions told us that we must take our share whilst a share could be had, and so but for our late orchard house we should be deficient in fruit for large desserts. These late houses will stand us in good stead, but we are gathering Walburton Admirable Peaches now, that kept us well in October last season.

Had we a continuance of such weather at this season, late orchard houses would be among the most useful and most economical structures about a garden, as fruit could be had

from them for large parties late in autumn, after the crop in the open air on the walls had ripened and been used. Who will set the example of a range of houses to have Peaches in October and Plums in November, and costing but wood and glass, or iron and glass?

We find the earlier Apples decay so soon after gathering, that we have left a number on the ground for the benefit of the wasps, as that keeps them from harder and finer fruit. We would like to defer gathering the later kinds a little longer, as they are acquiring such a fine colour in this weather. Lessened the late growths by removing and stopping, so that the sun should have freer access to fruit out of doors.

As to wasps, we are more convinced than ever that an encouragement in money payments should be given for wasps as soon as they appear in spring. Paying for nests at this season is something like trying to wash a blackamoor white. In fact, we are doubtful if we do not often make it worse for the garden. Whilst the nest or a semblance of it remains, be it in the shape of a bottle sunk in the ground with a hole at the neck open, and some tempting liquid at the bottom, the wasps have an inducement to return; but when all is gone, when once they come back to the garden they return no more. If even the nest is taken at night, numbers will be out, and if a bit is left to them they will flock to it during the day, and, as lately stated, a hand-light put on at night will catch numbers next day. In some cases we really think we fare worse after a nest has been demolished, if no modes are adopted to entice the outsiders and survivors. A cold night and a coldish rain will be our best aids in ridding us of these pests. Heaps of slaughtered ones seem to do little as yet in diminishing their numbers. When once they seize on a fruit it is best to leave it to them. Before they managed to leave nothing but the skin of a large Pear, it served as a grave for a score or two at a time, and then other wasps were more ready to come to it than to a fresh one.

ORNAMENTAL DEPARTMENT.

Here we intended saying much, but must confine ourselves to stating that cutting-making has been the chief business of the week.—R. F.

COVENT GARDEN MARKET.—SEPTEMBER 16.

THERE has been but little change in quotations since our last report. Supplies are quite sufficient for the demand.

FRUIT.

	s.	d.	s.	d.	s.	d.	s.	d.	
Apples ½ sieve	1	6	2	0	Melons..... each	2	0	5	0
Apricots doz.	0	0	0	0	Nectarines..... doz.	0	0	0	0
Cherries lb.	0	0	0	0	Oranges 100	12	0	20	0
Chestnuts bush.	0	0	0	0	Peaches.....doz.	4	0	12	0
Currants..... ½ sieve	0	0	0	0	Pears (dessert) .. doz.	2	0	4	0
Black do.	0	0	0	0	Pine Apples lb.	4	0	7	0
Figs doz.	1	0	2	0	Plums ½ sieve	2	0	4	0
Filberts..... lb.	0	9	1	0	Quinces doz.	1	6	2	0
Coba lb.	0	9	1	0	Raspberries.....lb.	0	0	0	0
Gooseberries .. quart	0	0	0	0	Strawberries... per lb.	0	0	0	0
Grapes, Hothouse..lb.	2	0	5	0	Walnuts..... bush.	10	0	16	0
Lemons 100	10	0	16	0	do. per 100	1	0	2	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	3	0	6	0	Leeks bunch	0	4	0	6
Asparagus 100	0	0	0	0	Lettuce.... per score	2	0	4	0
Beans, Kidney ½ sieve	3	0	4	0	Mushrooms.... pottle	3	0	4	0
Beet, Red..... doz.	2	0	8	0	Mustd.& Cress, pinnet	0	2	6	0
Broccoli bundle	0	0	0	0	Onions .....per bushel	5	0	0	0
Brns. Sprouts ½ sieve	2	0	0	0	Parsley.....per sieve	3	0	4	0
Cabbage doz.	1	9	2	0	Parsnips..... doz.	0	9	1	0
Capsicums..... 100	3	0	0	0	Peas .....per quart	0	0	0	0
Carrots..... bunch	0	4	0	8	Potatoes..... bushel	4	6	6	0
Calliflower..... doz.	0	0	0	0	do. Kidney do.	4	0	7	0
Celery bundle	1	6	2	0	Radishes doz. bunches	1	6	0	0
Cucumbers..... each	0	4	1	0	Rhubarb..... handle	0	0	0	0
Endive doz.	2	0	0	0	Sea-kale basket	0	0	0	0
Fennel bunch	0	3	0	0	Shallots lb.	0	3	0	0
Garlic lb.	0	8	0	0	Spinach bushel	4	0	0	0
Herbs bunch	0	3	0	0	Tomatoes.... per doz.	1	6	2	0
Horseradish .. bundle	3	9	5	0	Turnips bunch	0	6	0	0

TRADE CATALOGUES RECEIVED.

J. W. Wimsatt, Ashburnham Park Nursery, King's Road, Chelsea, London, S.W.—Catalogue of Stove and Greenhouse Plants, Trees, Shrubs, Bulbs, Pelargoniums, &c.

Robert Parker, Exotic Nursery, Tooting, Surrey.—Catalogue of Stove, Greenhouse, and Hardy Plants, Hyacinths, &c.

Hooper & Co., Central Avenue, Covent Garden Market, London, W.C.—Autumn Supplement to General Catalogue, contain-

ing Descriptive Lists of Dutch, Cape, and other Flowering Bulbs, &c.

TO CORRESPONDENTS.

* * We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

NOTICE TO QUIT (One in a Fir).—If you are a yearly tenant the landlord must give you a notice to quit six months previously to the expiration of the current year's tenancy, and so as to expire at the same period of the year as that at which you entered upon the premises. If you entered at Lady-day the notice must be given at Michaelmas requiring you to quit next Lady-day.

SEEDLING GLADIOLUS (J. P. Sharp).—The flower is handsome, but many are like it, and many superior.

VALUE OF TREES (Oakley).—No one can possibly value trees of which he neither knows the names nor the condition.

INSTRUCTION IN GARDENING (Flora).—We should decidedly say although you have been more than five years in the various departments of gardens, go to the Royal Horticultural Society's Garden at Chiswick, for a year or two, study hard, and compete for honours. A diploma of intelligence is a great advantage, if it is not trusted to and made to stand in the place of constant uninterrupted attention to all details of practice. Of course, we answer this in the hope you are able to go to the Society, as in many cases the going will involve a temporary sacrifice.

PLAN DISQUALIFIED (H. S.).—The design of a house and walled garden, but no gate or opening by which to gain admission, we think was properly disqualified. What would you say of the design for a house in which the architect had forgotten that an entrance door is needed?

FORMING A MUSHROOM BED (A Young Gardener).—Your proposed plan of preparing your stable dung for a Mushroom bed will answer well. Do not use it too wet, as then it will heat violently; nor too dry, as then it will impoverish the Mushroom, but in a medium state, neither wet nor dry; and be sure the heat is not too strong after spawning, never more than milkwarm.

POT-BOUND MYRTLES (Idem).—Pot the Myrtles at once, rubbing off a little of the outside of the balls, by using the fingers and a pointed stick, and thus get rid of a lot of the old soil without much injuring the roots.

ORCHARD-HOUSE PLANTING (A Young Gardener).—As your back wall is now planted with Peaches, &c., and you intend having Vines 5 feet apart, planted in an outside border, we do not think you will obtain good results long in the border inside the house, more especially as Vines are already planted there. Trees in pots would occupy the spaces before the Vines filled up. For your outside border, as the wall is 2 feet in height, we would remove the soil to a depth of a foot, have a foot of drainage, and fill up with loamy soil, half a ton of boiled bones, and three loads of lime rubbish. Write again if we have not met your case.

WEIGHT OF A BUNCH OF GRAPE (C. P.).—No general answer can be given to your query. The bunches of the numerous varieties vary in size. Specially had a bunch of the Syrian Grape weighing 23 lbs. A bunch of the Trebbiano has been exhibited weighing more than 12½ lbs. Bunches of the Black Hamburg should average 2 lbs.

COCOA-NUT FIBRE REFUSE (J. K.).—If you write to Messrs. Barsham, Kingston-on-Thames, we think that they will forward what you require by the Great Eastern Railway.

FUNGUS ON PEAR LEAVES (J. B. White).—The large rusty-brown patches with rough papillated surface, are Roestelia cancellata, a parasitical fungus. They are said to be removable by dusting the leaves with flowers of sulphur, and if this is repeated in any year they reappear, they may be entirely prevented.

PEACH TREES IN POTS (Somerset).—It is likely that your vigorous Peach trees will have better-flavoured fruits when their growth is less luxuriant. The stock influences the scion, and the scion the stock, but there is no correct theory on the subject, as the results are not according to any rule.

GRAFTING PEACHES—MEREDITH'S ALCANTE GRAPE (Idem).—The best time to graft Peaches is in February and March, when in an orchard house. It is as well to have a little bit of the two-year-old wood at the bottom of the scion. Whip or side-grafting is as good as any. Budding can be done at any time, when the bark opens and good buds can be obtained, generally in July and August. Meredith's Alicante Grape is sweet, has a fine aroma when fully ripe, and then it has a jet black colour. It requires a good heat.

PINE PIT (Southerner).—Under the circumstances we would have preferred a lean-to roof, but have no objection to the hipped one you propose, nor to the plan of getting more room by digging out a path in front of the present wall. In either case the bed should be from 30 to 36 inches from the glass, and that will give you a criterion as to the height of the roof. This will do for good stumpy plants. For large ones of the Providence kinds you will need more room. For stumpy plants you must reckon from 24 to 30 inches, plant from plant; for young plants one-half or one-third of that distance. You can thus calculate the number you will want, according as you buy fruiting or merely young plants. For general culture nothing is better than the Ripley Queen, and to that may be added a few of the Smooth Antigua, the Black Jamaica, and the Providence for size.

ARRANGING A NEW GARDEN (J. R. Boyd).—It is next to impossible to combine various modes of planting on the same ground, and yet have each of these in the highest perfection. The following remarks may be of importance to you:—1st, Your garden consists of two equal groups of five clumps each, in front of a range of houses, and banked at the ends, with fine masses of Rhododendrons, and a wall covered with Ivy. The centre of each of these groups is a large diamond-shaped bed, and the four figures round it would be squares but for one side, the sharp broken-in upon by the diamond. Nothing could be simpler, and the sharp angles of the squares and the diamond are artistic, if not picturesque. As a plain Dutch garden nothing could be more in keeping, and for a Rose garden with gravel paths, and stone, slate, or tile, or even Box edgings, no plan could be more appropriate. Now, as to advising you. The two centre beds have three standard Roses each, the spaces between filled-up with dwarfs, and the other four beds are of mixed herbaceous plants, and information is required as to a Rosery or grouping with flowering plants. First, we think that the centre bed would look better with five standards; if made into a Rose bed, the tallest in the centre, and four of equal size round. The others we would plant in the same way, with standards, half-standards, and dwarfs. No better arrangement could be made for a Rose garden; and if first-rate Roses are wanted, nothing else ought to grow with them, except such edgings as you have. Secondly, we would not advise you to centre each group, as now, with Roses and then plant the four larger beds with bedding plants, as the Rose centre will look poor in the autumn, when contrasted with the bedding plants. In fact, the centre would neutralise the gaiety of the other beds. Thirdly, Without Roses, the two groups would look very well if filled with bedding plants. The next most effective mode would be to fill one group with Roses, with a few low plants among them, and the other group with bedding plants; and lastly, we would suggest a plan we have adopted at times with good effect. Plant from three to five standard Roses in each clump. Much these Roses well, plant a climber, as a Convolvulus or Tropaeolum, about 30 inches from the Rose, and then train it towards the stem and let it run over it, and in the autumn a little over the head of the Rose. These make rough pillar stand points in the beds, and then we would rig them all over with broad bands of contrasting colours. This will do away, however, with all dwarf Roses.

SELECT HARDY RHODODENDRONS AND AZALEAS (E. G. E.).—*Rhododendrons:* Atrosanguineum, Barclayianum, Blanche superbe, Blatteum Comet, Hogarth, John Waterer, Lefevreanum, Maculatum purpureum, Toward, Victoria, and William Downing. *Azaleas:* Aurantia major, Calendula coccinea, Decorate, Prince of Wales, Rosen flavescens, Triumphans, Princesse d'Orange, Marie Dorothee, Etendard, Pontica alba (Thompson's), No Plus Ultra, and Coccinea major. The best time to plant Rhododendrons is during the next six weeks. The Azaleas should be planted as soon as the leaves begin to fall, or at the end of October and beginning of November.

RASPBERRY PLANTING (Alpha).—We grow the plants on trellises, with the canes 1 foot apart, and the rows 6 feet from each other. When the stool system is practised the plants should be 4 feet apart from row to row, and 3 feet from plant to plant. One well-rooted cane is enough to plant, and it should be cut down to 1 foot from the ground in the spring of the first year, so as to encourage suckers. No more than six canes should be left to each stool when the plants are strong enough to produce that number, which will be in the third year.

OLEANDER CULTURE (M. B.).—A compost of two-thirds loam from turves, one-third peat or leaf mould, and one-sixth sharp sand, will grow the Oleander well, good drainage being provided. It succeeds well in a greenhouse, and should have a light situation. In winter it should be kept dry at the roots, but not so dry as to affect the foliage. After growth commences in spring it cannot be too well supplied with water, and when it is in flower the pot may be set in a saucer, kept full of water until the flowering is past and a good growth made. Afterwards watering should be reduced, and the plant ought to have full exposure to the sun, and the lightest position the house affords. A moist atmosphere when the plant is making new growth will be beneficial, and so will a dry one when the wood is ripening. It is propagated by cuttings, which strike readily in a bottle of water, or in soil, the pots being plunged in a gentle hotbed of from 70° to 75°. Cuttings of the present year's growth are the best if taken off after the growth is complete, with or without a small portion of last year's wood.

COMPOST FOR VARIEGATED PELARGONIUMS (Idem).—Two-thirds sandy fibrous loam, best from turf, and the remaining third equal parts of old cow dung or very rotten hotbed manure, sandy peat or leaf mould, and silver sand. They should never be watered until the soil becomes dry, and before it is so dry as to cause the leaves to flag give a good watering sufficient to show itself at the drainage.

KEEPING PLANTS UNDER A GREENHOUSE STAGE (F. J.).—You may strike cuttings under your greenhouse stage, but it is not a good place, as the drip from the pots on the stage will probably fall on the pots or pans of cuttings, make it too damp for them, and cause them to rot or damp-off. The house being well ventilated is not conducive to the success of the cuttings, for, as a rule, they require a close, moist atmosphere. Under the stage is not a good place for watering bedding plants; but as you say you will take care there shall be no drip, you may water many bedding Pelargoniums, especially those taken up from the beds. Lilium, Salvia patens, and plants which have little or no foliage in winter, will be safely kept under the stage if the drip be reduced to a minimum.

SEEDLING ROSE (E. M.).—It is to be regretted that you did not bud a few strong Manetti or Briar stocks with the seedling Moss Rose, as the plants would next year have made vigorous shoots, and these, if not pruned, would have produced flowers in the following year. Your plants being vigorous, we would not prune nor take them up and replant, but would leave them undisturbed, and allow them to take their chance of blooming. If they would not flower we would then advise your budding a few stocks, and allowing the plants to grow without pruning until flowers were produced. It is probable you may flower them next year. Possibly a few buds might now take if inserted.

ARBOR-VITAE BADLY FURNISHED WITH BRANCHES (J. T.).—The only plan will be to cut out the old or dead wood, and by tying the branches closer together, or training in some young shoots, make it more close and compact. Probably a judicious pruning would answer your purpose, but in pruning leave plenty of young wood.

WHITE JASMINE PROPAGATION (Idem).—It is propagated readily by

layering, which is a sure method, and also by cuttings of the ripened wood put in now in sandy soil in a cold frame, and kept close and shaded until rooted.

JUDGES PILFERING MELON SEED (G. H.).—It is not customary for judges to take seeds out of the prize Melons, and anyone who does so is a pilferer. If, as you say, any exhibitor has a good Melon and intends to send it out, it is a wrong inflicted on him. The judges at poultry shows might as justly take the eggs laid in the exhibition pens by the hens exhibited.

CLEARING MUDDY WATER (J. T.).—Your only plan will be to have it filtered.

HEADING-BACK MANETTI STOCKS (P. J. N.).—You can cut off the head of the stock to within an inch or two of the bud, and the cuttings will answer to form stocks. They should be taken from the one-year-old wood, and be in lengths of 10 or 12 inches. They should be planted in November, and the heading-back need not take place till then.

IVY-LEAVED PELARGONIUM (Cathedral).—Silver Gem, with variegated foliage, has lilac rose or pink flowers, blotched in the upper petals with purplish crimson. There are several new hybrids between the Ivy-leaved and Zonal Pelargoniums to be sent out next year.

PRIMULAS (A. C.).—We do not know the address of the grower you name. There is but little difficulty in growing them fine if the rules often published are followed.

GUNTER'S TART APPLE (H. D.).—The roddish-fleshed Apple that so melted and gratified your palate, was probably the Golden Noble, and it deserves the name as a kitchen Apple. The leaf you enclosed is not of the Piptanthus.

GOLDEN FEATHER PYRETHRUM (R. W.).—The seedling will do for bedding next summer. Directions for sowing are in our last number.

TOBACCO DRYING (Rev. W. H. F. H.).—The leaves are to be gathered when they assume a yellow tint, tied in small bunches, and hung up in some shady airy place to dry. When crisp watch for the first humid state of the atmosphere, when they will become soft, and pack them evenly in a box with the ends or butts all one way; press moderately, and a slight heat will be generated. Whilst warm take out the bunches, shake in the air to let off the heat, repack lightly, and, when thoroughly dry and cool, store tightly in a barrel, and keep there for use. The leaves which turn black and smell disagreeably will not be spoiled if you dry them, but if fungus attack them they will lose their virtue.

PLANTS FOR HANGING BASKETS AND VASES (A Beginner).—We presume you wish for plants that will bear the open air in summer. The Ivy-leaved Pelargoniums are good, there being varieties with pink, scarlet, white, and mauve flowers, and silver and gold variegation; Gazania splendens, Convolvulus mauritanicus, Alyssum variegatum, Fuchsia in variety, Heliotropes, Lobelia speciosa, Nierembergia gracilis, Petunias, Verbena Manetti, Maurandias, Lophospermum Hendersoni, and Tropaeolum Ball of Fire, Eclipse, Garibaldi, and Lobhianum elegans. These require the protection of a greenhouse in winter, and may be increased to any extent by cuttings for planting next year. Of hardy plants we may mention Calystegia pubescens, Linaria cymbalaria, L. cymbalaria alba, Lithospermum fraticosum, Lysimachia nummularia, Saxifraga sarmatosa, S. Fortuni variegata, Vinca elegantissima, and the small-leaved green and variegated Ivies.

REMOVING AND PLANTING EVERGREEN AND FOREST TREES (Idem).—As soon after this as the ground becomes moist and the shrubs have completed their growth, is the best time to move and plant evergreens. Deciduous and forest trees are best moved as soon as the leaves are falling, or have fallen.

POTTING ROSES (Notice).—We advise you to shift the Roses into larger pots at once. It is now a good time to do so. They will succeed very well in the cold frame during the winter, moving them after pruning into the greenhouse, and you will have an earlier bloom.

"CUT FLOWERS, TWELVE BUNCHES, DISTINCT VARIETIES" (Ignoramus).—It is very much and very generally to be lamented that the committees of horticultural shows do not express their prize lists more clearly. We presume that the committee who offer a prize in the above words did not mean to exclude "species." We presume also that they mean each bunch to consist of one species or one variety, and not that each bunch may have several species or several varieties in it. You had better ask the Secretary what is meant. We do not think the Pampas Grass is within the intention of "cut flowers."

INSECTS ON CABBAGES (Subscriber).—They are the Aphis rapae. Spraying with tobacco water, or dusting with tobacco powder, are the only practicable remedies.

NAMES OF FRUITS (An Old Subscriber).—We have named those we set once recognised, but we protest against so many being sent by one inquirer. If each package which comes to us contained, as yours did, thirty-seven specimens, we should be obliged to decline naming them. 1, Beurré de Rance; 4, Winter Nelis; 6, Beurré d'Arenberg; 8, Beurré de Rance; 10, Baronne de Mello; 11, Louise Bonne de Jersey; 12, Doyenné Gris; 13, Passe Colmar; 14, Rousee Leach; 16, Aston Town; 18, Croft Castle; 19, Van Mons Léon Leclerc; 20, Gros Rousselle; 22, Beurré Hardy; 24, Van Mons Léon Leclerc; 25, Forelle; 26, Nouveau Poiteau; 23, Beurré Diel; 31, Beurré de Capiaumont; 32, Van Marum; 33, Passe Colmar; 35, Duchesse d'Angoulême. (Mrs. J. Newman).—Your Apple is Early Harvest, an excellent early variety, which appears to do well in your northern climate, Barnsley. (C. P. B.).—1, Kerry Pippin; 2, Court of Wick; 8, Autumn Pearmain; 4, Winter Greening; 5, Scarlet Nonpareil; 6, Fearn's Pippin. Others not recognised. (David Williams).—1, Pary's Pearmain; 2, Calville Blanche d'Été; 3, Stomer Pippin; 4, Herefordshire Pearmain; 5, Pearson's Plate; 7, Kerry Pippin; 8, Dutch Codlin; 9, Ribston Pippin; 10, Braddick's Nonpareil; 12 and 13, Pomme de Neige; 14, Dutch Mignonne; 16, Golden Winter Pearmain; 17, Conseiller de la Cour; 18, Crassane. (H. Hammond).—1, Flower of Kent; 2, Winter Greening; 3, Springrove Codlin. (F. D.).—The berries are of the Cornel, Cornus mascula. (G. B.).—2, Comte de Lamy; 3, Catillac; 4, Passe Colmar; 5, Dunmore; 6, Royal Dauphine. (Old Subscriber in Yorkshire).—No. 1, Beurré d'Amants; 2, Bergamotte Cadette; 3, Passe Colmar. (Quack).—Pears: 1 and 7, Beurré Diel; 2, Passe Colmar; 5, Baronne de Mello; 8, Catillac; 9, Seckle. Apples: 10, Reinette Blanche d'Espagne; 11, Nonsuch; 12, Manks Codlin; 13, Hawthornden; 15, Nonpareil; 16, Birmingham Pippin; 17, Trumpington. 13, Eucyonius latifolius.

NAMES OF PLANTS (*An Amateur Subscriber*).—No one could identify a plant crushed as that you sent; nor can we undertake to name any of which we have not a flower. (*J. H. D.*).—*Arum maculatum*. (*W. James*).—1, 5, and 6, *Calluna vulgaris*, different-coloured varieties; 2, *Erica tetralix*; 3, *E. tetralix alba*; 4, *E. cinerea*. (*G. M. C. W. Staplehurst*).—1 and 2, *Calluna vulgaris*; 3, *Erica cinerea*; 4, *Escallonia rubra*; 5, *Pentstemon* sp.; 6, *Valeraria plumbaginoides*. (*Rev. H. Sidebottom*).—*Kæretaria paniculata*. (*M. A. H.*).—*Hieracium boreale*. (*Weaford Subscriber*).—Apparently a *Leptospermum*. (*T. S.*).—1, *Bartsia odontites*; 2, *Malva rotundifolia*; 3, *Euphorbia exigua*; 4, *Tamus communis*; 5, *Salsola kali*; 6, *Cakile maritima*. (*T. B. W.*).—1, *Clematis viticella*; 2, *C. vitalba*; 3, *Stipa pennata*; 4, *Agrostis*. (*P. J. N.*).—*Tropeolum speciosum*.

mon sp.; 6, *Valeraria plumbaginoides*. (*Rev. H. Sidebottom*).—*Kæretaria paniculata*. (*M. A. H.*).—*Hieracium boreale*. (*Weaford Subscriber*).—Apparently a *Leptospermum*. (*T. S.*).—1, *Bartsia odontites*; 2, *Malva rotundifolia*; 3, *Euphorbia exigua*; 4, *Tamus communis*; 5, *Salsola kali*; 6, *Cakile maritima*. (*T. B. W.*).—1, *Clematis viticella*; 2, *C. vitalba*; 3, *Stipa pennata*; 4, *Agrostis*. (*P. J. N.*).—*Tropeolum speciosum*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending September 15th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 9	30.281	30.195	71	41	63	62	N.E.	.00	Clear and fine; fine; clear and fine at night.
Thurs. 10	30.137	30.041	74	34	62	62	S.E.	.00	Clear and fine; very fine; cloudy and cold.
Fri. .. 11	29.984	29.793	75	55	60	61	N.W.	.00	Fine, hazy; very fine; cloudy, fine at night.
Sat. .. 12	29.905	29.653	73	49	62	61	N.E.	.00	Cloudy, fine; cold wind; fine, very dark.
Sun... 13	29.892	29.548	75	47	61	60	N.E.	.00	Overcast, cold; densely overcast; fine, cold wind.
Mon... 14	29.855	29.724	65	51	60	60	N.E.	.00	Clear and fine; cloudy; very dark, cold wind.
Tues. . 15	29.947	29.880	64	40	61	60	N.E.	.00	Cloudy; fine, cloudy; overcast, fine at night.
Mean	29.904	29.883	71.00	45.28	61.28	60.85	..	0.00	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

THE MANCHESTER POULTRY SHOW PRIZE LIST.

It is seldom such a liberal prize list as that of the above Show is presented to exhibitors. Some of the prizes exceed even those of Birmingham, and although on the whole the Manchester Show must rank second to Birmingham, it is certainly second to no other. It is, therefore, a matter of regret that a Show of such importance should be held at a time of the year when numbers of exhibitors will be unable to avail themselves of it to any extent, owing to their Pigeons being in moult, and their chickens too young to compete with any chance of success. No doubt many fanciers will be represented, but I do not think I am exaggerating in saying, that on the 1st of October next, three-fourths of the Pigeons (adult birds), in the kingdom will be in deep moult, or not sufficiently recovered to be in a fit state to contend for the prize, or bear the journey and confinement. I believe this applies to all breeds, and especially to the larger, which, I think, are longer moulting or show the effects of it more. I have about thirty old Pouters, and I am sure not one will be fit to show in three weeks' time. Some have scarcely begun to moult, and have young ones. Some have their "crops" all covered with "stubble," and a few have just laid again, for the last time this season. If, therefore, I wish to show at Manchester I must send this year's birds, and of these only the early-hatched will be ready.

Then, as to poultry, doubtless many of the breeds which feather quickly will be in a fit state to show. But what of slow-feathering birds, such as Brahmans, Cochins, and Spanish? Hundreds of good birds, especially of the last-named breed, which will be in condition to do little at Birmingham, will have to stay away from Manchester. I know there have already been many chicken shows this season (how many *bonâ-fide* chickens have been shown is another question), but not of such importance, either as regards the honour or the value of the prizes.

These, at least, are my views on the subject, and if any brother fanciers are of the same opinion, I hope they will express it through the columns of this Journal, and that Mr. Jennison, who is very much to be commended for his excellent management and liberality, may be induced to hold his Show, in future, at least one month later.—ALFRED HEATH, *Calne*.

HOUDANS.

THE merits of Houdans as egg-producers I cannot mention with too much praise. Two first-class Houdan hens in my possession have from the time of their purchase, early in the spring, up to their moulting, laid almost invariably six eggs a-piece per week. They only once ceased laying altogether for either three or four days, after which interval they recommenced as vigorously as before.

These hens are and have been, as long as I have had them, confined to a small back yard, where the little grass that was laid down for them last winter was parched up during the

drought, consequently they have been dependant for green meat on what few lettuce and cabbage leaves I could afford to give them. Moreover, the same yard is co-tenanted by a Houdan cock, two mongrel hens for incubation, and on an average twenty chickens of various ages, all Houdans, and all healthy.

None of my Houdan hens has ever been broody. As to the fertility of Houdan eggs, the results of my own "hatchings-off," and the reports of neighbours whom I had supplied with eggs for sitting were most satisfactory. On an average ten chickens were obtained from a sitting of thirteen eggs, making allowance for mishaps of all sorts.

As to the hardiness of Houdans, my experience being very limited, I can only say that young Houdan chickens (my earliest were hatched in April), are in strength unsurpassed by any that have come under my notice. I find the cockerels as hardy as the pullets, and at present proportionably rapid in their growth; but I confess that the adult male birds that I have met with are usually much smaller, and apparently more delicate than the hens. My Houdans after continuous rain have occasionally suffered from cold, but have not hitherto manifested rumpy tendencies; indeed, I have found them remarkably free from disease of any sort.—H. S. FRASER, *Headley, Hants*.

STOKE-ON-TRENT POULTRY SHOW.

THE poultry department in this year's Show, which was held on the 9th and 10th inst., has proved the greatest success that the Staffordshire Agricultural Society has ever had. Not only were the classes, as a whole, remarkably good, but the day was also delightful, and the concourse of visitors was most satisfactory. With such splendid weather everything went off pleasantly, though the most ample provision had been made for the protection both of the visitors and poultry, in case of bad weather occurring. A very large tent was erected, exclusively for the poultry, and great attention was paid to the birds. The only arrangement worthy of mention in which we would suggest improvement, is that of the pens. The upper tier was somewhat too high to be effective; the bottom of the upper pens being 5 feet 6 inches from the ground, consequently they were not so easily inspected as they would have been if placed from 9 inches to a foot lower.

The Game fowls generally were good, and although a chicken show throughout, with the exception of Turkeys, it is quite time that all Game cockerels were dubbed, if sufficiently matured to be fit for present exhibition. The *Dorkings* were remarkably good, and the *Spanish* and *Cochins* were equally worthy of praise. *Brahmas*, both Light and Dark-feathered, were unusually good, and constituted the largest number of entries in the Show. The *Hamburgs* were one of the best portions of the Show, every variety being particularly good. The Duke of Sutherland entered a collection of especially good birds. The *Duck* classes were a leading feature of the Show, and the Buenos Ayrean ducklings were evidently of superior quality to any exhibited for some time past.

As already stated, this being what is called a chicken show, almost every bird was new as to exhibition, and not a few appeared to the greatest disadvantage, from their never-ceasing efforts to escape from their pens. We would hint to owners, that the advantage is very great of accustoming chickens to temporary confinement before publicly exposing them to the terrors and annoyances of a general poultry show. A few of the specimens absolutely dash their plumage to tatters in their vain efforts to escape, whilst others become sullen and tremulous when thus confined for the first time. In fact, all

chickens intended for show should be made familiar and confiding before competition.

YOUNG BIRDS.

GAME (Black-breasted and other birds).—First and Second, J. Platt, Swanlow, Winsford (Brown-breasted). Highly Commended, G. Swift, Fulford, Stone (Brown Red). Commended, G. Swift (Brown Red).

GAME (Any other variety).—First, W. Danoig, Newport, Salop (Duck-wing). Second, Duke of Sutherland, Trenham.

SPANISH.—First, J. Walker, Wolverhampton. Second, W. Woolley, Banbury, Tarporley. Highly Commended, W. Woolley; J. Smith, Keighley; H. & S. Cooper, Walsall; P. H. Jones, Fulham; J. Clews, Walsall. Commended, T. Cliff, Hanley.

DONKINGS (Coloured, except Silver-Grays).—First, Mrs. F. S. Arkwright, Etwell Hall, Derby. Second, Hon. W. H. W. Fitzwilliam, Wentworth Woodhouse. Highly Commended, Mrs. F. S. Arkwright; H. Pickles, jun., Early, Skipton; G. Swift. Commended, Hon. W. H. W. Fitzwilliam.

DONKINGS (Silver-Gray or White).—First, Rev. E. S. Tildeman, Brentwood. Second, Mrs. E. Williams, Henlys, Berriew. Highly Commended, Mrs. F. S. Arkwright. Commended, Hon. W. H. W. Fitzwilliam.

COCHIN-CHINA (Cinnamon or Buff).—First, Rev. S. C. Hamerton, Warwick. Second, W. H. Crowe, Etwell, Derby. Commended, G. Swift.

COCHIN-CHINA (Brown, Partridge-feathered, or other varieties).—First, E. Tudman, Whitechurch, Salop. Second, H. Lingwood, Bucklesham, Woodbridge. Highly Commended, E. Tudman. Commended, A. O. Worthington, Newton Park, Burton-on-Trent; E. Shaw.

BRAMA POETRA (Dark).—First, Mrs. Bailey, Longton. Second, L. Poulton, Biddulph, Congleton. Highly Commended, A. O. Worthington; Rev. E. Alder, Etwell, Derby. Commended, A. O. Worthington; E. Leech, Rochdale.

BRAMA POETRA (Light).—First and Second, J. Pares, Postford, Guildford. Highly Commended, H. Dowsett, Pleshey, near Chelmsford. Commended, A. O. Worthington; J. Pares.

HAMBURGS (Golden-pencilled).—First, H. Pickles, jun. Second, F. D. Mort, Stafford. Commended, F. D. Mort.

HAMBURGS (Silver-pencilled).—First, Duke of Sutherland. Second, H. Pickles, jun. Highly Commended, Duke of Sutherland.

HAMBURGS (Golden-spangled).—First, T. May, Wolverhampton. Second, T. Blakeman. Highly Commended, T. Boulton.

HAMBURGS (Silver-spangled).—First and Second, Duke of Sutherland. Highly Commended, H. Pickles, jun. Commended, W. Parr.

GESE.—First, G. J. Mitchell, Newton Mount, Burton-on-Trent. Second, F. E. Richardson.

DUCKS (White Ayleshray).—First and Second, E. Leech. Commended, A. O. Worthington; G. J. Mitchell.

DUCKS (Rouen).—First, E. Leech. Second, J. J. Stott, Rochdale.

DUCKS (Black East Indian).—First, Duke of Sutherland. Second, Rev. W. Sergeantson, Acton Burnell Rectory.

TURKEYS.—First, E. Leech. Second and Highly Commended, F. E. Richardson.

EXTRA.—Highly Commended, Miss E. Williams (Black Crève-Cœur).

SINGLE COCKS.

GAME.—Prize, G. Swift (Black Red).

SPANISH.—Prize, P. H. Jones, Fulham, London.

DONKINGS.—Prize, Mrs. F. S. Arkwright. Highly Commended, Hon. W. H. W. Fitzwilliam.

COCHIN-CHINA.—Prize, G. Swift. Highly Commended, A. O. Worthington.

The Judge was Edward Hewitt, Esq., of Sparkbrook, near Birmingham.

SHOWING PAIRS OF PIGEONS.

In a clever letter written by Mr. J. Firth, of Dewsbury, which appeared in "our Journal" a short time ago, he appealed to the honesty of exhibitors of Pigeons to show fairly—that is, when a pair is to be shown, show a cock and hen; but, I regret to say, his appeal has been unheeded. I have been to most of the recent shows, and am ashamed to admit the abominable system of showing two hens or two cocks as pairs is, if anything, on the increase, and by men who really ought to set a better example to the fancy.

I have just returned from Southport Show, and I will tell you how I was served there. In the Short-faced Bald class I exhibited a pair (cock and hen); there were but four pairs there. I had the mortification to find both the first and second prizes awarded to four hens. There is no difficulty in proving this, for the exhibitor himself admitted it to me as we returned in the train from the show. I was served exactly the same at the last Birmingham Show with, I believe, the same birds, only shown in another name; anyway, I will swear to the two black hens.

Now, I ask, is this right? Are we to put up with it much longer? If so, all I can say, the legitimate fancy is at an end.

One of the cleverest judges, in my opinion, of a Pigeon (Mr. Fulton), went through the Pigeons with me at the Southport Show. We had no difficulty in discovering the birds honestly exhibited, and those which were not, and I think he will bear me out in what I am going to state. In Black Carrier hens there was an old cock shown; in Antwerps three pens were all cocks; Nuns, one pen, two hens; Barbis, one pen, two cocks; Turbits, one pen, two hens; Owls, one pen, two cocks; Trumpeters, one pen, two cocks; Short-faced Baldpates, two pens, all hens, &c. I can prove this and give the names of exhibitors

if necessary. At the last Birmingham Show prizes were awarded to no less than eight pens of Pigeons that were not pairs, as they should have been, but either two hens or two cocks.

I cannot imagine what pleasure any real fancier can have in taking a prize under such false pretences; and surely the judges should be able to discover some cases of similar imposition, and, if so, why not at once disqualify and expose the exhibitor? but I have been told judges do not like to do so for fear of giving offence, and not being invited to judge again.

I was pleased to observe in the prize lists for the coming Manchester and Birmingham shows "a caution" respecting pairs of Pigeons, which I hope all intending exhibitors will observe, as you may depend upon it I for one will be down upon any one who does not.—THOMAS H. RIDGETH, *Manchester*.

MANAGEMENT OF GUINEA FOWLS.

HAVING noticed a reply to "ANNA F." on Guinea Fowls, I add a few remarks, as I have kept them for some time. I keep two hens to one cock, and have set eggs from both, and they hatched well; it is seldom I find an addled egg. The cock certainly showed a preference for one hen when first placed with them, but later in the season he is as attentive to one as the other. He will call them just the same as the domestic cock does when he finds a dainty morsel.

Cock birds may be distinguished by their arching their backs, running on their toes with a mincing gait, and they are more spiteful to other poultry than the hens. They both utter a disagreeable harsh note, but the hen alone says, "Come back."

If the eggs laid are removed daily the hens will keep to their nest, but if eggs are allowed to accumulate they will soon forsake it on the removal of the eggs. A nest egg should be kept in the nest. The eggs should be hatched under hens, in order to have the chicks as early as possible. They hatch in twenty-six days, not twenty-eight, as I have kept notes as to their time of incubation, and they are as true to their time as Turkeys.

Game hens, if small, are well adapted for the purpose. A garden is a good place for them, as they soon run about in search of food. I let mine out for a run on warm days at a fortnight or three weeks old, but they must be put into the coop before it becomes cool. For food there is nothing better than chopped egg, ale sop, bread and milk, or ground oats wetted with cold milk or water. Hot water makes them sticky. They require frequent feeding. People speak against bread, but I think it must be adulterated if it does not agree with young birds and poultry. I always use home-made bread. I should think alum must be injurious.—L. B.

BROOD IN SUPERS AND STORIFIED HIVES.

THE best mode of preventing brood in supers is by affording ample breeding space in the stock hive, and admitting the honey-gatherers of the side combs only through full-width spaces there. To restrict the communications is manifestly to retard the work, and consequently lessen the harvest.

Why exclude drones from supers? They neither lay eggs nor carry up pollen. That they are found in them in abundance is a strong proof of their utility; and if for no other purpose, their presence there must, by raising the temperature, facilitate exudation of wax, and promote the speedier production of combs—an invaluable requisite to the bee-master during the height of the honey season.

Both your correspondents "SUPER" and Mr. J. Prebble have fallen into the too common error of supposing bees require any assistance to ventilate their supers by lowering the temperature, the inverse of all good practice, and one of the stereotyped blunders of too many bee books; and all the contrivances, however ingenious to effect this purpose, are nothing more nor less than a mistake. Bees invariably and unmistakably protest against such apparatus by stopping them up, losing time and material in the operation. Instead of thwarting the instincts of my little favourites in this direction, I rather aid them by at once running a strip of gummed paper round the junction of each super added, so as to retain and economise the ascending genial warmth, and keep it up; rendering the warmth as equable as possible by wrapping up all supers, whether of glass

or wood, with either fleeces of wool or several thick plies of woollen cloth, thereby inducing bees to accept often a super and work steadily and continuously in it, while at a lower temperature such would never have been taken to.

It is mainly to the facility with which heated air ascends, and bees being naturally inclined to store honey in the upper portion of their domiciles, to which is to be ascribed the great success of the storified system, and its superiority over Nutt's or any other collateral system, now so generally admitted by all practical apianians. All stock hives should possess facilities for enlarging to a very considerable extent the entrances during the working season, and it is there only that ventilation is requisite, and the want of it in the fixed small ones of cottagers' hives, and the stifling overheating effects on the brood while built out preparatory to swarming, may, to a considerable extent, account for the prevalence of "foul brood" in such stocks, in comparison with swarms.

The great advantage of placing the empty super upon the filling one, instead of between it and the stock hive, doubted by some of your able contributors some time ago, I have had most ample opportunities of verifying in the present season with the most satisfactory results.

Acting on the principles hinted at above, I am never troubled with either brood or pollen in supers of my storified colonies, although some twelve years ago I was much annoyed with both in boxes and glasses, set over a central hole in common straw hives; and as an example of the benefits of the storifying system under judicious management, I may state that one hybrid Italian colony in Stewarton boxes has yielded me eight octagon supers of 20 lbs. each, or a harvest of 160 lbs. of honey, independently of body honey, and what is yet contained in two supers partly combed still upon it. This octagon pile, standing over 4 feet in height, when in full work, with three large entrances for the bees, was to many apianian friends the greatest marvel they had witnessed, at the same time being the most profitable stock of bees ever possessed during this, the finest season experienced by their owner, since becoming—A RENFREWSHIRE BEE-KEEPER.

THE USES OF SUPERS.

THE use and management of supers have been so often advocated and explained in "our Journal," that it might almost be deemed unnecessary to say more, were it not that there are many new bee-keepers, who, not having perused the preceding papers, may yet be unacquainted with the economy of the hive, and are therefore seeking information on the subject. As, however, the question at present is how to prevent the queen from entering supers, I will direct my attention principally to that point.

In the first place, then, I would ask bee-keepers if they have ever seen a division in the brood within the hives in spring—i.e., the queen depositing her eggs on the opposite sides of the hive? I say no; but she rather concentrates her eggs as much as possible (leaving only here and there a chance cell filled with pollen and water for the larvæ, and honey for the newly-hatched bees, so that they never require to visit the unoccupied part of the hive in order to obtain food), the patches of brood gradually increasing in size until they extend to the edges of the combs—the very time at which, as I stated in my former letters, swarming may be expected, and when in many cases supers are put on. I will not now repeat the directions already given, but will merely state what occurs at this period.

We may, then, suppose that the super has already been begun, and that every cell in the stock hive is occupied. The queen uneasily searching every part of the hive, and following the track of the workers into the super, will there deposit her eggs. To prevent queens passing into supers by means of gratings, however accurately they may be constructed, is as impossible as it would be to forge an iron hoop that would exactly fit every one's head, whatever size it might be. That which will prevent one queen from passing through will readily admit another; and what, after all, is the difference in size between a small queen and a heavy-laden worker? A queen, after gaining access to a super, will, if fertile, commence laying eggs, either in the centre or where the bees are most numerous, just in the same manner as in the stock hive, until she comes in contact with the elongated cells partly or wholly filled with honey, when she will again return to the stock hive, and fill up what cells have been emptied during her absence by the

hatching-out of brood. Thus it will be seen that the progress of the colony is retarded by restricting the queen to comparatively few cells, when it would be an easy matter to nadir the stock, and thus encourage breeding below, whilst insuring the purity and value of the supers, "and," I think I hear some of you exclaim, "produce a lot of worthless drone comb!" What then? Better to have it in the nadir than in the super, as would probably be the case if a nadir were not used. When a super is put on, and comb-building commenced in it before the stock hive is fully charged with brood, and whilst the queen is still in the height of her laying, the bees will not readily build drone comb; and if the weather be fine the cells will be extended and filled so rapidly, that a fine well-finished super will be the result.

Drone comb in supers is an annoyance to many, and how to avoid it is a puzzle; but if we only watch and endeavour to assist nature a little, many such difficulties may be expected to disappear.—A LANARKSHIRE BEE-KEEPER.

FAILURES IN UNITING BEES.

I BEGAN keeping bees in Woodbury ten-bar hives in June last, and stocked four in that month from straw hives by transferring bees and combs. My apiary now consists of eight hives—four ten-bar Woodburys, two small box hives, and two straw hives. The season here (Worcestershire), since the latter part of May has been exceptionally bad, and I have therefore been obliged to feed liberally, in addition to the honey the bees had collected.

Being anxious to ligurianise the Woodburys, if I can get them into a sufficiently strong state to live through the winter, I persuaded several people to let me deprive the hives of the bees they intended to take this year. The first two or three I operated upon and united were very successful, with the loss of but few of the bees. I marched the bees into an eke, or between two thick sticks placed upon a cloth, and set the Woodbury hive upon the top; but those I have done since, I have been very unfortunate with, though I have operated in exactly the same manner and under precisely the same circumstances. In one case the bees seemed to remain in a heap dead, and in another case, upon looking on the following morning at the hive I had attempted to unite, I was disappointed to find the garden round the hive strewn with half-dying bees, in the front under the alighting-board a heap, and on the floor-board inside the hive a large quantity of dead bees, also quite blocking up the entrance to the hive. I should be much obliged if you give me some information upon this subject.—E. J. C.

[Read Mr. Woodbury's articles on "Utilising and Uniting Condemned Bees," which appeared in Nos. 356, 357, 358, and 369; also that on "Uniting Bees," in page 198 of our present volume. The bees which "remained in a heap dead," had doubtless perished of suffocation after being driven; those which were strewn about the garden had been killed or wounded by the other bees. It appears somewhat doubtful whether it may be possible at all times to insure entire exemption from an occasional fatal quarrel of this kind, but the most likely mode of avoiding it seems to be that pointed out by Mr. Woodbury—viz., to subdue both parties by subjecting each to the operation of driving.]

The insect which you sent is a hornet.]

BEE IRREGULARITIES.

IF your correspondent, Mr. H. Cullen, had examined the hive referred to in page 104, he would in all probability have found two or more queens, either inside or just as likely outside the hive, in a state of incarceration; the cause of the erratic manoeuvring being that the two queens were held in confinement by their subjects. When the commotion of swarming commenced, instead of one swarm leaving, the two swarms made an attempt to leave at the same time, when the bees let go their charge, and the two queens coming in contact with each other their loss was almost certain. This was the cause of the two streams of bees; the one lot returning to find their queen, while the others were in search of her, when both lots had ultimately to return to their hive. I have seen similar cases in my own apiary, but I always found the queens locked in a deadly embrace. I may mention a case that happened a few miles from my place this summer, when two swarms issued from the same hive in one day with only two hours'

interval between them, and both are doing well.—A LANARKSHIRE BEE-KEEPER.

ARE WAXEN SHEETS USEFUL?

In reply to the inquiry of "Aris," which appeared in page 161, I beg to inform him that I consider waxen sheets of great value. For example: A swarm of bees furnished with waxen sheets sets to work at once, and twenty-four hours after being domiciled will have hundreds of eggs laid, and will in three days be as forward as one without them will be in eight or ten days. The advantages are—first, the whole of the bees get to work at once, thus economising time; second, regularity of combs; third, more weight is stored in supers in consequence of the regularity of the combs, with no narrow pieces intervening; fourth, brood is not so frequent in supers as when the bees are allowed to form crooked combs, and they take more readily to them.

This has been my experience since 1863, when I first made these sheets by the assistance of Messrs. Neighbour, and since that time hundreds of them have been sold and presented to different parties, who all speak highly of them. The only difficulty in giving them to bees is their liability to drop down, when the bees eat them through instead of building on them, but this only happens when they are made too thin. The thicker they are the better will they take the impression. The bees soon pare them down, and use up the surplus wax. To prevent them from falling, and to keep them straight, I pass two or three threads round the frame; I then tie the thread close to the bottom edge of the sheet, thus supporting it from falling should it break at the top. Sometimes I run the thread close to the sheet, passing the thread through holes in the top bar; but when the sheets are good and straight I use nothing. I hope these remarks may induce those to try them who have not before done so, and that they will be of as much service to them as they have been to—A LANARKSHIRE BEE-KEEPER.

MY BACHELOR HOUSEHOLD.

"WILTSHIRE RECTOR'S" late notes on his dogs arrested me in the middle of a letter I was writing to "our Journal" in a cross mood, on a cross subject. That letter has progressed no further, not that the crosses are altogether set aside, but possibly on such a topic "the least said is the soonest mended," and if this holds good of saying, doubly does it tell on writing. So the crosses may go, especially as a "gracious rain" is even now falling, "refreshing the weary earth." "WILTSHIRE RECTOR'S" notes have led me to imagine that my bachelor establishment might prove interesting to some of our readers—but then, alas, I have not his pen!

My establishment consisted of a housekeeper and a groom; the latter living in a cottage on the premises, both of them characters in their way, apt at using words in the wrong places, as, for instance, on my return home one day, the former told me that a gentleman had called, asking for a *prescription* for the organ! I recollect I had friends with me, and all of us had difficulty in keeping our countenances. Though with the ardour of a young professional, eager to attend to any case, I made up my mind that this was a case of *organic* disease, I found it had an annual aspect. My housekeeper loved all my pets, the dog—poor old Lufra, a black retriever—and the black cat being the chief in-door friends. The groom loved his "osses" and his wife, I hope the latter the best! He, too, was a character; under 8 stone, looked like a jockey, had once ridden a race, knew what sort of horse the Derby winner was, had seen his "pictur" on a handkerchief or in the "Illustrated News." He too had been particularly careful to bring me back the "*deceit*" for some money he had taken to a horse dealer for horse hire! poor Button! those were, I am afraid, your palmy days. Button attended to the fowls—a mongrel lot—some Minorcas, one cock of this breed, the sole survivor of comb-cutting under the influence of ether, then just being introduced. In the other case the operation certainly had been painless and perfectly successful, only—when completed, the patient was dead! I had then no choice specimens, the Cochon mania was unknown, the best of my flock were two or three Silver-spangled Hamburg pullets, and I recollect well that one of these laid in December, the eggs being anxiously looked for by a poor sufferer in the village.

I wish, however, to speak chiefly of my cat and dog. Pussy was jet black, she had learnt to sit on my shoulder during

meal time, and many a mouthful on its road to my mouth was stopped by her paw and transferred to her own. Very gingerly did Pussy perform this little trick, and when she first tried the feat on a bachelor friend, great was his dismay! In due time Pussy was a happy mother, and it was now that she became an object of great interest in our little village. It was in this wise—Two of her kittens had been saved; some chickens were hatched the following day, the kittens were in a dark pantry, one of these I moved into the kitchen where it speedily commenced mewling, and very quickly Pussy came in search. Just, however, as Pussy was going to lift her baby in her mouth I substituted a chick. The imposition was undetected. Pussy seized the chick in her mouth and carried it off, I following in dismay, believing the last moments of the chick were arrived. Pussy, however, had tenderly laid the chick in her box and had curled her body round it, taking the greatest care of her new child. Again I played her the same trick, and again was her feathered child picked up and carried to her box; a third followed, and now Pussy's family consisted of her two kittens and three chickens. To the latter she speedily became very attached, would at once carry them back if removed, and never appeared to hurt them in the slightest. The third or fourth night, however, ended the career of one of the chickens, the verdict being "overlaid," responded to by a cry, doubtless, that Pussy did not understand. After this mishap Pussy was turned out at night, and only allowed to have the chickens when their cries under her maternal pressure could be heard; they were thus once and again preserved from a similar fate. In the course of a few days more they had grown beyond the possibility of such a mishap. Many were the visitors now to Pussy's "happy family;" very pretty was the sight when kittens and chickens were huddled together, prettier still when Pussy was there, and their white heads appeared from under her black fur. The chickens ran about the kitchen to feed, and returned to their "artificial mother." Of course, they thrived apace, and very ridiculous then did Pussy's efforts to carry them appear, the feathers slipping out of her mouth and affording but slight hold. By degrees they joined their out-door companions, but as the kitchen opened on to the yard they were constant visitors. Lufra, who had always been very good friends with Pussy, became greatly attached to one of the kittens which I kept; but I had better not forestall.

I have already said that Lufra was a black retriever. I bought her when scarcely full-grown. She was a very great favourite, had learnt many tricks, learnt them, I regret to say, with the use of the stick; following out the old lines—

"A woman, a dog, and a walnut tree,
The more you beat them, the better they be."

My walnut tree certainly had this prescription; it bore well, shall I say, in spite of it; for I never could understand why such treatment is good for it, neither do I believe it. It is a convenient method of gathering the fruit; I doubt if more can be said in its favour. As to the first, "man's best and most devoted helper," I confess myself at once a total disbeliever in the remedy. Certainly I have never tried it; further, I have never needed it, and must alter very considerably ere I do. But, as regards the dog, perhaps the prevailing opinion is that thrashing is good. Is it that the generally amiable and forgiving temper of the animal, which licks the hand that has just punished it, has strengthened the idea? I believe the idea is wrong. More may be done by rating and scolding a dog, and making him ashamed of himself, than by a liberal allowance of whip.

Spite of whip, Lufra and her master were the very best of friends. She learnt to retrieve fairly, being gifted with a very tender mouth, as she once brought me a book I had dropped out of my gig, carrying it by two or three of the central leaves, yet a careful examination failed to detect even the mark of a tooth on a single page! So, again, with the fowls, if I wanted one to kill, I used to point to it, and tell Lufra to bring it. She generally brought it in her mouth by its neck, but if I said, "Drop it," the fowl would run away, apparently none the worse, and without a feather being ruffled. So, again, with Pussy's kitten; this I had taught Lufra to carry when quite young, and she continued to do so when kitty was full-grown; indeed she would "fetch Pussy" at any time, unless the latter took refuge in a tree. Kitty was no weight for Lufra's strength, and the latter would jump the palings with Pussy in her mouth, and then play with her in the field as a cat would with a mouse.

I do not believe that jealousy is a plant thriving only in feminine soil, but certainly dear Lufra was jealous of her

master's love. Very much amused was "Mrs. Y. B. A. Z." in futuro, when on her first visit, as we were strolling round the garden, Lufra pushed herself between the pair, and pulled her dress, as though she could not brook a rival, even in human form! Yet of all the canine friends that have at various times responded to thy master's call, there is none whose memory is so cherished by thy mistress as thine, dear Lufra! No rival has supplanted thee in her affections! As a mistress, thou wast her first canine love. Thy place is not filled now!

At that time my long country rounds were accomplished in a gig. Button, perhaps his master as well, was proud of his "osses," for the usual pace was ten or twelve miles an hour. At first this was great fun to Lufra; but by degrees all good things, I suppose, pall on the appetite, and so did long rounds to Lufra. Now and then, at convenient distances, Lufra, like many an absconding debtor, was nowhere to be found. Of course she found her way home. A good scolding, then good beatings were tried; the habit, alas! only increased, and now she adopted the plan of coming in after my arrival, as though to avoid discovery. On one occasion, I recollect well, a friend had been my companion on the rounds, and Lufra had not arrived on our return. Some hours later I noticed her sitting in the field opposite my house, with her back turned to us; she was 200 yards off. I called her; she turned round with a scowl of defiance, and crept through the opposite hedge, neither did she come home till dark.

Amongst my patients was a family where Lufra was always most warmly welcomed. She was a most special favourite, and whenever I called, Lufra called also, and always some tit-bit was found for her. The young ladies, especially, petted her, and a frequent expression of their's, when about to take some nauseous dose, was "Oh! for a kiss of Lufra's forehead!" It so happened on a wet day that Lufra thought such petting more comfortable than the dirty roads, and called there. The young ladies knew her failing, knew too that poor Lufra would be whipped on her return, and accordingly to save her from punishment they sent her up by their servant, a blue ribbon tied round her neck, a note attached to the same. The note ran thus:—

"MY DEAR MASTER.—I am very sorry to say that when you were out this morning I somehow missed you, and, not being able to find you, looked in at Mrs. ——. As I was cold and wet they insisted on my remaining to have some refreshment for which I felt very grateful, especially as they promised to send me home. Hoping you will pardon my faults, and promising future amendment, believe me ever your loving and faithful,"

and I wish I could put the rest, for the signature was a beautiful pen and ink sketch of their favourite, sitting up in a most repentant mood. Need I say that on this occasion, Lufra was not chastised? This, however, was not all—it was very strange, that whereas on most occasions Lufra would have slunk away, fearful of punishment, now she was as frolicsome and delighted as could be, dashed into my sitting-room, with her letter round her neck, saying as plainly as dog language, whether in Latin or not, could say, "It's all right this time, master." There was some mysterious chord of sympathy between the human and canine.

At night, when Lufra accompanied me, she often rode in the gig, lying on my feet, a capital foot-warmer, and no mean protector.

Ere I close my reminiscences of old Lufra, let me relate an anecdote that occurred when my home was no longer "a bachelor's establishment," but was thoroughly furnished with a gentle, loving helpmeet at its head. I have hinted that her mistress and Lufra very soon became great friends, and often went out together. On one of these occasions, a man or rather perhaps a brute in the form of a man, struck at the dog with his whip, and either with the whip or his vehicle lamed poor Lufra. Great was her mistress's grief, and fearing that walking home might injure the dog, she made an effort, I need not say vain, at carrying poor Lufra home. Lufra certainly could easily have placed her paws on her mistress's shoulders, the latter being one of those valuable commodities, made up by nature in small parcels. My readers can therefore imagine that her efforts as "a light porter" were rather ludicrous! —Y. B. A. Z.

OUR LETTER BOX.

BRAHMA POOTRA HEN'S LEGS PARALYSED (*Cestria*).—We can only advise you to give stimulants. If you consider your moulting hen worth the trouble and expense, we recommend the following treatment:—Put her in a dry place, under cover, and protected from easterly winds; let her have some hay or soft straw to roost upon. Her feed should be stale

bread steeped in strong ale, and twice per day a large tablespoonful of port wine, which must be administered with a glass syringe. We once saved by this treatment a hen which was afterwards sold for £10.

LEGS OF LIGHT BRAHMA POOTRAS (*A. C. S.*).—The legs of Light Brahmans should be yellow; but as the birds become old the bright colour disappears, and is replaced by a flesh colour, except in some very choice specimens. In both sexes the legs should be heavily feathered, the plumage white, save the hackle, tail, and flights. The comb may be pea or single, but the former is certainly preferred.

VULTURE-HOCKED BRAHMA POOTRAS (*H. A.*).—The vulture hock would disqualify the cock in the opinion of some of our best judges. The hen is out of health, and will probably die if she do not alter. Try Baily's pills. The brown patch on the cock's wing is, in almost every case, hereditary in the cocks; but such birds breed very well pencilled pullets. If we had to choose we should avoid it.

REARING YOUNG PARTRIDGES (*K. K.*).—We have nearly a score of tame Partridges in a place about 8 yards in length by 3 in width. They are more forward than any we have seen killed; the young cocks have their horse-shoes. You cannot turn them out to remain as tame birds; we should be glad to do so, but they either stray away or get killed by a cat or dog. They always disappear. If they are intended to breed on your manor, turn them out at once while they can obtain plenty of cover and food. They will be occasional visitors to their home till next pairing time, when they will disappear. We have had a single Partridge running tame with fowls in a yard, and bold enough to attack a dog; but as a rule they are not capable of tameness and attachment to the same degree as a Pheasant.

POULTRY SHOWS NEAR LONDON (*A. Young Fancier*).—We know of none except those in the list which we publish weekly. Dorking and Chelmsford seem the nearest.

FOOD DURING MOULTING (*P. S.*).—The question was answered at page 200 of our last number. We know of no practical mode of keeping flies out of a house. There is literally a plague of them in some places this year.

RED GAME BANTAMS (*Asinorum*).—You must follow the same rules in choosing your Bantams that you would in choosing full-sized birds. The cock should be snake-headed; his wings carried up, and close to his body; tail moderate, and rather drooping than otherwise. The hen should be small-headed, straight-combed, with wings carried close. She should be very dark brown, almost black, with golden hackle. Both should be hard-feathered. Last-sprig chickens may be dubbed now, provided they are not in soft feather; if they are, the operation must be deferred till the feathers are hard. A curved pair of scissors is the best thing to operate with—such a pair as grooms use for clipping horses.

RABBITS AT OLDBAM SHOW.—Mr. A. H. Easton who took the two first prizes says, that he lives at Hall, and not at Whitby. The error was in the catalogue and was not ours.

MIDDLE COMB BROKEN OUT OF BAR HIVE (*R. S. K.*).—You had better invert the hive, drive out all the bees, and cut away any bits of comb which may have been made in the place of the broken one. Then insert the original comb, supporting it on either side by a few strips of suitable thickness cut from an old comb, and having covered the hive with its floor-board, turn it over into its proper position. Contrive some kind of temporary platform in front of the hive (which should be placed on the old stance with its front slightly raised), and knock out upon it the cluster of bees, which will speedily take possession of their old habitation wherein they will soon refix the loose comb.

BEES IN A HOUSE ROOF (*D. Williams*).—Some of the tiles should be removed so as to get at the combs, which should be cut out, and the bees brushed off in front of an empty hive placed in close proximity to the spot, and into which they will rapidly run for shelter. Keep a look-out so as to avoid injuring the queen, and after fitting the combs into the frames of a frame hive in the manner delineated in page 320 of our last volume, knock the cluster of bees out of their temporary domicile on the top of the bars, putting on the crown-board immediately but carefully, so as to avoid crushing many bees. This is the outline of the course to be pursued, but so many unforeseen contingencies may arise that success is only likely to be achieved by a skilled apiarian.

LOOSE MOULT (*P. S.*).—This term is not in use among Canary fanciers, and these we have consulted do not know what it means.

PRESERVING TOMATOES (*W. L.*).—Gather them carefully without bruising, put them in a stone jar, and pour in strong brine to the top, putting on a light weight to keep them gently pressed down below the surface of the brine. Soak them in fresh water, and cook them in the usual way. Season to suit the taste as when fresh from the vine.

PRESERVING MUSHROOMS FOR WINTER USE.—The following is sent to us in answer to the query from "Mrs. C., of Galloway":—"Select for this purpose small mushroom buttons, and let them be gathered as freshly as possible. Cut the stems off quite close, and clean them with a bit of new flannel slightly moistened, and dipped into fine salt. Throw them, as they are done, into plenty of spring water mixed with a large spoonful of salt, but drain them from it quickly afterwards, and lay them in a soft cloth to dry, or the moisture about them will spoil them. For each quart boil together for five minutes two quarts of water with half a pound of common white salt, a small dessert-spoonful of white peppercorns, a couple of blades of mace, and a race of ginger. Take off the scum thoroughly and throw in the mushrooms, boil them gently for five minutes, then put them into well-warmed, wide-necked bottles, let them become perfectly cold, and pour in a little good salad oil on the top. Cork the bottles with new corks, and tie bladder over these, or cover them with two separate bladders. When wanted for use, soak the mushrooms in warm water until the brine is sufficiently extracted.—R. D."

POULTRY MARKET.—SEPTEMBER 16.

The hot weather has rendered market quotations impossible. A few fresh lots make much more than their usual value, but they afford no means of arriving at an average price.

	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls.....	4	0	to	4	6	Pheasants	0	0	0
Smaller do.	3	0		3	6	Guinea Fowls	0	0	0
Chickens	1	9		2	0	Hares	0	0	0
Goslings	5	0		5	6	Rabbits	1	4	1
Ducklings	2	0		2	9	Wild do.	0	8	0
Pigeons	0	8		0	9	Gronee	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	SEPTEMBER 24—30, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. a.	
24	TH		65.9	44.0	54.9	19	51af5	51af5	25af2	9af11	8	8 10	268
25	F		69.0	43.4	54.7	20	53 5	52 5	9 3	morn.	9	8 30	269
26	S	Royal Horticultural Society, Promenade.	65.6	44.0	51.8	20	55 5	49 5	47 3	3 0	10	8 51	270
27	SCN	16 SUNDAY AFTER TRINITY.	65.5	44.6	55.1	23	57 5	47 5	17 4	2 1	11	9 11	271
28	M		65.1	43.9	54.5	21	59 5	45 5	45 4	3 2	12	9 31	272
29	TU	St. MICHAEL.	65.5	44.2	54.8	25	0 6	42 5	9 5	7 3	13	9 50	273
30	W		65.0	43.5	54.3	23	1 6	39 5	32 5	10 4	14	10 10	274

From observations taken near London during the last forty-one years, the average day temperature of the week is 65.5°; and its night temperature 43.9°. The greatest heat was 88°, on the 25th, 1832; and the lowest cold 26°, on the 26th, 1855. The greatest fall of rain was 1.68 inch.

ROSES WHERE THE SOIL AND CLIMATE ARE UNFAVOURABLE.



LAST year I was obliged, by change of residence, to invest in a new stock of Roses, and as I was rather rusty in the new varieties, I settled upon a list supplied by Mr. Radclyffe, and purchased all the varieties he mentioned, adding to them some I was familiar with myself. I am under many disadvantages as regards Rose-culture, therefore I think my experience during the season may be of use

to some who are intending to purchase, this month or next. It may show those who live, as I do, in a cold north-midland county of Ireland on high plateau land, what kinds it will be their wisdom to select. If Mr. Radclyffe read this paper, and condescend to make any remarks upon it, correcting any errors I may have made in culture, I shall feel very grateful. I have derived very great benefit from his able articles of this time last year, and have endeavoured, as far as I was able from circumstances to do so, to carry out his instructions.

My garden is partly a flat, and partly a slope; the flat faces south-west, the slope north-east. I divided the one from the other by a wall of wooden boards, painted black, against which I planted Roses. I dug a very deep walk next to the Rose border, and made a second plantation on the other side of it. The Rose borders were dug out nearly 4 feet deep, and were filled with a mixture of good loam from a pasture field, hotbed manure, leaf mould, earth from old Potato ground, and a good admixture of sand. The rest of the Roses were planted in beds cut out of grass, in the north-east-facing slope. They had more manure, but less fresh earth and leaf mould than their sisters on the wall and next to it.

As the climate here is very wet, causing the frost to be particularly mischievous, I covered all the plants well with fern and stable manure during the winter. Here, I am sure, I was wrong, for the winter was excessively mild, and they did not need protection, and the covering made them push a number of weakly premature shoots. Some of these when I pruned in March I left on, and there was not a decent blossom on one of them.

At first I was inclined to disagree with Mr. Radclyffe as to the relative merits of Manetti and Briar stocks. The Briar Roses pushed earlier, and at first more vigorously than the others, which pushed mostly from the top, and exhibited long, lanky, ill-furnished stems for some time; but by the middle of June I began to alter my opinion, and I am now entirely convinced that Mr. Radclyffe is right. The Manetti-stocked Roses have distanced those on the Briar altogether, and are now (in September), giving a very fair quantity of young wood, which will bloom at the end of the month or in October.

I gave them a great quantity of water, quite as much as Mr. Radclyffe says he gave his, let it flow freely over their leaves, supplied them well with superphosphate, stirred the soil about them every second day, and up to the end of July had very little mildew indeed, though all

the gardens about were white with it. I was absent for the entire month of August, rather a wet month here; when I returned home I found a great deal of mildew and orange fungus. I have nearly got this under now, but the Roses on the north-east slope look very far from healthy. Their leaves have mostly dropped off, they are making very little blooming wood, and such blossoms as are on them are poor and stunted. Does Mr. Radclyffe think that this arises from the aspect not being sufficiently warm for them, or does he think that it would be well to dig them up, and enrich the beds?

Maréchal Niel, I suspect, like Mr. Radclyffe's plant last year, had bad roots. It is on the Briar stock, and came from the nursery a nice-looking plant with one shoot about 8 inches long. It hardly grew at all till the middle of July, since which time it has made a considerable quantity of wood, but only now has it condescended to show any flower buds. It has never had either mildew or fungus on it, though the Rose next to it, *Madame Fillion*, has been bad in both these particulars. Mr. Kent described *Madame Fillion* last year as delicate in constitution. I have not found it such, but if it do not give me better flowers next year than this season I shall discard it. The blossoms opened all to one side, and were not worth looking at. I consider them rose-coloured, not salmon-coloured at all.

Rushton Radclyffe arrived a miserably small plant. At first it was very sickly, but in July it began to grow, and on the 19th of that month it had by far the most magnificent blossom for size and colour I ever saw in my life. It was enormous, quite double, beautifully shaped, and nearer the colour of the *Lobelia fulgens* than of any other flower I can think of. Afterwards it gave a few more beautiful blossoms, not equal to the one described, but very fine; it is now healthy, and has a good many buds on it.

George Prince bloomed abundantly, and has made good wood. It is a double, well filled, small Rose, of a bright cerise crimson.

Charles Wood is very valuable, the blossoms large, double, durable, of a fine bright crimson; the habit of the plant very free, and apparently an abundant autumn bloomer.

Dr. André and *Jean Rosenkrantz* are very like each other, both in blossom and foliage. The bloom of the former is grand in every respect; the foliage of the latter large, glossy, and luxuriant. They resemble each other also in producing their blooms on singularly long flower-stalks.

Lord Clyde, first-rate. The colour particularly rich, more scarlet than any other Rose, except *Rushton Radclyffe*; a good grower, and good bloomer.

Charles Lefebvre had some beautiful blossoms; and upon the whole, where they are good, it is about the best Rose out, but the blossoms seem to suffer much from the attacks of some insect (I could never find it, though I saw its traces), and the habit of the plant is very scraggy; I have always found it to be so.

Maréchal Vaillant, first-rate; shape, colour, fullness,

growth, all that can be desired. This year, however, it is not distinguishing itself as an autumn bloomer.

Mademoiselle Bonnaire was most lovely in its first blossoms. I wonder we do not hear more about this kind. The flowers are somewhat of the colour of the old Blush, and perfectly shaped. It bloomed very abundantly in June, but is in a north-east bed, and is not doing well at this period of the season.

Sœur des Anges, next to the preceding, had plenty of huge buds, but not one developed into a blossom. Perhaps on a wall it might do better.

Alfred Colomb.—Glorious. Perfect in shape, colour, fulness, and everything. I lament that I have it on a Briar instead of a Manetti stock, but will have it on that this year. I think the colour is most inaccurately described in the lists as fiery red. It is exquisitely soft. The nearest approach to it is a very good high-coloured bud of Charles Lawson.

Charles Rouillard has had only one blossom. It is a well-shaped Rose, of a colour I do not much fancy. It has grown luxuriantly, making many shoots 4 feet high. It is on the Manetti stock, and has been much troubled with mildew. No signs of blossom on its tall shoots.

Leopold Premier, planted next to it, has not borne well, and its buds have never once opened.

Camille Bernardin was, I thought, in summer a much over-rated Rose. I set it down as a faded Général Jacqueminot, but it has done beautifully this month. Its blossoms have been double the size of the summer ones, and it is now covered with buds and blooms on the top of shoots 4 feet high.

Exposition de Brie.—In every respect much the same as the former Rose.

Prince de Portia.—Ditto, but brighter in colour; perhaps not quite so double.

Madame Victor Verdier.—A magnificent Rose. With me better than *Senateur Vaisse*, opens more freely, and grows far more luxuriantly.

Madame Vidot, Madame Rivers, and Comtesse de Chabillant have all done badly—poor blossoms, stunted plants. I shall try them against a wall.

Beauty of Waltham.—A valuable Rose, from its freedom of bloom and growth. Its blossoms are too loose, but it is very sweet, and blooms well in the autumn.

Prince Camille de Rohan has done badly, though it is on the Manetti, and is against the wall. Its blossoms have been starved, and ragged-looking, though with the richest treatment, and the plant looks unhealthy, although it has made some strong shoots.

Duchesse de Caylus, François Lacharme, and Gabrielle de Peyronny, all in north-east beds, have bloomed abundantly and beautifully in summer (the last a splendid, large, double Rose), and all look rather unhealthy now.

Fisher Holmes and Professor Koch are both far too dull in colour to please me, and they both show centres the moment they expand.

Madame Charles Wood.—A grand Rose in every way. In my present garden it has always a very curious, but very beautifully mottled, appearance. It has bloomed more freely in September than in June.

Comte Cavour and Souvenir de William Wood I do not like. The first is too thin and flabby, and the second has always a burnt-up look.

Souvenir de Dr. Jamain is beautiful when it first expands, much the colour of the old Tuscan; not a bit the bluish colour as described in Rose lists. It is a very free grower and autumnal flowerer.

François Arago.—The same may be said of this—a very fine, double, dark, almost plum-coloured Rose.

Pierre Notting has done splendidly. Curiously enough it never would open in the far-more favoured locality where I last resided. It has grown luxuriantly on the Manetti stock, and is now covered with buds and blooms.

I will only notice further *John Hopper*, with me perfect in every respect; and *Victor Verdier*, with a beautiful shell-like blossom, but wretchedly poor growth.

The *crème de la crème*, at least for this part of the country, I consider to be Alfred Colomb, Pierre Notting, Gloire de Dijon, John Hopper, Maréchal Vaillant, Lord Clyde, Dr. André, Jean Rosenkrantz, Madame Victor Verdier, Camille Bernardin, Exposition de Brie, Charles Lefebvre, François Arago, Charles Wood, Rushton Radclyffe, Gabrielle de Peyronny, and Madame Charles Wood.

My only excuse for troubling you with this paper is the hope

it may be of use to people having a bad soil and climate like myself, to whom lists from more favoured localities are comparatively of but little use. I should have been glad of such a paper myself last year from a neighbour.—Q. Q.

NOTES ON PEACH AND NECTARINE GROWING.

THESE are two of the most delicious fruits: they are both objects of my predilection and care; and both can with proper treatment be grown out of doors, in the south of England at least, without the aid of glass. The French are said to train their trees better, and to grow better crops out of doors than the English. This has been properly accounted for by Mr. Fleming, of Cliveden—namely, the superior French climate, and the particular devotion of the French gardener to wall-tree training. As to the French gardens, gardeners, and gardening being generally better than the English, I am informed by "D." of Deal, and others who have visited France and its nurseries and gardens, that such is not the case: on the contrary, the general gardening is slovenly, even in the vicinity of Paris. Of course, there are splendid exceptions. Of their gardening I myself have no knowledge. With regard to the management of the above fruit trees out of doors, I believe we may learn a profitable lesson from the French gardener.

As we cannot manage Peaches and Nectarines till we procure them, I will give a selection of such as I know to be good.

PEACHES.—Early York, Early Alfred, Grosse Mignonne, Royal George, Noblesse, in all respects first-rate; Chancellor, Red Magdalen, Violette Hâtive, Stirling Castle, Barrington, Bellegarde, and Princess of Wales, a splendid late Peach of great size, great beauty, and of fine flavour. If later Peaches than these are wanted, Mr. Rivers in a letter speaks in the highest terms of these—Lord Palmerston, Mr. Radclyffe, and Lady Palmerston. These three, he says, will take us into October, and as late as Peaches are good out of doors. I have others not yet proven, as Stump-the-World, Dr. Hogg, Early Victoria, Prince of Wales, Salway, Walburton Admirable, and Alexandra Noblesse. The above have not yet fruited. For the size of the trees none have borne better crops than Stirling Castle, apparently of the Royal George race and good; and Early Alfred. The tree of the former is scarcely 18 inches high, and bore eleven Peaches, being planted about Christmas; and the latter, a beautiful and first-rate early Peach, in its second year bore seventeen fine Peaches. The tree is 28 inches high, and 42 inches wide. The largest Peach of the Princess of Wales, not yet ripe, measures every way 9½ inches.

NECTARINES.—Elruge, Violette Hâtive, Pitmaston Orange, Red Roman, Rivers's Victoria, and the White Nectarine, an excellent bearer and delicious. The following have not yet fruited:—Balgowan, Prince of Wales, Rivers's Orange, Rivers's Pine Apple; No. 12, a seedling of Mr. Rivers's; Murrey, and Rivers's White.

The proved and unproved Peaches and Nectarines are full of triple buds on firm, well-ripened wood. Of these I hope to speak hereafter. The reader may select with safety from those I have proved, and will find it difficult to beat such.

PLANTING.—I think that people plant, in cold soils and climates, their Peach and Nectarine trees too deeply. I found here that the trees planted in the soil produced large wood which did not ripen. I therefore last autumn moved all my trees, cut their roots much shorter, and planted them almost on the surface of the soil, placing over the roots a little soil, and on the top of that three shovelful of lime rubbish. Considering that the trees have been here only one and two years, it has answered well. I sent six fruit of Royal George and six of Noblesse to Blandford Show, and won an extra prize with the former. The trees from which both lots were gathered were planted about Christmas. Peaches from my old trees at Rushton had to succumb to them. I only allow my trees about 18 inches of border. I prefer root-pruning and feeding from "hand to mouth," to allowing the roots to ramble all over the garden. To have good wood and fruit we want plenty of fibrous network, and not huge perpendicular and horizontal roots. Of course, roots so curbed require in hot dry summers good mulching and plenty of water. I think it is a good plan to annually remove trees that produce large succulent wood destitute of triple eyes, till they come into bearing. My maiden trees, bought two years ago, are now full of triple eyes on good wood. I attribute this result to removal, root-pruning, and a hot, dry summer. I expect to be able to show the champions of French

gardening next year that we are not so far behind our neighbours on the other side of the Channel.

PINCHING AND PRUNING.—There is but little necessity for a knife when pinching has been properly performed. I think many persons who prune by pinching do it too early; hence, if a wet growing time sets in, "*anticipés*," are forced out. Much depends on the character of the season. This year I stopped by pinching all my shoots, including terminals, on July 21st. It seems to have answered well. Another year it may be best to pinch later or earlier. I disbud but little. I spur some of the freshshoots, and pinch alternately to about 4 and 8 inches the side shoots. This gives two chances. I did this at Rushton, and I see by Mr. Bréhaut's excellent work that he approves of and recommends it.

If M. Grin's severe system is adopted, *anticipés* will give great trouble, especially if pinched early; and trees so served, unless root-pruned severely, will exude gum, by reason of the trees not having sufficient leaves to elaborate the sap. If I were asked to give reasons for the sad state our out-of-door Peach and Nectarine trees are in, I should say it was owing to winter injuries, too much disbudding, and neglect of the foliage at the time of expansion and during the fruiting season. Owing to protecting my trees with sheets—some fixed as a coping, and others moveable by rings on iron rods, I have had this year but little blister, which arises mainly from rupture of the tissues of the leaves in their tender state, and from injury to the main wood in winter.

NAILING AND TYING.—I use cast-iron nails, which can be easily broken off; hence no holes are left for insects to winter in; but I leave the nails in the wall for future use. I tie with bast, which is neater than shreds, and does not harbour enemies. The bast must not be tied too tightly, otherwise gum will be the result. If the sap is stopped by a tight ligature the sun will cause gum. Mr. Williams, of Woolland, near here, sent for me to see his Peaches and Nectarines trained to strained wires, as he said that he had heard that wire-trained trees were a failure. His trees were a complete success. I never saw finer specimens of the Late Admirable, wrongly tallied Millet's Mignonne, which is the same as the Royal George. What a pity that the form of the Late Admirable is spoiled by a turgid nipple with an acute point! I believe the only other Peach that has this unsightly nipple is Téton de Venus, which some have confounded with the Late Admirable. When walls are wired the wires should be strained so as to be close to the wall, as Peach and Nectarine blossoms do not like draughts of wind behind them. This is probably the cause of the failure of wire-trained trees. Where walls stand singly, an abutment should be built to stop the eddying of the wind.—W. F. RANCLYFFE, *Okeford Fitzpaine*.

(To be continued.)

WHO WAS THE FIRST IMPROVER OF THE HOLLYHOCK?

My thanks are due to "A HOLLYHOCK AMATEUR," for his statement, page 183, of Mr. Chater's first doings with the Hollyhock. No one more deserves the credit and patronage experienced than Mr. Chater, as a raiser and grower of Hollyhocks; but I would submit that "A HOLLYHOCK AMATEUR," in reviewing my errors has fallen into a still greater one—he does not distinguish between an originator and an improver. Mr. Chater in 1848 crossed his flower Napoleon with Mr. Baron's Queen, resulting in a new strain. For twenty-five or thirty years Mr. Chater had been collecting and improving, but no improvement is effected until Mr. Chater is in possession of Mr. Baron's plants, and the first improvement is through the effect of the pollen of Mr. Baron's Queen on Mr. Chater's Napoleon. In Mr. Baron's stock Mr. Chater has a new strain, the first improvement is by and through them. That is "A HOLLYHOCK AMATEUR'S" own showing.

Mr. Baron, in 1823, as is stated by "A HOLLYHOCK AMATEUR," added to his collection that of an amateur named Johnson, having at the time the "best or finest collection in the world." With those for more than twenty years Mr. Baron worked hard and perseveringly in bringing the Hollyhock up to the florist's standard of excellence. Through Mr. Glenny's recommendation Mr. Baron let out both seed and plants. His plants were distinct from those possessed by any other grower, and were eagerly sought after. Mr. Chater, Mr. Bircham, Mr. Parsons, and others, obtained the new and improved race of Hollyhocks by which they have originated varieties outstripping

all Mr. Baron's Hollyhocks, for none of his varieties is up to the present standard. All our improvements in Hollyhocks being effected through or by Mr. Baron's flowers, he and he alone, was the originator of the past and present improved race. To him, as an old florist, attaches the merit of converting a thin shapeless disk into a half globe of close thick florets, and guard petals of good proportions.

"A HOLLYHOCK AMATEUR" forgets that the Queen was a seedling of Mr. Baron's, which ought to entitle him to something more than the name of collector only; and his statement that Mr. Baron had not a white, yellow, purple or scarlet, is certainly not correct, for Mr. Bircham had from Mr. Baron's stock Purple Perfection, in purples, also Pourpre de Tyre, and yellow in Lemonade, and in Mrs. Oakes we have the salmon, said to have originated from the crosses, by Mr. Chater, of his Napoleon with Mr. Baron's Queen. In like manner whites and scarlets have come from Mr. Baron's strain, independently of those in the possession of Mr. Chater. Both Mr. Bircham and Mr. Parsons had of Mr. Baron all the shades of colour alleged by "A HOLLYHOCK AMATEUR" to have been in Mr. Chater's sole possession when Mr. Baron sent out seeds and plants.

Nothing is further from my purpose than to take from the credit due to Mr. Chater, as an eminent raiser and grower of Hollyhocks; beyond that I cannot go. As to his varieties being still the best sent out, "being of better form, more substance in the petal, and more decided in colour," in justice to other raisers, as Mr. W. Paul (quite as successful in cross-breeding as Mr. Chater), Mr. Roakes, Mr. Parsons, Mr. Bircham, Mr. Parker, Mr. Gibben, Downie & Laird, &c., I beg to differ from "A HOLLYHOCK AMATEUR'S" dictum, as the best white we have is due to Mr. W. Paul; yellow to Mr. Roake; purple to Mr. Bircham; whilst in scarlet shades, Mr. W. Paul is as rich as Mr. Chater.—G. ABBEY.

VARIEGATED AND OTHER PELARGONIUMS AT CAMDEN LODGE, SISSINGHURST.

At a time when Pelargoniums of the Tricolor section form so important a feature in fashionable flower gardening, those who have the good fortune or skill to manage them will have many inquiries made of them as to how they succeeded in growing them so luxuriantly, and propagating them so abundantly. Amongst those who have accomplished both these feats in a manner which makes many of us almost envious, Mr. Potton, gardener at Camden Lodge, near Sissinghurst, is certainly one of the most successful, not, perhaps, in the raising of new varieties, but in growing established kinds with a luxuriance but rarely met with, and that, too, without apparently any other than the usual means at the disposal of most growers. One especial aid, perhaps, he may have, which every one has not, but even that is of a kind which many others possess in equal proportion, and I am far from certain whether the success attending Mr. Potton's cultivation can be traced to that source or not. Certainly it is mostly due to the care, skill, and assiduity which make everything else succeed, and as the other advantages which it may be presumed contribute to so good a result are natural advantages, some allusion to them may be briefly made before entering upon the details of the mode of cultivation adopted. A short description of the locality may, therefore, be given to show how far success in the cultivation of this interesting group of plants may be supposed to be influenced by the conditions which that presents. I will take the same leave a shrewd old farmer always took when called upon to look over a farm—to peep over the hedge into the adjoining one also, so as to convince himself that what he saw in one place was confirmed in another. In this case I will, therefore, before describing Mr. Potton's success as a Pelargonium grower, take a glance at the district, to see if some of the causes of success are not in a measure due to natural conditions assisting the skill exercised in cultivation.

The undulating district in the southern part of the county of Kent, possesses a soil and features widely different from those of the two level tracts which bound it on the north and south. Irregular eminences of no great elevation form a sort of watershed, from which the water flows in both these directions. This broken chain would seem to rise a few miles to the west of Tenterden, and continue westward considerably beyond Tunbridge Wells, and the little village of Sissinghurst is between these places. The soil, although it differs in places, is in most cases more or less impregnated with iron, and presents the

class of plants common to soils of this kind; it consequently differs much from the Wealden clays that lie on the north, or the deep rich soils of Romney Marsh on the opposite side, which tradition says have been reclaimed from the sea, and which are still defended against it by high banks kept up at great expense. Occasional patches of Heath, with Fern, Broom, Furze, Foxglove, and other plants in a wild state, indicate a soil in which the Rhododendron and similar plants would do well. Such is the soil in which Mr. Potton grows his Tricolor Pelargoniums to such perfection, and as some of the readers of this Journal have soil of a similar kind, their success or otherwise, if reported, would form an interesting solution of the question—viz., What influence soil really has on the markings of this important class of plants? I am certainly of belief that it has a great influence, but I am anxious to hear the arguments on the other side.

I must add that this soil does not seem to grow Rhododendrons and similar plants so well as that of many parts of Surrey and elsewhere, the soil at Sissinghurst being modified or balanced by admixture with other ingredients, not in the black peats of Surrey, although it is well adapted for most of the purposes of husbandry, and fertile in other respects. It is neither a peat in colour nor texture, and although it possesses the necessary amount of sand to keep it open, it has by no means an undue proportion of it, while in colour it is medium. The situation of Camden Lodge presents nothing remarkable; a comfortable residence is surrounded by dressed grounds on most of its sides, and these, along with a kitchen garden and some fruit and plant houses of an ordinary kind, offer as a whole no feature worthy of special remark, but when taken in detail, and the healthy growth of many of the products is considered, one cannot but feel pleased at the skill with which everything is managed.

As a proof of the success achieved in growing and propagating choice bedding Pelargoniums at this place, I may mention that the stock of Mrs. Pollock was so large in 1865, that in the following spring it was determined to sell some, and I believe upwards of three thousand plants were disposed of at that time. This may not appear so remarkable to those who prepare for very large places, as I remember on visiting Enville, many years ago, being told that seven thousand plants of Golden Chain were turned out; but when it is considered that the place I refer to is small, and Mrs. Pollock three years ago was much more scarce than now, the numbers seem large, and I believe the plants had all been reared from a very small beginning. Other kinds are as rapidly multiplied, and on looking round one is astonished at seeing large beds of kinds which people think themselves fortunate in possessing single plants of, yet such is the case. At the same time Mr. Potton only grows really good, healthy kinds, rejecting all poor growers, unless in some special case, when they are cultivated to compare with others. In general, the majority of his plants are grown in circular and other shaped beds on the lawn, interspersed here and there with some choice shrubs or Conifers, and very often planted in the same bed with Calceolarias, Lobelias, and other plants, as will be understood by the following descriptions of some of these beds, the beds being taken promiscuously, and not as representing a series or geometrical set, as is often the case.

A large oval bed is planted thus:—Colens Veitchii in a mass in the centre, Pelargonium Perilla in a band round the Colens, Beauty of Calderdale in a band round Perilla, Model in a band round the preceding. Mangles's Variegated forms the edging next the grass.

The three Pelargoniums—Perilla, Beauty of Calderdale, and Model are all Bronze and Gold varieties of different hues, yet all robust growers, and they blended admirably. Their distinctive features are more perceptible when a number of plants are grown together, and may be described thus:—

Perilla.—Very distinct, of robust habit, and rather upright growth, with scarlet flowers. It resembles in growth and flowering the old variety called Crystal Palace Scarlet, but, of course, the markings on its foliage give it a distinction from most of the Tricolors of the Mrs. Pollock class.

Beauty of Calderdale.—This is also of robust growth, the leaves large and even fleshy, the zone a reddish brown; habit of the plant rather spreading; flowers scarlet. This is unquestionably one of the best of its class, and where it was grown presented all the sturdiness of growth that Stella usually has, with a much larger foliage.

Model.—Somewhat in the same way as Perilla, but dwarfer, and with salmon-coloured flowers. The ground colour and

markings of its foliage are much the same as in Perilla, and it is well deserving of extensive cultivation.

A circular bed of medium size has for its centre a mass of Sophia Dumaresque Pelargonium, and an edging of Lobelia Paxtonii.

Sophia Dumaresque.—A Tricolor in the way of Sunset, being paler than Mrs. Pollock; it is, however, a much better grower than Sunset, and is a deserving variety in every respect, the zone being very distinctly marked, and the whole plant more robust than many of its class.

Another circular bed has in the centre a mass of Centaurea candidissima; Lady Cullum Pelargonium in a broad band around the Centaurea; L'Elegante, a white-edged Ivy leaf Pelargonium, as an edging next the grass.

Lady Cullum is too well known to require comment. The only fault most growers find with it is its slow growth; and even here it does not go on so well as many other kinds, yet those in the bed referred to looked well, although I was told upwards of 150 cuttings had been taken off only a day or two before, and 150 cuttings from Lady Cullum are what everyone cannot obtain at one time. When well grown, this variety would be difficult to improve upon; but in too many cases we are apt to see it in a lingering, half-starved condition, when almost anything looks better.

L'Elegante.—This is the best silver-edged Ivy leaf Pelargonium I am acquainted with, and I hope to see it still further improved, as I cannot but think this class of plants has been too long neglected, for there are many positions, as vases, baskets, and other places, where they stand unrivalled. A sort with a still broader band of white marking than this would be desirable. As it is, it is far in advance of others in its class.

An oval bed is thus planted:—A mass of Pelargonium Aureum in the centre, a band of Amaranthus melancholicus, Pyrethrum Golden Feather, and Cerastium as an edging next the turf.

Aureum.—This is in the way of Cloth of Gold, but much better. It is superseded, however, by Crystal Palace Gem, which will be described hereafter. Nevertheless, with some growers Aureum is the better of the two, and here it is quite as good. Its chief merit would seem to be to compete with Golden Chain, as a bright yellow leaf is its principal feature. The other plants in this bed all looked well, but they are too well known to need description.

In a circular bed we find Crystal Palace Gem Pelargonium as a mass in the centre; Colens Verschaffeltii in a band next the last named, a band of Flower of Spring Pelargonium, a band of Lobelia speciosa, and a dwarf silver-edged Pelargonium next the grass.

Crystal Palace Gem.—Having already described Model, to which this bears some resemblance, I may add that at Camden Lodge this variety was much the finer of the two. It is, moreover, more of a Tricolor, the zone being dark red; the flowers are rose-coloured. It is well deserving the attention of all growers, as it promises to grow as fast as Tom Thumb, and possesses all the requisites of a Golden-leaved Pelargonium.

A large oval bed contains Roi d'Italie Pelargonium in a mass in the centre; Vandyke in a band next Roi d'Italie; Flower of Spring in a band; and Mrs. Pollock in two rows next the turf.

Roi d'Italie.—This well-known old kind was doing well in the position assigned it here, its rosy scarlet blooms showing to great advantage when surrounded by the fine variety adjoining it.

Vandyke.—This is somewhat like Beauty of Calderdale, and was, I believe, raised by the same grower, Mr. Wills, to whom the floral world owes so much. It may, however, be somewhat dwarfer, but is not by any means "miffy;" on the contrary, it is of good growth.

Flower of Spring and *Mrs. Pollock*, two good varieties, likely to be in demand for many years, and, perhaps, more often met with at the present day than any other, Stella, perhaps, excepted.

The curved ribbon border facing both sides was planted with five rows thus—namely, Meteor Pelargonium, a white-flowered variety, good; Tom Thumb, a line on each side of last-named; Lobelia speciosa as an edging on both sides, and here it had done better than anywhere I have seen it this season. Perhaps watering had something to do with this result.

Besides the beds enumerated, there were others containing varieties scarcely less interesting, while in a wide border adjoining the kitchen garden, beds were planted without regard to the order so much enforced in the flower garden proper; yet this mixed border was, perhaps, more interesting than the others from the variety of its contents. Not having time to

notice all, I was obliged to be content with the following, which are in addition to those already described:—

Gold and Bronze and Golden Tricolor Varieties.—Duke of Edinburgh, a fine promising kind; Arthur H. Wills, also seems a good grower; Sultana, had been cut-in rather severely for propagation, a good indication of its merits; Empress Eugénie, also good; Princess Alice, Her Majesty, Egyptian Queen, Beauty of Ribblesdale, Sophia Cusack, somewhat like Sunset, but with a scarlet flower and of much better growth; Florence, this has four distinct colours, and is besides of promising growth; Louisa Smith; Leah, somewhat like Florence; Beauty of Oulton, different from most of those previously mentioned.

Silver Tricolor Varieties.—Queen Victoria, good, Caroline Longfield, Glennys Beauty, Italia Unita, Velvet Cushion, Empress Eugénie (of this I may be mistaken).

Golden-leaved Varieties.—Golden Spread Eagle, somewhat like Golden Fleece; Golden Christine, flowers like that popular variety.

Besides these there were several others of less merit, some of which doubtless may shine next year.

The Pelargoniums grown for their flowers were also well represented, though not to the same extent as the Golden Tricolors; and amongst others the following struck me as deserving attention:—

Enchantress.—A fine carmine, in the way of Glow-worm, but brighter, and with a shade more of blue in its composition. It is a half-Nosegay, of good habit, and will likely become a favourite when the Magenta class is called for.

Eclat.—Also a magenta-flowered Nosegay. Good and promising.

Gathorne Hardy.—Bright scarlet Nosegay. Truss very large and fine.

Grand Duke.—Rosy scarlet. Very large truss; in fact, one of the largest I am acquainted with. It is also of the Nosegay section.

Rebecca.—A well-known kind, grown in most places, and one that will maintain a position for years.

Dr. Hogg.—Magenta. Good, one of the best.

Le Grand.—A fine carmine. Large truss.

Nimrod.—Scarlet. Very large truss.

Smith's Warrior.—Scarlet. Very large truss.

Leonidas.—Also fine scarlet.

Besides the above there were many others, but some had been so recently cut-in for propagation, that their character could not be easily ascertained. Many old varieties were represented, but in less numbers, as the culture and propagation of new kinds seemed the chief objects; and as a proof of this, Mrs. Pollock was not grown to an equal extent with newer kinds, although Mr. Potton had disposed of many thousands of plants of it during the last three seasons. Of the older flowering Pelargoniums only specimens of the best were retained to compare with newly-sent-out varieties, and if the latter failed to be improvements they were not recommended.

The readers of the Journal will, perhaps, be anxious to know how so many varieties of Pelargoniums are propagated and wintered, and the extent of glass at command appears inadequate even to those best versed in Pelargonium culture, but no doubt every inch of space is closely crammed. Propagation is a more easy affair at this season than in spring, and there is no coddling in the treatment pursued. Large pots and pans full of cuttings were standing about in various places, some being in front of a vinery in what is called a Dutch pit, others placed out of doors.

The glass structures are not numerous. Two span-roofed plant houses, not large, and a propagating house adjoining, with two lean-to vineries, were nearly all the glass structures at command; and as the place is a private one rather than a nursery, the other requirements of the proprietor, J. J. E. Wilson, Esq., had to be attended to. The plant houses were small, but broad shelves had been placed over the pathways, on which choice bedding Pelargoniums in thumb pots were luxuriating in the full sun. I imagine the vineries are kept hard at work in early spring. An ingenious contrivance had been adopted to enlarge the two old lean-to vineries that had occupied the site for many years, and were quite worn-out, as well as the Vines in the inside. They had originally been about 14 feet wide, with high fronts, so when new ones were projected the same angle was retained, but a width of 26 feet was arranged, and a border and young Vines planted in the part newly covered in, while the old Vines were retained for one year. Although the young Vines were only planted in April, 1867, upwards of 150 lbs. of Grapes had been cut this

season from them, the house being 46 feet long by 26 feet wide, and the Vines all that could be wished for. The other vinery was also promising well; it is older and of the same width as that just referred to, but only 34 feet long.

A singular feature, however, in these houses is that the fronts of both were occupied by what are called Dutch pits. About a yard of the lower part of the roof is made to hinge in lights, or rather it is entirely independent of the house, as the waterpout runs along where the pit unites with the front of this house. This Dutch pit can either be made to communicate with the house, or be shut off from it by boarding attached to the back; but I believe in winter it is united with it on account of the heat which, I presume, it receives from the vinery. It formed an excellent place for propagating Pelargoniums, and was well filled. Mr. Potton's skilful treatment of this class of plants is so well known, that an eminent London grower had sent him some of his difficult varieties to operate upon, and there they were in all the sturdy health of common kinds; but Mr. Potton wisely confines himself to cultivating and propagating only the very best varieties in each section, and although some seedlings of his own were shown me, I feel certain if another known kind were equally good we should hear no more of the seedling. This, however, is at variance with the practice of many, who seem to think that names cannot be multiplied too much.—J. ROBSON.

PALMS FOR DECORATING ROOMS.

My attention has been called to a discussion in your Journal on Palms, originating in an article of mine in "The Gardener." Palms certainly are to be bought cheaper in any nursery to-day than they were a few years ago, and hence my remark which "PATELIN" alludes to. They are still, however, to be bought very much cheaper in Belgium than in Britain. In France they are cheap, but much dearer than in Belgium. I have purchased in both countries, but I always preferred the Belgian stock to the French, for this reason, that the plants are grown stockier and cleaner, and hence are better adapted for a sitting-room, and its vicissitudes.

I append a list of Palms, most of which I have proved to be suitable for general house decoration, or a cool glass house.

Areca Banerii (syn. Sea-	Jubea spectabilis (syn.
forthia robusta)	Cocos chilensis)
Brahea dulcis	Phoenix dactylifera
Chamærops excelsa	famifera
Fortunei	humilis
Ghiesbreghtii	leocensis
humilis	pumila
palmetto	reclinata
sinensis	sylvestris
tomentosa	tennis
Cocos australis	Rhaphis flabelliformis
Bonnatii	Sabal Adansonii
campestris	Mocini
Corypha australis	Seaforthia elegans
Diplolhemium maritimum	Thrinax parviflora
Latania borbonica	tunicata

All these will do well in a cool house without a draught all the year round, or every other week in a sitting-room with proper attention as to watering with tepid water, and sponging frequently the leaves when dusty.

There are many other species that would do with careful, thoughtful attention, but in the hands of the inexperienced they would pine and die. Those named may be purchased at from one to twenty francs each, a price low enough for anyone who has a real love for plants in a sitting-room.—H. K.

VARIEGATED BORECOLE.

In your notice to a correspondent, page 175, regarding variegated Borecole you remark, "Your plants ought by this time to have shown variegation." We trust "J. A." has not thrown his plants away, and that he will not do so for some time yet. For the encouragement of him and others who may be despairing of their plants not yet showing variegation, we may mention that out of some 12,000 which we have planted out (sown in May), very few have as yet assumed variegation. With us they do not show variegation until the plants finish their rank growth and expend themselves. This season we do not expect they will show decided variegation, or be in a suitable state for being transplanted into their winter quarters, for at least two months. When they begin to make a fresh growth in spring,

it is then their bright and dazzling colours appear to the greatest advantage. We plant in an exposed situation and in poor soil, and our plants are always dwarf and stubby.

We think that if "J. A." will examine the centre of his plants he will find the variegation appearing even now, and upon those plants which have the plainest and roughest-looking outside leaves. We find the variegation does not appear until the plants receive a check from frost. The specimen leaves we have sent for your inspection are a few of the first variegated leaves which have appeared, and are taken from the heart of the plants. These leaves are but small yet, but by the time we require them for winter decoration they will have attained their full size.—STUART & MEIN, *Kelso, N.B.*

FUNGI CONNECTED WITH DISEASE— DARWINIAN THEORIES.

IN his opening address as President of the Biological Section of the British Association, the Rev. M. J. Berkeley, after alluding to personal matters that had hitherto prevented him from carrying out his original intention of instituting a course of experiments illustrative of the theories which have lately been broached by Dr. Hallier and others respecting the origin of cholera and some other formidable diseases, proceeded as follows:—

Few points are of greater significance than those which touch upon the intimate connection of animal and vegetable life. Fresh matter is constantly turning up, most clearly indicating that there are organisms in the vegetable kingdom which cannot be distinguished from animals. The curious observations which showed that the protoplasm of the spores of *Botrytis infestans* (the Potato mould) is at times differentiated, and ultimately resolved into active flagelliferous zoospores, quite undistinguishable from certain Infusoria, have met their parallel in a memoir lately published by Messrs. Famintzin & Boranetzky, respecting a similar differentiation in the gonidia of Lichens belonging to the genera *Physcia* and *Cladonia*. It is, however, only certain of the gonidia which are so circumstanced: the contents of others simply divide into motionless globules.

A still more curious fact, if true, is that described by De Bary, after Cienkowski, in the division of Fungi known under the name of Myxogastres or false puffballs. Their spores, when germinating, in certain cases give rise to a body not distinguishable from *Amoeba*, though in others the more ordinary mode of germination prevails. In the first instance De Bary pronounced these productions to belong to the animal kingdom, so striking was the resemblance; but in our judgment he exercised a wise discretion in comprising them amongst vegetables in a late volume of Hofmeister's *Handbuch*.

The point, however, to which I wish to draw your attention, and one of great interest if ultimately confirmed, is that the gelatinous mass produced either independently, or by the blending of these *Amoeboid* bodies, is increased, after the manner of true *Amoeba*, by deriving nourishment from different organisms involved by accident from the extension of the pseudopodia. These strange bodies, according to our author, behave themselves precisely after the same manner as those enclosed accidentally in undoubted animals. If this be true, it shows a still more intimate connection, or even identity of animals and vegetables than any other fact with which I am acquainted.

You are all doubtless aware of the important part which minute Fungi bear in the process of fermentation. A very curious contribution to our information on cognate matters has lately been published by Van Tieghem, in which he shows that tannin is converted into gallic acid by the agency of the mycelium of a species of *Aspergillus*, to which he has given the name of *Aspergillus niger*. The paper will be found in a late number of the "Annales des Sciences Naturelles," and is well worth reading.

We now come to the subject which I mentioned at the beginning of this address—viz. the theory of Hallier respecting the origin of certain diseases. His observations were at first confined to Asiatic cholera, but he has since made a communication to the authorities of the medical department of the Privy Council Office to the effect that in six other diseases—typhus, typhoid, and measles (in the blood), variola, variola ovina, and vaccinia (in the exanthemes), he has found certain minute particles which he calls micrococci, which under culture experiments give, for each of the above-mentioned diseases, a constant and characteristic fungus. He states that in variola he gets the hitherto unknown pyrenidia of *Eurotium herbariorum*; in vaccinia, *Aspergillus glaucus*, Lk.; in measles, the true *Mucor Mucedo* of Fresenius; in typhus, *Bhizopus nigricans*, Ehrenberg; and in typhoid, *Penicillium crustaceum*, Fries. He adds that the culture experiments, especially with the variola diseases, have been so very numerous as to exclude from the results all supposition of accident—that different districts, different epidemics, and different times have given identical results. I am anxious to say a few words about the subject, because most of the reports which have been published in our medical journals give too much weight, in my opinion, to his observations, as though the matter had been brought to a logical conclusion, which is far from

being the case. I am happy to say that it has been taken up by De Bary, who is so well calculated to give something like a conclusive answer to the question, and also that it has been taken in hand by the medical authorities of our army, who are about to send out two of their most promising young officers, perfectly unprejudiced, who will be in close communication both with De Bary and Hallier, so as to make themselves perfect masters of their views, and to investigate afterwards the subject for themselves.

The fault, as I conceive, of Hallier's treatise, is that while his mode of investigation is unsatisfactory, he jumps far too rapidly to his conclusions. It is quite possible that certain Fungi may occur constantly in substances of a certain chemical or molecular constitution, but this may be merely a case of effect instead of cause. Besides, as I conceive, the only safe way of ascertaining what really originates from such bodies as those which he terms micrococci, or the larger ones commonly called yeast globules, is to isolate one or two in a closed cell so constructed that a pellicle of air, if I may so term it, surrounds the globule of fluid containing the bodies in question, into which they may send out their proper fruit—a method which was successful in the case of yeast, which consists of more than one fungus, and of the little *Sclerotium*, like grains of gunpowder, which is so common on Onions. Any one who follows the growth of moulds on moist substances, and at different depths, as paste of Wheat or rice flour, will see that numberless different modifications are assumed in different parts of the matrix, without, however, a perfect identification with Fungi of other genera. Some of these will be seen in the figures I have given in the "Intellectual Observer" of different forms assumed by the moulds to which that formidable disease, the Fungus foot of India, owes its origin. This is quite a different order of facts, from the several conditions assumed by the condidiiferous state of some of the vesiculiferous moulds. As for example *Botrytis Jonesii*, which has been ascertained to be a condidiiferous state of *Mucor Mucedo*, while two forms of fruit occur of the same mould in what is called *Ascophora elegans*, or the still more marvellous modification which some of the *Mucors* undergo when grown in water, as evinced by some of the *Saprolegniae*, the connection of which was indicated by Carns some fifty years ago, but which has never been fully investigated.

When Hallier intimates that he has raised from cholera evacuations such a parasite as *Urocystis occulta*, he should have been content with stating that a form of fructification occurred resembling, but not identical with, that of *Fungus*. Indeed a comparison with authentic specimens of that species, published by Rabenhorst, under the generic name of *Ustilago*, shows that it is something very different, and yet the notion of cholera being derived from some parasite on the Rice plant rests very much on the occurrence of this form. But even supposing that some *Urocystis* (or *Polycyatis* as the genus is more commonly named) was produced from cholera evacuations, there is not a particle of evidence to connect this with the Rice plant. In the enormous collections transmitted by Dr. Curtis from the Southern United States, amounting to 7000 specimens, there is not a single specimen of Rice with any endophytic Fungus, and it is the same with collections from the East. Mr. Thwaites has made very diligent search, and employed others in collecting any Fungi which may occur on Rice, and has found nothing more than a small superficial Fungus nearly allied to *Cladosporium herbarum*, sullyng the glumes exactly as that cosmopolitan mould stains our cereals in damp weather. Rice is occasionally ergoted, but I can find no other trace of Fungi on the grains. Again, when he talks of Tilletia, or the Wheat Bunt, being derived from the East—supposing Wheat to be a plant of Eastern origin, there is no evidence to bear out the assertion, as it occurs on various European Grasses; and there is a distinct species which prevails on Wheat in North Carolina, which is totally unknown in the Old World.

I might enter further into the matter, were it advisable to do so at the present moment. All I wish, however, is to give a caution against admitting his facts too implicitly, especially as somewhat similar views respecting disease have lately reached us from America, and have become familiar from gaining admittance into a journal of such wide circulation as "All the Year Round," where Hallier's views are noticed as if his deductions were perfectly logical.

The functions of spiral vessels, or of vascular tissue in general, have long been a subject of much controversy, and few matters are of more consequence as regards the real history of the distribution of sap in plants. A very able paper on the subject, to which allusion was made by Dr. Hooker in his address, has been published by Mr. Herbert Spencer (than whom few enter more profoundly into questions of physiology), in the "Transactions of the Linnean Society." By a line of close argument and observation he shows, from experiments with coloured fluids capable of entering the tissues without impairing vitality, and that not only in cuttings of plants, but in individuals in which the roots were uninjured, that the sap not only ascends by the vascular tissue, but that the same tissue acts in its turn as an absorbent, returning and distributing the sap which has been modified in the leaves. That this tissue acts some important part is clear from the constancy with which it is produced at a very early stage in adventitious buds, establishing a connection between the tissues of the old and new parts. This appears also from the manner in which in true parasites a connection is established between the vascular tissue of the matrix and its parasite, as shown by our President in his masterly treatise on *Balanophora*, and more recently by Solms-Laubach in an elaborate memoir in Pringsheim's Journal. It is

curious that in organs so closely analogous to the trachea of insects a similar connection should long since have been pointed out by Mr. Newport, in the case of certain insect parasites.

A circumstance, again, which constantly occurs in the diseases of plants confirms the views of Mr. Herbert Spencer. In diseased Turnips, Grapes, Potatoes, &c., it is especially the vascular tissue which is first gorged with the umates which are so characteristic of disease.

Monsieur Casimir De Candolle, in a clever memoir on the morphology of leaves, has come to the conclusion, after studying the arrangement of their vascular tissue, that they are branches in which the side towards the axis, which he calls the posterior, is atrophied. This subject has been followed out in those organs which are considered as modifications of leaves, as, for example, stamens, in which he finds sometimes the posterior side, sometimes the anterior, atrophied. If his theory is true, this would result from the way in which they originated, and the reference they bore to contiguous organs. The subject is well worth attention, and may eventually throw considerable light on those anomalous cases in Teratology which will not accommodate themselves to the usual theory of metamorphosis. Some of these cases are so puzzling and complicated, that a very clever botanist once told me, "Monstrous flowers teach us nothing,"—not meaning to abjure all assistance from them, but simply to indicate that they may be deceptive. Such flowers as double Primroses, and the strange developments on the corollas of some Gloxinias, may possibly receive their explanation from a careful study of the course of the vascular tissue. As the colour on the anterior and posterior order in the latter case is reversed, the doctrine of dedoublement does not at all help us.

Hofmeister, in his "Handbuch der Physiologischen Botanik," has an important chapter on free-cell formation, which at the present moment is of great interest as connected with Mr. Darwin's doctrine of Pangenesis. Mr. Rainey has showed that the formation of false cells takes place in solutions of gum and other substances, and if this is the case where no vital agency is concerned, we may well be prepared for the formation of living cells in organisable lymph, or in other properly constituted matter. The curious cell-formation of Gum Tragacanth may be an intermediate case. Be this, however, as it may, we have examples of free-cell formation in the formation of nuclei, in the embryos of plants, and above all in the asci of ascomycetous fungi. In plants whose cells contain nuclei, new cells are never formed without the formation of new nuclei, the number of which exactly corresponds with that of the new cells.

It would be unpardonable to finish these somewhat desultory remarks without adverting to one of the most interesting subjects of the day,—the Darwinian doctrine of Pangenesis. After the lucid manner, however, in which this doctrine was explained by Dr. Hooker in his opening address, I should be inclined to omit it altogether had I not looked at it from a somewhat different point of view, so that I should not be trespassing upon your time in going over the same ground. Others, indeed, as Owen and Herbert Spencer, have broached something of the kind, but not to such an extent, for the Darwinian theory includes atavism, reversion, and inheritance, and embraces mental peculiarities as well as physical. The whole matter is at once so complicated, and the theory so startling, that the mind at first naturally shrinks from the reception of so bold a statement. Like everything, however, which comes from the pen of a writer whom I have no hesitation, so far as my own judgment goes, in considering as by far the greatest observer of our age, whatever may be thought of his theories when carried out to their extreme results, the subject demands a careful and impartial consideration. Like the doctrine of natural selection, it is sure to modify, more or less, our modes of thought. Even supposing the theory unsound, it is to be observed, as Whewell remarks, as quoted by our author, "Hypotheses may often be of service to science when they involve a certain portion of incompleteness, and even of error." Mr. Darwin says himself that he has not made Histology an especial branch of study, and I have therefore less hesitation, though "*impar congressus Achilli*," in expressing an individual opinion that he has laid too much stress on free-cell formation, which is rather the exception than the rule. Assuming the general truth of the theory, that molecules endowed with certain attributes are cast off by the component cells of such infinitesimal minuteness as to be capable of circulating with the fluids, and in the end to be present in the unimpregnated embryo cell and spermatozoid, capable either of lying dormant or inactive for a time, or when present in sufficient potency, of producing certain definite effects, it seems to me far more probable that they should be capable under favourable circumstances of exercising an influence analogous to that which is exercised by the contents of the pollen tube or spermatozoid on the embryo sac or ovum, than that these particles should be themselves developed into cells; and under some such modification I conceive that the theory is far more likely to meet with anything like a general acceptance. Be this, however, as it may, its comprehensiveness will still remain the same. We must still take it as a compendium of an enormous mass of facts, comprised in the most marvellous manner within an extremely narrow compass.

I shall venture to offer a very few words in conclusion, which perhaps may be thought to have too theological an aspect for the present occasion.

It is obvious how open such a theory is to the charge of materialism. It is an undoubted fact, however, that mental peculiarities and endowments, together with mere habits, are handed down and subject to the same laws of reversion, atavism, and inheritance as mere structural

accidents, and there must be some reason for one class of facts as well as the other; and whatever the explanation may be, the hand of God is equally visible and equally essential in all. We cannot now refer every indication of thought and reasoning beyond the pale of humanity to blind instinct, as was once the fashion, from a fear of the inferences which might be made. Should any one, however, be still afraid of any theory like that before us, I would suggest that man is represented in Scripture as differing from the other members of the animal world, by possessing a spirit as well as a reasoning mind. The distinction between *psyche* and *pneuma* which is recognised by the Germans in their familiar words *seele* and *geist*, but which we have no words in our language* to express properly, or in other terms between mere mental powers which the rest of the creation possess in greater or less degree in common with ourselves, and an immortal spirit, if rightly weighed, will perhaps lead some to look upon the matter with less fear and prejudice. Nothing can be more unfair, and I may add unwise, than to stamp at once this and cognate speculations with the charge of irreligion. Of this, however, I feel assured, that the members of this Association will conclude with me in bidding this great and conscientious author God speed, and join in expressing a hope that his health may be preserved to enrich science with the results of his great powers of mind and unwearied observation.

POTATOES AND BEES

AT THE WOODSTOCK AGRICULTURAL AND HORTICULTURAL ASSOCIATION'S SHOW.

(From a Correspondent.)

On the 15th inst. this annual Exhibition took place in Blenheim Park. The Potatoes and other roots exhibited, notwithstanding the hot dry season, could scarcely be surpassed.

Potatoes were shown in a special collection of twenty-four kinds by Mr. Robert Fenn, of the Rectory at Woodstock; and there was really something for the Potato grower to learn by inspecting the many varieties, with labels attached to each basket indicating the particular sort, nature, and growth. Mr. Fenn seems quite at home in this, as in many other branches of horticulture.

Amongst the sorts we particularly noticed were Fenn's Onwards, a seedling of his raising, originating in a cross between Jackson's Kidney and the Fluke. It is an excellent flattish-round sort, which can be grown both as an early and second early, and makes a first-rate store Potato, as samples of it were shown in fine condition, although dug up in 1867, as were also those of Paterson's Victoria, Daintree's Kidney, and Rivers's Royal Ashleaf, and that fine sort Taylor's Yorkshire Hero, representing four generations—viz., tubers of this year, of last year, and of 1866. Some of the last were actually producing "young Potatoes" internally, and bursting forth from, so to call it, suppressed vitality. Mr. Fenn is an indefatigable cross-breeder of Potatoes, and he has this year originated some two hundred seedlings, many amongst them promising to become very fine sorts.

Mr. Fenn's collection of what he so happily terms "garden economies" had an especial interest. We will first mention an assortment of British home-made wines, consisting of Grape, Gooseberry, and Rhubarb, and Rhubarb and Gooseberry mixed in imitation of Champagne. Several of these were pronounced by a jury then and there assembled as being of very fine quality. In English Champagne wines Mr. Fenn may be termed great, and some of his stocks might compete with what are occasionally thought to be the finest brands of continental production. We were treated to an Esperione port, which had been laid down in bottle three years. It was really a fine wine, and the bottle showed a good "crust;" also Esperione Grape wine of 1866 drawn from the wood (a thirty-three-gallon cask), now in use for daily table purposes. In partaking of these innocuous wholesome beverages the Judges, by their rosy countenances and liveliness, indicated that the wines were not without strength. Furthermore, as like is said to beget like, a competition was brought about by the Rev. W. A. Plumtre, Mr. J. Parker, and Mr. J. Morris, all of Woodstock, sending samples of the above-named wines made after Mr. Fenn's methods. Excellent characters were awarded to some of the samples; those of Mr. Plumtre's effervescing Esperione wine being considered so palatable that not a glass was left in the bottles to tell a tale! Mr. Fenn has given to the world his methods of manufacturing these wines in Nos. 589, 592 (old series), and 235, 236 of THE JOURNAL OF HORTICULTURE.

Another branch of Mr. Fenn's "garden economies" exhibited was a system of bee-keeping, comprising "Fenn's Woodstock Alliance Hive, adapted for cottagers, on the depriving system, without destroying the bees, and showing the domestic economy derived from it." Finding as the result of several years' experience that the improved principles of Payne's and other cottage hives, in so far as they had become developed, were, according to his idea, still defective, he set himself to further improve a cottage hive to his ideal standard. His "Alliance hive" seems to answer exactly the end sought. Virgin honeycombs were exhibited in glass and straw supers upon the tops of the hives, to explain exactly how the bees worked in them. There

* A proof of this poverty of language is visible in the words used in our translation for *psychikon* and *pneumatikon*, natural and spiritual, their proper meaning being a body with a soul, and a body with a spirit.

were also "Fenn's Breakfast Honey Glasses," filled with honeycomb, with run honey gathered by the bees from the Sycamore and Lime tree blossoms; white and yellow wax, with accompanying cream, for the purpose of cleaning furniture; dubbing for waterproofing shooting boots, &c., made from the wax; methelin or mead—the drink of our forefathers; honey beer (brewed the same as for malt liquor, by mixing water with honey to the specific gravity of about 120 for table beer, and 220 to make a "sweet wort" for ale. It is then boiled with 1 or 1½ lb. of hops, to about 80 gallons of the wort, and the fermentation is carried out through the agency of yeast exactly as for a brewing of malt and hops); and vinegar made from honey. These productions had been awarded special first-class certificates at former shows of the Royal Horticultural Society. Mr. Fenn has also published his system of bee-keeping in Nos. 639, 652 (old series), and 4, 10, 21, 22, 29, 40, 43, 46, and 48 of THE JOURNAL OF HORTICULTURE.

Mr. James Morris exhibited some of the finest glasses of honeycomb we ever saw, for which he gained the first prize; and Miss Heynes, of Woodstock, exhibited even superior samples of better finish, but in glasses of a much smaller diameter. The honey was produced on the above system.

HYPOCAUST HEATING AT LEEDS CASTLE, KENT,

THE SEAT OF C. WYKEHAM-MARTIN, ESQ., M.P.

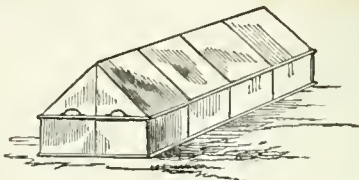
THE importance of artificial heat obtained in an economical manner by the aid of an efficient apparatus, can be nowhere more fully recognised than in the southern counties of England, remote as they are from the coal districts, those dear "black diamonds," the command of which at a cheap rate enables our northern brethren to boast of their splendid collections of Orchids, and other plants requiring a high temperature. That the method of heating invented, or rather resuscitated by Mr. Wykeham-Martin, possesses great merit, and likewise offers many advantages, I am now fully convinced. It is not, however, my purpose to attempt any description of the heating apparatus or houses, as that has already been done by Mr. Robson, in page 361, Vol. XI., but rather to offer a few notes of what is being done, and also as to the results already obtained.

The house to which the hypocaust system was first applied, is an ordinary lean-to, and is used chiefly for the cultivation of Pine Apples. The Pine plants are planted out in a bed on the floor of the house, the sides of which are formed in an ornamental manner of cement. This bed only occupies the centre of the house, leaving ample space for pathways, and for other purposes. Some good fruit have been cut, and the plants at the present time have a fair crop. Although, owing to some slight misadventure, the fruit is not of a large size, yet it is quite good enough to prove that first-class Pines can be grown by this system of heating in a much more economical manner than by any other. Not a particle of coal or cinder has been used in any of the fires; indeed, as illustrative of the easy way in which heat can be had, I may mention, that when the soil was first placed in the Pine-bed, one entire faggot was set fire to in the furnace, over this faggot a quantity of sawdust was thrown, and by the time this was burned up the soil was heated to 75°.

A new house has been lately added to the range, and is, I believe, intended for an orchard house. The roof has a very light appearance, as it is a fixture—without moveable sashes, and no heavy rafters have been used. It is ventilated by means of the front sashes, and by shutters in the back wall. This house is heated by a hollow chamber under the footpath, which is paved with slabs formed principally of Portland cement and broken bricks. These are made by Bow, of Maidstone, and are said to be very cheap and durable; they certainly form an admirable material for paving purposes.

But it is to the heated bed, which has no regular glass roof, and is as much exposed as any other plot of ground, a miniature kitchen garden in fact, to which I would wish more particularly to call attention. Most kinds of vegetables have been here produced, both early and in excellent condition, and they have only been protected from frost and cold winds in the early spring months by means of thin wooden screens raised on legs about 15 inches above the soil. These screens are also, doubtless, most useful in checking radiation quite sufficiently to guard the young and tender crops from any chill to which they might otherwise be subjected if fully exposed to the cold night air. Of the crops taken this year—Onions were fit for use on April 6th; Potatoes, April 2nd; Turnips, May 6th; Carrots, May 6th; and Peas, May 21st. At the time of my visit, August 29th, various crops were growing in the bed, and not the least interesting were some excellent crops of the Scarlet-fleshed

Pine-Apple Melon, of which both the foliage and fruit were all that could be wished. The Melons, and some Cucumbers, are grown under a useful kind of span-roofed portable frame, invented by Mr. Wykeham-Martin. The frames are made entirely of iron, and are glazed from top to bottom with 15-oz. glass, which gives them a very light appearance. They are 6 feet long by 2 feet 8 inches wide, and the span-roof rises about 18 inches or 2 feet high. The span-roof is separate from the lower part, and is lifted off and on by two iron handles at each end. The principal merit of these frames consists in the use of T and angle 7 irons, which can be bought in London at 55s. per hundredweight. The entire cost of each frame when glazed and completed, is £2 5s. The accompanying sketch represents one of these frames, of which six are now in use on the bed in question.



As regards fuel, as I have already stated, nothing in the shape of coal is ever used. In the severest weather abundance of heat is obtained by using logs of wood, for the furnaces are so commodious that whole trees require but very little sawing-up to fit them for fuel, and during the present summer, what little artificial heat has been required, has actually been obtained by burning old Cabbage stalks, Potato haulm, or, in fact, any garden refuse which could be had, so that it will be seen that after the first expense of building, the cost of fuel is of very little moment.

What gardener is there who would not hail with delight the idea of a constant supply of steady bottom heat, aye, even if applied to that snug warm border so called, but to which he would always welcome a little more solar heat to hasten on his tardy spring crops? Moreover, now that bedding plants are required in such enormous quantities for the flower garden, what can be more serviceable than a plot of heated soil, over which a glass case has only to be placed to form, without any further care, one of the most excellent propagating houses it is possible to have?—EDWARD LUCKHURST, *Egerton House Gardens, Kent.*

CAUSE OF COLOUR AND FLAVOUR IN FRUIT.

WITH reference to the letter of "J. F." (page 204), I would say that the high colour and racy flavour, which are observed in fruit ripened under favourable circumstances in the open air, arise probably, at least in part, from a cause which, I believe, has not hitherto been brought into notice—namely, that the chemical solar rays, which are quite distinct from the luminous and heating rays, pass with difficulty through glass.—G. S.

GRAPE VAGARIES.

IN a span-roofed viney here measuring 90 feet long, in three divisions of 30 feet each, and which was planted in 1862, the roots being inside, the Black Hamburgs used to be ripe by the 1st of August. This year, however, though the Vines were forced as early, and there was no visible difference in the treatment, while some bunches are ripe, many are merely colouring now in the two houses nearest the stove, although in the same houses Muscats, Lady Down's, and other sorts, were quite ripe some time ago. In the third or end house (on three-year-old and small Vines), there has been merely sun heat since July, yet there the Black Hamburgs were quite ripe a month ago, and black as sloes. The Vines are heavily cropped, but not much more so than usual.

Two Muscat Hamburgs, one on its own roots, the other in-arched on a Black Hamburg, have set their bunches well, but every one contains about one-tenth of berries, quite as large as the rest, that are merely coloured, and acid, while the others are blue black, and were ripe long ago. I see no difference in the stones in the two kinds of berries, ripe and acid. Both sorts of berries seem perfect except as to ripening.

How can I best make a two-year-old Trencham Black Vine take the place of a Muscat Hamburg six years old, on its own

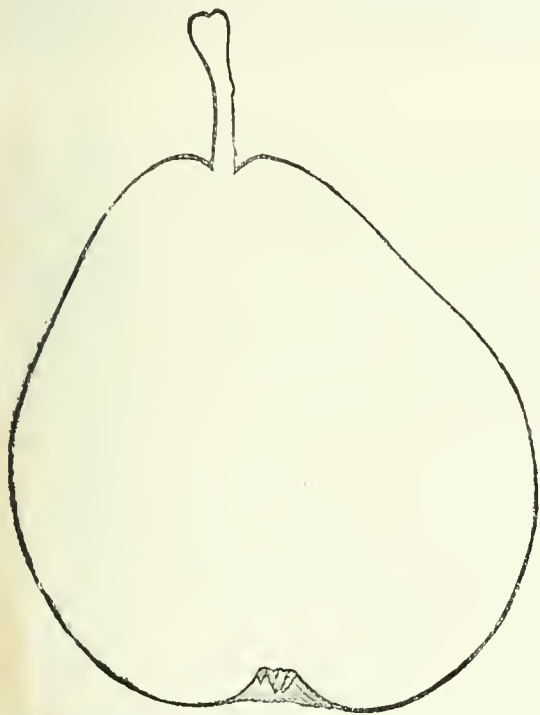
roots, and with a stem about 6 inches or more in circumference, within 5 feet of the Trentham? I dislike throwing away so very strong-growing a Muscat Hamburgh, if it would by grafting or inarching make a good mother for the Trentham.—J. MACKENZIE, M.D.

[If the stem of the Muscat Hamburgh is deemed so valuable you might turn the stem, if possible, of the Trentham Black, and inarch them together. We do not see any other way you can use it, unless you leave the Trentham alone, and fresh graft the other in the spring, or inarch after growth commences.

We are quite unable to account for the Hamburghs not ripening, when Muscats, &c., are ripe, unless the house was kept too hot for them in the hot weather. Neither can we assign a reason for the Muscat Hamburgh ripening unequally, unless it was that deficient moisture at the roots, combined with heavy cropping, rendered the supply of sap deficient.]

POMOLOGICAL GLEANINGS.

MADAME TREYVE PEAR.—One of the most beautiful, perhaps the most beautiful and finest summer Pear we have



seen, is a variety sent us by Mr. Rivers, and of which we furnish our readers with a figure in our present number. As will be seen by the figure it is of good size, but it requires the painter's pencil to give any idea of the colour, which on the side exposed to the sun is of a brilliant vermilion crimson, more brilliant even than Forelle, which is one of the highest-coloured of Pears. On the shaded side Madame Treyve is of a pale straw yellow, but on that next the sun, and extending over three-parts of the surface of the fruit, it is as we have already described it, and dotted with minute yellow dots. The eye is very small and open, and set in a narrow round basin. The stalk slender, half an inch to three-quarters long, set in a round narrow cavity. Flesh white, like that of Forelle, melting like a Peach, very juicy, rich, and sugary, with a delicate and highly refined aroma. A most delicious Pear, ripe in the beginning of September.

PROPAGATING VARIEGATED PELARGONIUMS.

THERE is much danger of many of these beautiful plants being lost to our gardens from want of proper knowledge in those who attempt their propagation. Most persons, who either

raise one as a seedling, or buy one as an expensive little plant, are too anxious to obtain a cutting from it. Before the plant has time to become strong and vigorous a miserable little cutting is taken, which can hardly make root, and becomes unhealthy before it has time to grow. I feel convinced this practice has ruined the constitution of plants which would otherwise have produced valuable varieties. It is the same to a certain extent with almost all new plants. New Roses, new Dahlias, &c., which have been over-propagated, require time to recover strength before an opinion can be safely formed of their merits. Variegated plants, however, are more easily and permanently injured. With these more particularly I would say, "The greater haste, the less speed." Put in large cuttings and you will have healthy plants.—J. R. PEARSON, *Chilwell*.

NEW ROSES.

YOUR correspondent "DEVONIENSIS," evidently wants a chat about Roses, and specially in reference to new varieties. I am very shy of buying novelties, the per-centage of the bad to the good Roses is so great. The best Roses of later date that I have grown, and to which I will give a full certificate, are Antoine Ducher, Alfred Colomb, Prince de Portia, and Charles Verdier. Whoever buys these (being a cultivator), must be highly pleased.

Heaps of trash are sent out every year, and the prizes bear no relation to the blanks. I am distressed to see so many worthless Roses retained in catalogues, and such noble Roses discarded from catalogues which are otherwise good and select. What novelties, in their lines of colour (I include excellent habit), are equal or superior to Baronne Prevost, Duchesse d'Orleans, Sœur des Anges, Gloire de Vitry (first-rate on its own roots), Caroline de Sanaal, and Monsieur de Montigny? How nobly have these magnificent neglected ones acquitted themselves this critical year. These I can buy at 9*d.* per plant; compare with them the wretches sent out annually at 3*s.* 6*d.* per plant, or more.

We want novelties new in character rather than in name. We want not merely good Roses, but Roses better in the same line of colour than those we already have. "DEVONIENSIS" is sanguine! How long will it take to beat, in the line of crimson (I include good constitution and habits), these crimson Roses—namely, Charles Lefebvre, Senateur Vaisse, Alfred Colomb, Antoine Ducher, Lord Macaulay, Duchesse de Caylus, Madame Victor Verdier, Madame Julie Daran, Maréchal Vailant, Leopold Premier, and Madame Boutin? Besides these, there are others very excellent in the line of crimson, as Baronne Adolphe de Rothschild, Lady Suffield, and François Lacharme. I should not like to wait for my breakfast till I could produce a Rose equal to any one of the above Roses. It is, however, now time to pay attention to the queries sent by "DEVONIENSIS."

Mademoiselle Jeanne Marix is of fine growth with fine foliage. It is a most promising Rose, but I have not had a fall bloom. The early blooms did not open quite freely. I expect to find it next year a first-rate variety. Madame Alice Dureau is a nice Rose, and is about to bloom again. It is a good grower and free bloomer. La France came with one series of flowers on it and has produced two more since. It has a long neck, and, I think, is of Tea descent. It is distinct, and suited to dry weather or a conservatory. Its petals are incurved at the edges. I prefer Marguerite de St. Amand, and still more so, Charles Verdier, the best Rose of light colour that has been out since beautiful Sœur des Anges appeared. Madame Martin de Besse is a splendid grower with the finest foliage, but not sufficiently proved. I moved it, Jeanne Marix, and others on the 28th of August, before they had time to give a second series of bloom. Madame Rolland buds well, is a good grower, and will soon bloom again. Its first blooms were as good as I could expect from a weak plant. Of Marie Girodte I bought twelve in dormant bud on the 6th of August. I cut them down at once, and eleven are growing freely, and some may yet bloom. The growth and foliage are first-rate. They were budded only six weeks before I bought them.

I met Mr. Keynes at the Blandford Show, and asked him to mark the best Roses of the year in his catalogue. He marked these:—Hybrid Perpetuals: Boule de Neige, Christina Nilsson, Elie Morel, Louis Bulliat, Madame Rolland, Madame de Rothschild, Reine du Midi, Souvenir d'Adrien Bahivet, Souvenir de Caillat, and the Tea Rose, Reine du Portugal, which his catalogue describes as "deep bright yellow, sometimes shaded with

rose and copper, fine form, medium size, full. Opens shyly!" I do not know this Rose. Buy Madame Margottin.

Pernet describes his Rose, Madame de Rothschild, as "*presque pleine*." It has been much puffed up by those sanguine rosarians whose signal attribute is that of deceiving (unintentionally), the Rose purchasers of the kingdom. I never recommend Roses fully that I have not bought, or would not buy. It takes three years to prove a Rose fully. Persons go to large establishments and view Roses under glass, and then give a character to the Rose that leads the uninitiated to think that the plant is grown out of doors, and, that where so grown, it will be the same fine Rose. The initiated know better. People, whether they buy or accept plants, should be most scrupulous in their recommendations. They are never given with a view to deceive, but are the expressions of kindness and respect. Purchasers of novelties can do no better than put themselves in the hands of our first-class nurserymen. They know but little, still, more than we know, about novelties.

I have these Roses on trial, only just come—Reine du Midi, Prince Humbert, Monsieur Noman, François Treyve, Louis Bulliat, Madame de Rothschild, Merveille d'Anjou, Marie Rady, Miss Ingram, Madame Barriot, Curé de Charentay, Marie Baumann, and others. Of them in due time I will give an account.

"DEVONIENSIS" says, "I think that Horace Vernet is quite above the common run of novelties." I differ. I have four plants which have not grown well; the petals are deep and fine-coloured, but there are not enough ranges, and the flower is crenulated, wavy, or rough at the edges. It is the same colour as Fisher Holmes, which, also, though beautiful in colour, is not full enough. Thorin is fine, but has not yet been full enough. It is a good grower. "D." of Deal, comes on the 23rd of September, and I shall show him some good Roses.

I close with one word more about Charles Verdier. On the 6th of August, when I bought my dormant buds, and also some plants, at the Dorset Nurseries, Blandford, I told the foreman that it was first-rate in the light line. He said it would not open well. I told him it was from want of water. As I said before, the whole line "stood fast." This morning at the same time that I received the letter of "DEVONIENSIS," the foreman's changed opinion came to hand. "Some short time since (July 6th), you asked me my opinion of Charles Verdier. I was not able then to give an opinion of its merits, but I am quite sure if you saw the splendid blooms of it now out, you would pronounce it first-rate. It is 4 inches across. It resembles Abel Grand, but is fuller and more cupped." I bought seven plants of Abel Grand on the Manetti stock, on August 6th, and on the 9th of September it had dropped its leaves, made new shoots, and formed buds the size of a nut. I will show these to "D." of Deal, on the 23rd. Quick work! Hurrah for Manetti!—W. F. RADCLIFFE.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Manures.—Take every opportunity of converting all refuse vegetable substances, scrapings of roads, cleanings of sheds, &c., into rich dressings for the garden, by watering with the liquid that distils from Melon grounds, dunghills, &c. New manures may be useful as auxiliaries, but there is nothing preferable for the production of good medium-sized high-flavoured vegetables to old hotbed dung, and the decomposing heap of those substances which can be collected in a garden. Weak solutions of guano, superphosphate of lime, &c., frequently applied, are found very serviceable to strong growing plants in pots, Cucumbers in boxes, &c., but the same apparent benefit is not the consequence of their application to crops in the open garden, though Cauliflowers are considerably improved, especially by guano, and Celery is rendered of a deeper green colour by the application of nitrate of soda, but in size and flavour it is not superior to that grown in the usual manner. However concentrated the strength of these manures, it must be evident that whatever their chemical influence, they can affect the mechanical texture of the soil but little, and hence, for rendering loose soils more retentive, and stiff soils more open, the old system of manuring must ever maintain a great superiority. It is true a similar mechanical effect might be produced by a proper application of lime, chalk, marl, and in extreme cases of clay or sand; but these operations involve both trouble and expense. Except the usual course of salading, there is very little sowing to be done for some time, and

as soon as the spring *Lettuces* and late *Cauliflower* plants are pricked or planted out, little more will be needed in the way of planting for a long time, except among the market gardeners, who will still plant out a large breadth of plants for late *Coleworts*. If, therefore, a few *Endive* plants are kept blanched, and the *Celery* rows are not allowed to go too long without earthing-up, you may turn your attention to forwarding work that will save time in spring. The cropping book will show what plots want trenching, and to what depth; never trench twice the same depth.

FRUIT GARDEN.

It is not too much to say that young fruit trees should never rest more than two years without being taken up and replanted nearer the surface, till they are twelve or fifteen years old. After they have attained a medium size of growth, the intervals of transplanting may be extended to three or four years. This is much better than allowing them to run half wild in the first instance, and then have to use severe and unnatural means to correct them afterwards. Nonpareil and other tender Apple trees infested with canker or otherwise unhealthy, may be improved by being taken up and replanted in fresh soil, using some turfy compost about their roots, their young growth being pruned-off two-thirds of its length, and they should be firmly tied up to stakes till they have a fresh hold on the soil. Early autumn pruning is necessary for the health and well-being of delicate fruit trees, not excepting even the Peach.

FLOWER GARDEN.

Every week now tells more or less on the appearance of the flower garden. Leaves from above and worms from below, with short days and long cold nights, will keep people busy here until frost. Many of the early kinds of Tulips and Narcissus are now beginning to grow, and therefore to keep them out of the ground any longer will injure them. As, however, it is impossible to plant them permanently until the autumn plants are removed from the beds, it will be found a good plan to place them upon an inch or two of finely sifted leaf mould and sand, and to cover them several inches deep with old tan or leaf mould. In this situation they will make roots, and as soon as the beds are ready for their reception they may be removed to their proper positions with the soil adhering to their roots. The same observations apply to all sorts of bulbs or tuberous-rooted plants that are desired for early-spring decoration, as, for instance, Anemones, Crocuses, Snowdrops, Hyacinths, Jonquils, and Crown Imperials. Continue at every favourable opportunity to pot-off Carnation layers; let the grass or leaves be dry, for when they are wet with rain or dew, the soil, which will sometimes lodge in the axils of the leaves, however carefully they may be handled, is difficult to be removed, and if not cleared out will prove detrimental to the plant during the winter. The layers must be put in a close frame for a few days till they have again struck root. The seedling bulbs of Tulips, when very small, are best in the ground, and small offsets of choice sorts had also better be planted. Any offsets of Auriculas, which may not have been ready earlier in the season, must now be removed, planting carefully round the rim of a 48-sized pot; water to settle the soil to the roots, and place in a situation free from drip or heavy rain. Continue to make the beds of Pansies for next year's blooming, and propagate by slips all that it is desirable to increase. Seedling Polyanthuses may still be pricked-out, to become established before winter. Compost heaps should be turned, and all insects carefully picked out; a small quantity of quicklime will prove beneficial if added to the decayed turf intended for Tulips.

GREENHOUSE AND CONSERVATORY.

The Chrysanthemum will soon require the shelter of the greenhouse, particularly the early kinds, and some of the later sorts should be left out as long as a mat or two can secure them from the frost; this will prolong their succession. They will require some stakes; but avoid the exhibition plan of staking them, which, although necessary for bringing the flowers to view altogether at one time, is most unsightly for general purposes. As little water as possible should be scattered in the conservatory for the next ten months, as this dull season is enough of itself to damp off the flowers without such aids. Slight fires will also be necessary during the day if the house shows signs of dampness. This house and the late vinery should now be managed nearly alike. There are two varieties of *Bignonia jasminoides* in cultivation, one of which is a very shy bloomer, and ought to be discarded; the other is the finest of our hardy greenhouse climbers. Cuttings of the latter may

be struck any time before the end of October, and they root as freely as Willows, and will blossom all through next summer in very small pots.

STOVE.

There is no variation in the treatment of this house worth noticing this week.

PITS AND FRAMES.

Half a dozen plants of the Prince of Orange Pelargonium, stunted all the summer, and lately planted in one large pot, will now be ready to be removed from the cold pit to the conservatory, where they will flower all the winter. It is rather too soon yet to take the Heliotropes in-doors, so many of them being yet to be seen in the beds outside. Smith's Giant, or Shrubland Scarlet Pelargoniums, struck last May or June, will now be fine-sized plants to introduce into rooms, &c., where such furnishings are wanted. These are among the best to stand over the dull months. It is now time to place young Gardenias, Neriums, and Orange trees in their winter quarters. A cold pit from which the frost can be excluded is the best place for them, as they are always kept in the smallest pots into which the roots will go, and force best when thus underpotted. It often happens that their roots perish during winter. To prevent this it is a good plan to turn them out of the pots now, and plunge the balls in a thin layer of light earth during the period of rest; but as Gardenias will flourish in peat only they should be plunged in it.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Celery.—In writing rather largely on the treatment of this vegetable last week, we forgot again to draw the attention of those who like Celery, and have little ground, to the Dwarf White Incomparable, which, though it grows slowly and never becomes high, blanches quickly, and from plants 15 or 18 inches in height you can always send a foot in length to table. A bed 4 feet wide will grow three rows admirably, and 2 feet at most on each side will be enough to earth it up. But for growing other crops on the ridges, 18 inches on each side would be ample space; so that in a width of 6 or 7 feet the amateur may have three rows of one of the sweetest kinds of Celery for the table. Tall Celery is not to be despised by any means, but in these giant heads the eatable part is not in proportion to the general bulk. We found last winter and spring that this Dwarf White stood as well as the Red.

Tomatoes.—Disleafed these rather freely to let the sun to the fruit. There is so much moisture in the stems that the fruit ripens with but little foliage. After this season it is of no use allowing bunches of bloom to stand. All the strength of the roots should go into the fruit that is tolerably well advanced.

Cucumbers.—Regulated and trained young plants in a pit where fire heat can be given, and thinned considerably those bearing, but becoming the worse of the work they have done. Potted others into 6 and 8-inch pots, to plant them out for winter work if wanted, but for this we have no place very suitable, as our pit is too flat, and the plants receive too little direct light in winter. After February the matter is different. A steep lean-to, or a rather steep span, is best for Cucumbers in winter.

Dwarf Kidney Beans.—Gave a good watering to those which have just come up in a pit, to be treated with a little heat when wanted. Sowed some dozens of large pots out of doors, which pots may be removed under protection when the weather threatens to be cold, and we will sow again shortly. The plants thus raised out of doors in a warm autumn generally do better when housed in time than those sown under glass at once, and they enable us to use the stage a little longer for other purposes.

The weather has become warmer after the delightful rain on the nights of the 18th and 19th, which came just when it was needed, and has made all fresh-planted subjects lift up their heads nicely; even the wasps have become a little torpid over it. In mild damp weather extra care must be taken of young Lettuces, Cauliflowers, &c., otherwise the trouble of planting might be saved. Wood ashes mixed with rough coal ashes are together very annoying to all the slimy tribe; but when very numerous, nothing beats a little heap of brewers' grains mixed with a little bran. We may here mention that though we have seen few dead mice, yet since we put the poisoned grain in the middle of the drain tiles, they have ceased to cut up our plants as they were doing wholesale. The drain tiles are so small, that nothing except mice and small rats could find their way

in, and therefore there was no danger of more valued animals reaching the poison. Care, however, should be taken to see that the mice do not pull it out. We have known cases where pheasants and fowls have been poisoned by rats, after eating a portion in a hole, or in any other place deemed safe, pulling a part out and leaving it exposed. Thus we would rather do without poisoning if we could; there is something hateful and repulsive in the whole process. Poisoned grain cannot now be bought, but we presume we can make a little for our own use, and for birds and mice nothing is more effectual than strychnine or nuxvomica, because it kills so quickly and does not torture.

Ants.—"A READER" has drawn our attention to the many letters and the many modes adverted to in the *Times* and other papers as to the best mode of destroying ants in dwelling houses. We would refer to these letters, and to what has appeared frequently in this Journal, as to the best mode of making them shift their quarters. For killing them off, the following mode is the most effectual with us when we are forced to interfere with the busy workers. Procure from a chemist some arsenic that has not been blackened, as, we presume, in general it must be. Mix that with moist white sugar, place it in a saucer, place two slips of wood across it, from one-eighth to one-quarter of an inch thick, and on these place another saucer reversed, with a weight on it to keep it firm. The ants will enter between the two saucers, and will die as the contents inside disappear. Without poison great numbers may be caught in vessels smeared with treacle or honey.

FRUIT GARDEN.

Strawberries.—Have not yet cleaned all our Strawberries; but this work ought to have been done, to let more light to the crowns, but for the press of other matters. From those in pots removed all runners, so that all the energies of the roots might be directed to the central crown or bud. One reason why we do not wish to have our plants so strong as we once had them is, that when very strong they are apt to make two or three buds instead of one, and these triple crowns seldom do so well as plants with only one crown.

Apples and Pears.—As soon as the weather becomes fine again we must gather the most of these, as though many would be improved by hanging a little longer, a good many would be apt to drop, and thus be good for nothing but for present use. We housed many soft Apples that used to keep with us up to Christmas, but they soon began to go; and a lot of soft ones we therefore left beneath the trees for the wasps and birds, and so far they acted as traps to the wasps, and kept them and birds almost wholly from the better and keeping fruit.

We wish we could do more than we can at present do in respect to removing the late growths from dwarf and pyramidal trees, as the sap is thus more concentrated in the buds. The buds of most trees look plump and maturing well for another season.

Root-pruning.—As soon as the fruit shall have been gathered, and in the case of trees that have borne none and are rather luxuriant, the earlier the roots are cut the better, so as to tell on the fruitfulness next season, and that, root-pruning will do, very much in proportion to the dry sunny character of the autumn. When fruit trees are young and very luxuriant it is often advisable to take up and replant before the leaves have lost all their greenness. In general, with established dwarf trees which bear rather freely little root-pruning will be necessary, and that should be given a little at a time, cutting the roots a little on one side of the tree this season and on the other side in the following season. This once done, and some rotten dung used as mulching every year, the roots will be so encouraged near the surface that little more cutting of them will be necessary.

ORNAMENTAL DEPARTMENT.

In the pleasure grounds the rains have freshened up the beds that were becoming very dry again, and as the beds were picked over the day previously, the rains have not injured the appearance of the sound blooms. There can scarcely be a more melancholy sight than a gay bed of Pelargoniums containing many faded flowers after a heavy rain, and in such a case even the sound blooms look discoloured and miserable. If we could carry it out we would never take a bloom from flower beds except a faded one, and we would never allow faded seeding blooms to remain. In many cases, were there acres of beds, they would have to be gone over every day to have the mansion studded all over with cut flowers, even though windows and doors open on conservatories and flower gardens; but in such a case some large mixed borders should, if possible, be kept for cutting purposes. We have not this kind of lux-

ury ourselves, but we wish it to be set down as a floral axiom, that when flower beds are expected to be the very best, as far as the weather will allow, no blooms should be taken from them so long as they are fresh. When culled over every day, and the best always taken, it is impossible that the beds can be so full and bright as they otherwise would be.

During such heavy rains as we have had, Anriculas should be protected with a sash, and have plenty of air back and front. A fine opportunity has been given for potting Carnations, pricking-out Pinks, Pansies, Daisies, Wallflowers, &c. Many of our Stocks planted out early in spring, and that lost every leaf by the depredations of the fly, are breaking afresh and blooming well. All tender greenhouse plants should now be taken under protection, but allowed plenty of air, and others so placed that a little protection can be given in a cold night.

Calceolarias may still be sown for spring blooming—full directions were lately given; and the seedlings from the first sowing, if they can be handled at all, should now be pricked off and kept in a cool shady place. Owing to the dry heat, a little fly and a semblance of thrips appeared on some of our Cinerarias, but the insects have now taken their leave, or been killed, by placing in a box some bruised laurels inside of the frame in which the plants were set. Repotted the most forward Chinese Primulas, and potted in small pots numbers of young plants to succeed the others in spring. These little plants in 3½ and 4-inch pots, with a large truss of bloom, are very useful for filling vases and baskets, and are in every way superior to cut flowers. A handsome vase in a room, filled with small plants either out of pots or with the pots concealed, will ever be more pleasing than cut flowers, and will involve the sacrifice of far less time.

Pelargoniums that were cut down we will repot in a few days; Younger ones showing bloom for autumn we keep under glass, and give them plenty of air. Ferns and stove plants want an overhauling as soon as we can find time.

Propagation.—We are still busy with bedding plants, and will be so for a few days longer—rather later than we like; but our plants, though flowering abundantly, made less than usual growth in the hot dry weather; and then when growth came, having no spare borders to go to, we were averse to spoil the symmetry of the beds by taking cuttings, however carefully. One reason which is a kind of solace to us for late cuttings, is, that if we had them early they would become too large for the room we could give them in winter. Most of our plants must stand thickly in winter, say 1 inch being allowed to most Pelargoniums, and less to Verbenas, Heliotropes, &c. We have placed most of the stronger-growing Scarlet Pelargoniums in boxes out of doors, and just shaded them a little in the hottest days, and now they hold up their heads to the sun, and are calling for rooting. Most of the Variegated Pelargoniums are in boxes in a cold pit under glass. Our Verbenas, Heliotropes, Ageratum, &c., we have put in pots in the same pit. If a portion of these do not root quickly, we will take them out and give them a little bottom heat with a cool atmosphere. We shall have to move them in about a month at any rate, as they are now in the same pit as that which we generally fill with Calceolaria cuttings, and it will be time enough to take these off then. We think we are just late enough to strike the Heliotropes without heat, but they will do if the weather continue warm. We prefer all these plants to be struck cool—that is, with nothing but the heat of the sun, as they stand rougher treatment all the winter than if they had been made more delicate with bottom heat.

Even in such simple matters adhering to a system is useful. The Variegated Pelargoniums under glass would need little shading; but such cuttings as Verbenas would soon flag in a sunny day, and one point of a good system is never to let a cutting flag if possible. A common shading over the glass is objectionable for two reasons—first, it is liable to be blown off, and the sun causes the cuttings to flag before the mischief is remedied; the second is, that the person who puts the shading on very often forgets to take it off in time, and every hour that shading remains when not wanted just so far militates against the cutting rooting quickly, so as to be able to look more after itself. For these reasons we frequently dulled the under side of the glass with whitened water, and in bright sunshine just dewed the cuttings with a fine-rosed syringe in preference to giving shade, keeping the sashes down to prevent the moisture going off. This season, having some sashes to spare for a few days, we have dulled the outside of the glass, and placed another sash over it for a short time. Under such treatment one element of success is to keep the sashes shut during the day, and

to open them, say by tilting them up half an inch behind, from evening to the time the sun comes on the glass in the morning.

We may also add that in general, and especially after such a dry season as this, plants at all likely to be affected by *thrips* or *green fly*, as Verbenas, Petunias, &c., have the cuttings, all but the bottom end held in the hand, drawn backwards and forwards through tobacco water, or something of that kind, before inserting them. This little trouble at first often saves much trouble afterwards. If the cuttings are at all badly affected, we let them be for an hour or two after this bath, and then draw them through clean water at 130° before inserting them.—R. F.

COVENT GARDEN MARKET.—SEPTEMBER 23.

PRICES much the same as last week. The supply of Peaches is falling off, also that of Plums; but vegetables are more plentiful.

FRUIT.

	s. d.	s. d.		s. d.	s. d.	
Apples ½ sieve	1	6 to 2	0	Melons..... each	2 0 to 5 0	
Apricots doz.	0	0	0	Nectarines..... doz.	0 0 0 0	
Cherries lb.	0	0	0	Oranges..... 100	12 0 20 0	
Chestnuts bush.	0	0	0	Peaches..... doz.	4 0 12 0	
Currants ½ sieve	0	0	0	Pears (dessert) .. doz.	2 0 4 0	
Black do.	0	0	0	Pine Apples..... lb.	4 0 7 0	
Figs doz.	1	0	2	0	Plums ½ sieve	2 0 4 0
Filberta..... lb.	0	9	1	0	Quinces..... doz.	1 6 2 0
Coba..... lb.	0	9	1	0	Raspberries.....lb.	0 0 0 0
Gooseberries .. quart	0	0	0	0	Strawberries... par lb.	0 0 0 0
Grapes, Hothouse.. lb.	2	0	5	0	Walnuts..... bush.	10 0 15 0
Lemons..... 100	10	0	16	0	do. per 100	1 0 2 6

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.	
Artichokes doz.	3	0 to 6	0	Leeks bunch	0 4 to 0 6	
Asparagus 100	0	0	0	Lettuca..... par acre	2 0 4 0	
Beans, Kidney ½ sieve	3	0	4	0	Mushrooms..... pottle	3 0 4 0
Beet, Red..... doz.	2	0	3	0	Mnst.& Cress, pannel	0 2 0 0
Broccoli..... bundle	0	0	0	0	Onions.....per bushel	5 0 0 0
Brs. Sprouts ½ sieve	2	0	0	0	Parsley.....per sieve	3 0 4 0
Cabbage..... doz.	1	0	2	0	Parsnips..... doz.	0 9 1 0
Capsicums..... 100	3	0	0	0	Peas.....per quart	0 0 0 0
Carrots..... bunch	0	4	0	3	Potatoes..... bushel	4 6 6 0
Caniflower..... doz.	0	0	0	0	Kidney..... do.	4 0 7 0
Celery..... bundle	1	6	2	0	Radishes doz. bunches	1 6 0 0
Cucumbers..... each	0	4	1	0	Rhubarb..... hundle	0 0 0 0
Endive..... doz.	2	0	0	0	Sea-kale..... basket	0 0 0 0
Fennel..... bunch	0	3	0	0	Shallots..... lb.	0 8 0 0
Garlic..... lb.	0	8	0	0	Spinach..... bushel	4 0 0 0
Herbs..... bunch	0	7	0	0	Tomatoes..... per doz.	1 0 2 0
Horseradish .. bundle	3	0	5	0	Turnips..... bunch	0 6 0 0

TRADE CATALOGUES RECEIVED.

- G. Jackman & Son, Woking, Surrey.—*Catalogue of Plants.*
- E. G. Henderson & Son, Wellington Road, St. John's Wood, London, N.W.—*Autumn Catalogue of Bulbs, Flower Roots, Greenhouse and Stove Plants, Roses, Fruit Trees, &c.*
- Fisher, Holmes, & Co., Handsworth, near Sheffield, 98, Fruit Market, Sheffield, and Market Place, Rotherham.—*Catalogue of Imported Dutch and other Flower Roots.*
- W. Hooper, New Wandsworth, London, S.W.—*Catalogue of Dutch Bulbs and other Flower Roots.*
- Giles & Pascoe, Grove Hill Nursery, and 12, Hindley Street, Adelaide.—*General Catalogue of Trees, Plants, and Shrubs.*

TO CORRESPONDENTS.

- BOOKS (*Cleared*).—Williams's "Orchid-Grower's Manual." There is none with coloured plates except at a very high price. (*W. Smith*).—We believe the work you name is out of print.
- PLUM TREE OVERHANGING A NEIGHBOUR'S GARDEN (*An Old Subscriber*).—Ask the owner to cut off the branches which extend so low, and 5 yards over your ground. If he neglect or refuse to remove them, tell your attorney to give him a legal notice to do so, and to take the necessary steps for compelling him to remove them.
- CALCAREOUS LOAM (*H. B.*).—It is a mixture of chalk and earth. It is sometimes called marl.
- RHUBARB FORCING FOR MARCH CUTTING (*L. H. D.*).—To have Rhubarb in March in a greenhouse the plants should be placed in the house at the beginning of February, and you will have stalks fit to gather in about a month. To have Rhubarb fine a temperature of from 50° to 60° is necessary, it will then be fit for use in three weeks. This temperature, however, would very much injure the greenhouse plants.
- SOWING VERBENA AND HELIOTROPE SEED (*Idem*).—To have strong plants well hardened-off by May, the seed should be sown from the middle of February to the beginning of March, in a mild bed, and well hardened-off before planting out.
- FLOWERLESS PLANTS (*A Lady in Cheshire*).—No plant produces seeds unless it has flowered previously. We speak of plants generally. The Fungi and other cryptogamic plants have a peculiar reproductive system. Some plants have female flowers and male flowers. The female flowers bear the seed. The Cucumber and Melon are familiar examples. The plant you enclosed is the *Datura stramonium*, or common Thorn Apple.

TACSONIA VAN-VOLEMI NOT FLOWERING (Doveholes).—Your plant is not old enough to flower. It will no doubt do so next season if you now keep it dry at the roots, and expose it fully to light to secure the ripening of the wood. The soil should not be kept so dry, however, as to cause the wood to shrivel. Before growth commences cut the side shoots back to within two or three buds of the main branch, and from the eyes or buds left you may have flowering shoots. The soil should be kept rather dry during the winter. Your soil is suitable, but we should prefer two-thirds loam from turf, one-third leaf mould, and a free admixture of silver sand. The drainage must be efficient. It is well to place a layer of gravel on the shelves for the pots to stand on. The points of the shoots damp off from want of air and heat.

CLIMBERS AND SHRUBS FOR A SOUTH-ASPECT WALL (E. M. B. A.).—Your wall with a south aspect will suit White Jasmine, *Ceanothus dentatus*, *Wistaria sinensis*, also *Lonicera aureo-reticulata*, *Clematis Jackmanni*, *C. lanuginosa*, *Berberidopsis corallina*, *Chimonanthus grandiflorus*, *Escallonia macrautha*, *Garrya elliptica*, and *Misogonion grandiflora*. Of Roses, *Maréchal Niel*, *Gloire de Dijon*, *Climbing Devoniensis*, *Niphetos*, *Gloire de Bordeaux*, *Céline Forestier*, *Opbirie*, *Solfaterra*, *Lamarque*, and *Cloth of Gold*.

GRUBS DESTROYING ERICULAS (H. M.).—There can be no doubt of the grubs being the cause of the mischief. It is an unusual occurrence, and one for which we cannot suggest any other remedy than to turn the plants out of the pots, and examine the soil and plants by taking away the former from the stems. A few good waterings with soot water would make the grubs uncomfortable, and deluging the pot with lime water would probably destroy them. A little soot sprinkled about the stem would be distasteful to them. Soot water may be made by pouring over a peck of soot thirty gallons of water, and stirring well up previous to use.

FERNS INFESTED WITH INSECTS (E. F.).—The insects are aphides, which may be destroyed by fumigating with tobacco, by using a solution of 1 oz. of Clarke's Insect-destroying Compound in a gallon of water, or by tobacco water, either by immersing the plants or syringing them. The *Gnidias* are subject to red spider, but it yields to a 2-oz. solution of the above-named compound to a gallon of water. There is no means of entirely preventing attacks of insects, but they may be kept down by preventive measures, as a moist atmosphere, and supplying the plants with plenty of water in the case of red spider.

SUNDAY WORK (Master and Servant).—You seem to have plenty; but much depends on the style of gardening and the occasional help, and these are matters that no one not personally conversant with the facts could speak with certainty upon. As to what your employer says about a greenhouse being a matter of pleasure, he is no doubt correct, as much of the gardening of the present day is more a matter of luxury than of absolute necessity. What we stated formerly still holds true. The man who entertains strong views on these subjects should not take to a profession where these views are likely to be rather often crossed. Your case so far differs from that of our other correspondent, as your employer seems to wish to have little or no watering done on Sunday, whilst you contend you have so much work on the other days of the week, that you must water on that day. Well, if the work must be done, we would make an effort to do extra watering on Saturday afternoon, so as to do as little as possible on Sunday. We imagine this would suit servant and master.

GRAPES SHANKED—FIGS FALLING (A Subscriber, Park Street).—The berries of the Grapes sent were shanked—that is, the stalk of the berry had withered up. This is chiefly owing to two causes—first, over-cropping; and if this is the case, the fruit is rarely well coloured. The chief cause, however, is the roots being too deep and in an unhealthy state. If the latter, good drainage and even lifting the roots may be necessary. Much good is often effected by securing good drainage and covering the border in winter, so as to keep rain and snow out of the border. The roots are then encouraged to rise naturally. The Figs on your trees out of doors now will do no good, as every one of the size sent will drop in winter. What will stand the winter should not now be larger than small peas. All these Figs had better be cut off with a sharp knife, not pulled off. With fire heat they might ripen, not otherwise. Their presence in such numbers proves that the Fig tree is fruitful, and most likely the felling of the first crop would be prevented by waterings and mulchings after the end of May. If that do not answer let us know next year. The sooner this fruit is cut off the better the chance for next year.

GLAZING A PEACH WALL (A Constant Reader).—Such a wall would look well covered with upright sashes 6 feet from the wall, and then a small span roof resting on the wall on one side, and on the plate above the sashes on the other. Where room is an object, we would make a lean-to house, with a height in front of from 3½ to 4½ feet, have ventilators in the front wall end along the apex, if not through the back wall. The trees on the back wall will thrive well, and there is all the enclosed space for general purposes, say 11 feet from the back wall.

HEATING A SMALL GREENHOUSE (A Subscriber).—For such a small house, on the score of economy, we would prefer a flue to a boiler, and one of the best modes of having the flue would be to have it below the floor, so that the tile covering would form part of the flue. For cleanliness, however, the hot water would be best, and a saddle boiler of a small size, say 20 inches by 14, by 14, costing about 50s., would suit you. You would need about 90 feet of 4-inch piping. We are in doubt as to your second question, as we do not know whether the word is pointing or painting. For pointing a wall, the best lime should be obtained, and this, bright clean sand, and a little fine-sifted coal ashes beaten into a mortar with as little water as possible. This will stand well. For painting we would use anticorrosion paint of the colour that pleases you best, and before using it the wall should be well scrubbed and then whitened thinly with quicklime wash, which will destroy all green spots, and that should, after standing a few days, be roughly scrubbed off again before applying the paint. From such a general house as referred to, you may have plenty of Grapes, say from the end of August, and yet keep all your plants in winter.

EARLY PEAR—EVERGREEN SCREEN (J. Y.).—The Little Muscat is the very early yellow Pear you refer to. It could be obtained for you by any nurseryman. To cover your south wooden fence we would plant Irish Ivy and Cotoneaster Simmonsii.

NEWINGTON'S GLASS SCREENS (R. J. S.).—Write to Messrs. Rivers, Nurseries, Sawbridgeworth.

ICE STONE (W. K.).—If you enclose four postage stamps with your

address, and order No. 348 of our Journal, you will in that see a plan which we think will suit you.

FLOWER-BED PLANTING (J. C.).—Your central *Rhododendron* bed will spoil the effect of the other beds round it when grouped. The best plan to adopt with it would be to plant *Gladiolus* amongst the *Rhododendrons*, and then surround the bed with a belt of a white variegated *Pelargonium*, as *Alma*, *Bijou*, &c. Then your two small circles might be yellow *Calceolaria*, bordered with blue *Lobelia*. As you wish chiefly to have *Pelargoniums*, we would fill two of the long beds crosswise with a dwarf scarlet *Pelargonium*, as *Tom Thunn* or *Little David*, and belt with *Golden Chain*; and two others we would fill with *Mrs. Pollock* or *Cloth of Gold*, or some of Mr. Wills's best bicolors and bronzes, and edge with *Verbenæ Masonetti*; or, if a *Pelargonium* should be preferred, then use *Harry Hiss-over*, a little scarlet variety, but the *Verbenæ* would have the best effect.

INTERIOR OF CONSERVATORY (A.).—In such a position, opening into a drawing-room, we would have no stages at all, but eight or ten ornamental vases or watertight baskets, in which we would set flowering plants, and replace with fresh as they faded. The vases could be draped with dwarf climbers planted out, leaving a hole in the centre to receive the plant, to be moved when the beauty waned, and all covered with a green carpeting of moss. No seeds reached us, but the bit of leaf and a small piece of a yellow flower lead us to think that you have *Cassia corymbosa*, a very useful plant for a cool stove or greenhouse, and even for the open air from the end of May to the middle of October.

PELARGONIUMS, DOUBLE WHITE AND YELLOW (H. W.).—There is not a double white *Pelargonium* proper, but there is a neat semi-double *Pelargonium*, known under the name of *Album plenum*. There is also another in the same section, but much larger, with crimson and rose flowers. The above are very interesting varieties, and there is no doubt a fine race of the double-flowering varieties of this section will be produced from them. There is, however, no chance of there ever being any hybrids produced between this section and the Zonal kinds, and none of those named in your letter will be of any use for this purpose, as they are quite a distinct race. There is no yellow *Pelargonium* that will answer the purpose you have in view. We have for many years been trying experiments with the view of producing a yellow bedding *Pelargonium*, but with no great amount of success. This season, however, we have many shades very nearly approaching to yellow, and think it is not impossible to produce a yellow in the course of another year or two. A good yellow-flowered bedding *Pelargonium* would be one of the most useful and greatest novelties that could be produced, as the permanency of the yellow *Calceolaria* for this purpose is now so little to be depended on.

RENDELL'S TANK HEATING (E. J.).—The tank, 5½ feet by 2½ feet, will keep the frost out of a house 12 feet by 8 feet, if the water in the tank is hot enough. The covering of house slates might not do in winter if laid on loosely, as the steam would pass through too freely, but you could mortar or cement the joint, or cover with one piece of slats. Of course, made as your tank is, you must depend on the heat thrown off by the slats, which, therefore, must be uncovered, or rather exposed when you want a rather dry heat in winter. You must, therefore, have the cold weather past before you can use that tank with a frame over it for propagating purposes, as when you set the frame on you shut in the heat, and prevent its escaping freely into the house; and the sides of the tank being of wood, little heat will come from them. Having the boiler and pipes from it to this tank, we would have a couple of pipes for the house, independently of the tank, and then you could use the latter for propagating as early as you liked. With no more heat in the house it would scarcely be safe to cover it over with your frame until March. The size of the pots in which to winter bedding *Pelargoniums* must depend on the room you have for storage. We keep thousands, allowing merely 1 inch each, in shallow boxes, as we could find room in no other way. The plants which you now have well rooted and established in 2½ to 3-inch pots, will stand the winter well in those pots; but if you have plenty of room, the plants will be much finer in spring if you can now transfer them to 4½-inch pots, and the sooner it is done the better.

HYACINTHS AND CROCUSES (A. Y. E.).—You may grow them in common mould mixed with sand, or even in sand alone, provided you keep them duly supplied with water.

FRUIT TREES FOR WALLS (W. B. R.).—The wall, B, in your plan will have a south-east aspect, and will be suitable for Plums. On it you may have *July Green Gage*, *Green Gage*, *Kirk's*, *Jefferson*, and *Coe's Golden Drop*. The wall, A, will have an east aspect with a northerly bearing, and will be suitable for Apples: *Red Astrachan*, *Céline*, *Clegats Pearmain*, *King of the Pippins*, *Cockle Pippin*, and *Scarlet Nonpareil* will be suitable. C, will answer for Pears, of which you may have *Bourc's Diez*, *Marie Louise*, *Bergamotte Espere*, *Gloire Morçeau*, and *Ne Plus Meuris*.

APPLES FOR ORCHARD (Idem).—*Dessert*: *Devonshire Quarrenden*, *Kerry Pippin*, *Margil*, *Court of Wick*, *Dowton Pippin*, and *Wykon Pippin*, *Kitchen kinds*: *Lord Sutfield*, *Keswick Collin*, *Alfriston*, *Dumslow's Seedling*, *Northern Greening*, and *Bedfordshire Foundling*.

PICTOEE, CARNATION, AND PINK PIPINGS FALLING (J. Y.).—We cannot perceive anything wrong with the piping sent, only it appears to have been drawn. We prefer to cut the piping with a sharp knife immediately under the second or third joint, and remove the lowest pair of leaves. Drawing answers well enough for Pinks, but we consider cutting better for Carnations and Pictotees. For the last two, make a slight hotbed of well-sweetened dung about 2 feet high, and cover with about 6 inches of sandy loam and leaf mould. The pipings should be inserted from three-quarters of an inch to an inch deep, the soil made firm about them, and a gentle watering given. When the foliage has dried, cover them with hand-glasses or a frame and lights. Keep them close and shaded from the sun, but if any of the pipings suffer from damp a little air must be given, all decayed leaves being picked off. Dryness must be guarded against, a gentle watering being given whenever necessary, taking care to let the foliage be dry before the lights are again closed. When the pipings grow they will have rooted, and air may be gradually admitted and the plants by degrees hardened off. Pinks are treated in the same manner as the Carnation, only heat is not necessary, though it renders striking more certain, but it is desirable to cover the pipings with a hand-glass. Your pipings perish from exhaustion by the atmosphere, and the "very moist" soil is not good. It should be moist, that is all.

ARBOR-VITE FROM CUTTINGS (Reader).—The *Arbor-Vite* may be propagated from cuttings, but the best plants are those from seed. The end of August or beginning of September is the best time to put in the cut-

tings, taking the points of the growing shoots when they have become somewhat ripened. They will be rooted in from six to eight weeks. For further particulars see page 174 of No. 383. Your other questions will be answered next week.

FILLING CROCUS HOLDERS (*Ignoramus*).—No time should be lost in putting in the Crocuses. The best and only way that we know of filling them is to invert the holders, and place a Crocus opposite each hole in the holder, and so that the foliage and flowers will come through the hole. You may then put in some soil composed of two-thirds loam and one-third leaf mould or old retica manure, adding more Crocuses when the soil is level, or nearly so, with the next tier of holes, and in this manner proceed until the holder is filled. The soil should be pressed firm; it is well that it should not settle much.

OLEA FRAGRANS CULTURE (*J. W.*).—It should be treated as a cool greenhouse plant, and succeeds under the same treatment as Camellias—that is, as regards heat, &c. Care should be taken to secure a well-formed plant by frequently pinching back and regulating the shoots. After a specimen is formed and the flowering is past, any pruning required should then be done, and the plant be potted if needed, keeping it rather close for a few days until the roots are working freely in the fresh soil. Secure a good growth by preserving a moist atmosphere, and by stopping the irregular shoots maintain the shape of the plant. After a good growth has been made expose the plant fully to light and admit abundance of air, keeping the soil moderately dry during the winter, but not so dry as to affect the foliage. It is propagated by layers, also by cuttings of the half-ripened wood in a hotbed. A compost of turfy loam two-thirds, and one-third sandy peat will grow it well.

PALMS for Rooms (*Salopian*).—What we stated at page 186, and a communication which we publish to-day, afford all the information we have on the subject at present.

DAHLIA IMPERIALIS.—"J. W." wishes to know if this has been bloomed here, and, if so, when? also if there is more than one kind. All that we know about this flower is stated fully in our fourteenth volume.

NAMES OF FRUITS (*W. Collier*).—1, Calville rouge d'Elé; 4, Tower of Glammia. (*W. B.*).—Easter Beurré Pear, an excellent late dessert variety, but in some situations and in some seasons it is difficult to ripen it thoroughly. The other fruit is Hacco's Incomparable. (*S.*, *Thirsk*).—Apples: 1, Unknown; 2, Rymer. (*G. T. M.*).—Pears: 1, Duchesse d'Angoulême; 2, Easter Beurre; 3, Old Colmar; 4, Unknown. (*Amateur*).—The Apple is unknown, it is most probably a seedling, but of no great value. We have had submitted to us frequently, Apples very similar to yours, from old orchards throughout the country. Irrespective of its size it is, in our opinion, very deficient in flavour. We do not think that the difference in the mode of training will make much difference as to the bearing properties.

NAMES OF PLANTS (*H. Ventnor*).—Your shrub is the Scarlet-berried Thorn, *Crataegus coccinea*. The French name for it is Azerolier. (*C. Thompson*).—*Linaria purpurea*. (*J. A. K.*).—*Nepeta cæcia*; *Lythrum virgatum*, *Fuchsia*, apparently *F. Loxelsii*. (*H. T. W.*).—1, *Selaginella Kraussiana* (*S. denticulata* of gardens); 2, *Spiraea aruncus*; 3, *Blechnum boreale*; 4, *Adiantum firmosum*. (*A. Lead*).—*Tecoma jasminoides*. (*A. Brylner*).—*Hedychium coronarium*. (*Notice*).—*Hedychium Gardnerianum*; will thrive in a greenhouse. (*C. P.*).—Not recognised. Send a better specimen.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending September 22nd.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain to inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 16	29.913	29.795	66	42	60	59	E.	.00	Overcast; very fine; cloudy and very dark.
Thurs. 17	29.687	29.482	69	55	60	59	S.E.	.00	Cloudy; very fine; very fine and clear at night.
Fri. ... 18	29.687	29.492	68	43	59	59	S.E.	.42	Cloudy; showery; heavy storm, thunder, lightning, and rain; rain
Sat. ... 19	29.499	29.498	65	54	60	59	S.E.	.04	Heavy fog; cloudy; heavy showers; fine at night.
Sun. ... 20	29.496	29.474	69	42	60	59	S.E.	.02	Clear and fine; cloudy, showery; very fine.
Mon... 21	29.655	29.546	73	53	60	59	S.E.	.09	Foggy; fine and clear; very fine at night.
Tues. . 22	29.649	29.611	68	43	60	59	N.E.	.00	Clear and fine; very fine; fine, very dark.
Mean	29.655	29.557	68.14	47.43	59.85	59.00	..	0.48	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

OTHER BANTAMS THAN GAME BANTAMS.

EVERY man has his hobby, and the breeding of Bantams is mine; but I prefer the comparatively peaceably disposed kinds, and am sometimes led to wonder how it is that those of a more pugnacious character have obtained such an ascendancy in the poultry world. Sometimes I am hurt, sometimes I am angry, at finding the exquisite little Game bird put at such an immeasurable distance above the not less exquisite Sebright, Black, White, or Japanese.

Tastes will differ, and upon the whole, perhaps (at any rate in the eyes of some people), the various races of Game possess the greatest number of points of attraction; but surely the difference is not so great as is implied in some of the poultry show schedules lately issued. Take the Birmingham prize list. I have always regarded Bingley Hall as the place where every description of fowl received its fair share of attention and reward; but this year I regret to say I am compelled to alter my opinion, since justice to my especial hobby has departed. The prizes offered to any variety of Bantams except Game have been reduced from £27 to £17; those for the various Game breeds remaining about the same as in former years—viz., £30. Now, in the name of my snubbed and slighted favourites I protest against this unjust treatment; and I have resolved that only half the number of voices which I contemplated sending from my yard shall be heard this year at the Great Show. As to Manchester, it actually insults Bantam breeders by offering £6 in prizes for "all varieties except Game," while the Game birds have £44 awarded to their different classes! Surely this is unreasonable, and such short-sighted parimony will defeat its own object; for who will send valuable birds any distance on such a speculation? Certainly not your obedient servant—P. P.

THE MANCHESTER PRIZE LIST.

We quite agree with the remarks of Mr. Heath, in last week's Journal, regarding the time of holding the Manchester Poultry and Pigeon Show, but hope with such a liberal prize list the Show will meet with the same success that has attended

it in former years. Still, we think that for a chicken show it is at least six weeks too early. Birmingham will be quite early enough, and had Mr. Jennison held his show two or three weeks after the great poultry show of the year, birds would have been in better plumage, consequently the entries would be more numerous. Mr. Heath justly observes that Spanish are slow in feathering, they also have the disadvantage of other breeds, so much depending on the white face and lobes, which do not come out prominently until the birds are in feather, especially pullets; therefore, unless hatched in January, or at latest February, they cannot be ready for Manchester.

We have stated the prize list is liberal, almost too liberal in some classes. We refer to the prize for Bantams, in which Game are offered £44, whilst all the other varieties are cut off with £6. Is this fair, with the same entry fees? We think if Mr. Jennison had offered a separate class for Black and White Bantams, he would have found the entries more numerous than in some of the Game Bantam classes. If he did not think Sebrights would pay for a class, he could let them fight it out with the Pekins, Japanese, &c. Although we believe Sebright would also pay for a class to themselves, we do not think the foreigners would pay, as they have never been out of the hands of some half dozen gentlemen; and it is certainly not right they should walk over those birds which have the legitimate right to the prizes, not only on account of their numerous entries, but for the length of time they have been known and bred by so large a number of fanciers. We all know the great weakness of judges for foreign varieties, so would, therefore, respectfully ask the Committees of Manchester, and other shows as well, to give the old Black, White, and Sebright Bantams, separate classes, and we feel sure they will find them pay.—TONKIN AND TUCKEY, Bristol.

DERBY POULTRY SHOW.

It is quite certain that previous shows of poultry and Pigeons, held in connection with the Derbyshire Agricultural and Horticultural Society, have surpassed that which took place on the 16th inst. There appears to be a dearth of first-rate chickens this year throughout the country, possibly from the excessive heat of the late summer, and as just now most poultry are in heavy moult, very few birds can be shown to anything like advantage. The *Dorkings* exhibited by Mrs. Arkwright were, however, extraordinarily fine specimens, as were some other pens in the same class; but the *Spanish* were so bad, that not

even a single prize could be awarded to them. We were also much disappointed in the *Hamburgh* classes, for which this Show is usually in great repute, the falling-off being remarkable this year. A few good poues of *Game* were shown, but there was not a large competition.

The *Duck*, *Geese*, and *Turkey* classes were good. A very curious bird, a Darkling hen that had entirely assumed the plumage of the cock, attracted much attention. The Show, as to attendance, was successful.

YOUNG BIRDS.

DORKINGS (Coloured).—First and Second, Mrs. Arkwright, Etwall Hall. Highly Commended, A. F. Hurt, Alderwasley; Countess of Chesterfield, Bretby Hall.

DORKINGS (White).—First, Withheld. Second, G. J. Mitchell, Newton Mount.

GAME (Dark-breasted).—First, C. Spencer, Thulston. Second and Highly Commended, G. J. Mitchell.

GAME (White or Pile).—First and Second, C. Spencer. Highly Commended, E. Cinner, Stanley.

HAMBURGHS (Gold-pencilled).—First and Second, A. O. Worthington, Commended, C. Spencer.

HAMBROUS (Silver-pencilled).—First and Second, H. King, Melbourne.

HAMBROUS (Silver-spangled).—First, G. J. Mitchell, Second, Countess of Chesterfield.

COCHIN-CHINAS.—First, J. B. Story, Lockington. Extra First, R. Radford Astou-on-Trent. Second, A. O. Worthington. Highly Commended, G. A. Crewe, Etwall; W. T. Tomlinson, Allestree. Commended, E. Radford.

BRAHMAS (Light).—First and Second, A. O. Worthington. Highly Commended, W. Pares, Ockbrook.

BRAHMAS (Dark).—First and Second, Rev. E. Alder, Etwall. Highly Commended, A. F. Hurt, Alderwasley.

CROSS-BRED.—First, Rev. E. Alder. Second, G. J. Mitchell.

DUCKS (Rouen).—First, A. F. Hurt. Second, A. O. Worthington.

DUCKS (Aylobury).—First, J. B. Story, Lockington. Second, A. O. Worthington. Highly Commended, G. J. Mitchell; G. A. Crewe; A. O. Worthington. Commended, W. Pares.

GEESE.—First, W. T. Cox, Spondon Hall. Second, J. Nattall, Chadeston.

TURKEYS.—First, G. J. Mitchell. Second, A. O. Worthington. Extra.—Highly Commended, T. H. Smith, Amboston.

SPECIAL.—First, A. O. Worthington. Second, Mrs. Arkwright. Highly Commended, Countess of Chesterfield; G. A. Crewe.

PIGEONS.

ROCK OR DOVECOCK.—First, T. L. Harrison, Belper. Second, G. J. Mitchell.

ANTWERP OR BELGIANS.—First, G. Haywood, Derby. Second, J. Langley, Mickleover.

TUMBLERS.—First, Second, and Commended, T. L. Harrison, Belper.

FANTAILS.—First, G. Haywood. Second, F. Sale. Highly Commended, A. O. Worthington.

ANY OTHER DISTINCT VARIETY.—First, G. Haywood (Blue Turbites). Second, Rev. E. Alder, Etwall (Silver Runts). Highly Commended, F. Sales (Black Swallows, Red Turbites, English Silver Owls, and Black Magpies); T. L. Harrison (Foreign Owls, Blue Turbites, and Silver English Owls); G. A. Crewe (White Carriers); J. W. Eardley, Derby (Blue Dragons).

The Judges were Edward Drewry, Esq., Barton-on-Trent; J. Lowe, Esq., of Comberford; and Edward Hewitt, Esq., of Birmingham.

MORLEY POULTRY SHOW.

UNDER rather unfavourable auspices so far as the weather was concerned, the Morley Show was held on the 18th inst. There was, however, an excellent display of birds. *Cochins* were very numerous, and contained some first-rate pens. *Game* showed no less than twenty-nine entries, the cup going to a pen of Black Reds, while Mr. Mason, of Drighlington, exhibited some magnificent Pile chickens in the Any variety class. *Hamburghs* were the feature of the show; as last year, the cup went to the Gold-pencilled, Mr. Preston, of Allerton, Bradford, one of the best breeders of Pencilled *Hamburghs* in the county, being its fortunate possessor. Both Gold and Silver-spangled were rather numerous, and here, too, some good birds came into competition. *Bantams* were very numerous. In *Geese* Mr. Leech, of Rochdale, took the cup against nine competitors.

Pigeons were a good show, the competition in *Barbs* and *Jacobins* being very strong. The following is the prize list:—

SPANISH.—First and Cup, J. Thresh, Bradford (Black). Second, T. C. and E. Newbitt, Epworth.

DORKINGS.—First, W. H. King, Sandfield, Rochdale. Second, J. B. Britton, Leeds Pottery.

COCHIN-CHINA.—First, J. W. Wilkinson, Bradford. Second, T. Stretch, Ormskirk.

BRAMA-POOTRA.—First, E. Leech, Rochdale. Second, J. W. Wilkinson, Game (Black-breasted Reds).—First and Cup for best pen of Game, H. Jennings, Allerton. Second, G. Noble, Staincliffe.

GAME (Brown-breasted or other Reds).—First, W. Bentley, Scholes. Second, E. Aykroyd, Bradford.

GAME (Duckwings or other Greys and Blues).—First, W. Fell, Adwalton. Second, R. B. Riley, Ovenden.

ANY OTHER VARIETY.—First and Second, H. Mason, Drighlington.

SINGLE GAME COCK (Any variety).—First, H. Mason. Second, Graeu and Sutcliffe, Queensbury, near Halifax. Third, H. Jennings. Fourth, E. Aykroyd, Bradford.

SINGLE GAME HEN (Any variety).—First, J. Preston, Allerton. Second, G. Noble.

HAMBURGH (Golden-spangled).—First, J. Preston. Second, J. White, Whitley Netherton, near Wakefield.

HAMBROUS (Silver-spangled).—First, T. Fawcett, Northgate, Baildon. Second, W. Collius, Halifax.

HAMBROUS (Golden-pencilled).—First and Cup, J. Preston. Second, S. Smith.

HAMBROUS (Silver-pencilled).—First, T. Hanson, Keighley. Second, W. Barstow, Fearncliffe, Bingley.

HAMBROUS (Black).—First, J. Preston. Second, C. Sidgwick, Keighley.

ANY OTHER VARIETY NOT PREVIOUSLY MENTIONED.—First, J. S. Senior, Dowsbury. Second, T. Deans, Keighley.

BANTAMS.—First, G. Noble, Staincliffe. Second, F. Steel, Halifax.

BANTAMS (Black).—First, R. B. Riley, Ovenden, near Halifax. Second, S. & L. Ashton, Mottram.

BANTAMS (Any other variety).—First, J. S. Senior, Dowsbury. Second, S. & R. Ashton.

SELLING CLASS.—First, J. Berry, Silsden. Second, J. W. Wilkinson.

GEESE (Any variety).—First, Cup, and Second, E. Leech. Third, S. H. Stott, Rochdale.

DUCKS (Rouen).—First, E. Leech. Second, J. Ward, Drighlington.

DUCKS (Aylobury).—First, S. H. Stott. Second, E. Leech.

DUCKS (Any other variety).—First, S. Barn, Whitley (Indian). Second, T. C. Harrison, Hull.

PIGEONS.

CARRIERS.—First, E. Horner, Harewood. Second, R. Wilson, Thirk. OWLS.—First, H. Yardley, Birmingham. Second, J. Thresh, Bradford.

TURBITES.—First, J. T. Fishman, Bradford. Second, E. Horner.

BARBS.—First and Second, E. Horner.

TUMBLERS.—First, T. C. & E. Newbitt, Epworth. Second, D. W. Ing-ham, Thornhill, Wortley.

FANTAILS.—First, T. C. & E. Newbitt. Second, E. Horner.

POUTERS.—First, E. Horner. Second, T. C. & E. Newbitt.

NCNS.—First, J. A. Naylor, Barwick-in-Elmet. Second, J. Thompson, Bingley.

JACOBINS.—First, E. Horner. Second, J. Thompson.

TRUMPETERS.—First, E. Horner. Second, R. Wilson.

ANY OTHER VARIETY.—First, T. C. & E. Newbitt. Second, J. S. Senior.

The Judges were Mr. Henry Mitchell, of Hipperholme, and Mr. Alfred Hardy, of Wike.

WIRRAL AGRICULTURAL SOCIETY'S POULTRY SHOW.

THIS was held on the 16th inst., at Birkenhead, and proved a very successful exhibition.

The following is a list of the awards:—

DORKINGS.—First, R. W. Beachey, Kingskerswell. Second, Lord Tarnour-hillinge, Petworth, Sussex. Third, J. G. Bull, Bromborough. Commended, J. P. Campbell, Barton Hall, Neston.

SPANISH (Black).—First, W. A. Taylor, Manchester. Second, T. & E. Comber, Middleton Hall, near Warrington. Highly Commended, R. Davies, Chester.

GAME.—First, J. Wood, Wigan. Second, W. Berry, Birkenhead. Third, W. Boulton, Dalton-in-Furness. Highly Commended, A. C. Lockwood, Chester.

COCHIN-CHINA.—First and Third, W. A. Taylor. Second, R. E. Brown, Wassa, Oswaldkirk. Commended, A. Darby, Stanley Hall, Bridgewater; B. S. Lowades, Stony Stratford, Bucks.

BRAMA-POOTRA.—First, C. Leyland, Warrington. Second, E. Leech, Rochdale. Commended, A. C. Lockwood.

ANY OTHER BREED.—First and Third, T. & E. Comber. Second, G. R. Rogerson, Liverpool.

GAME BANTAMS.—First, W. Berry, Bidston Hill Tollbar. Second, R. Barton, Caldby Manor.

DUCKS (Aylobury).—Prize, E. Leech.

DUCKS (Rouen).—First, Miss Davies, Chester. Second, S. H. Stott, Rochdale.

DUCKS (Any other breed).—First, C. N. Baker, Chelsea. Highly Commended, J. Woods, Thornton Hough.

GEESE.—Second, E. Leech. Third, S. H. Stott. Highly Commended R. Birch, jun., Orrell, Liverpool; J. P. Campbell.

TURKEYS.—First, E. Leech. Second, J. Wood, Wigan. Third, J. P. Campbell.

The Judges for poultry were Mr. Hindson and Mr. Joseph Cox.

WOODSTOCK POULTRY SHOW.

THIS Show was held on the 15th inst., was good, and there were more entries than previously, but the quality was not quite so fine.

SPANISH.—Prize, R. Hurman, Oxford.

DORKINGS (Coloured).—First and Third, Duchess of Marlborough. Second, Col. Thomas, Woodstock. *Chickens.*—Prize, Duchess of Marlborough, Ethenheim.

BRAHMAS.—Prize, Duchess of Marlborough. *Chickens.*—Prize, Col. Thomas.

COCHIN-CHINA.—Prize, R. Hurman.

HAMBROUS (Spangled).—Second, R. Hurman.

HAMBROUS (Pencilled).—Second, Mrs. Aries, Thrupp. *Chickens.*—Second Mrs. Aries.

GEESE.—Prize, J. Hunt, Thrupp. *Chickens.*—Prize, J. Hunt.

GEESE (White).—First, J. Prior, Thrupp Farm, Shipton. Second, — Saunders.

GEESE (Grey).—First, Duchess of Marlborough. Second, H. S. Gaskell, Kiddington Hall. *Goslings.*—First, H. Barnett, Glympton Park. Second, Duchess of Marlborough.

DUCKS (Aylobury).—Prize, Duchess of Marlborough. *Ducklings.*—First, H. S. Gaskell. Second, Duchess of Marlborough.

DUCKS (Rouen).—Prize, J. Hunt. *Ducklings.*—Second, J. Hunt.

DUCKS (Any other variety).—Prize, T. Sester. *Ducklings.*—First, T. R. Pratt, Woodstock. Second, T. Lester, Glympton.

TURKEYS (Black).—Prize, Duchess of Marlborough. *Poult.*—First, J. Prior. Second, Col. Bowyer, Steeple Ashton.

TURKEYS (Grey).—Prize, Duchess of Marlborough. *Poult.*—First, Col. Bowyer. Second, Duchess of Marlborough.

SPECIAL PRIZE (Given by the Duchess of Marlborough).—First, H. Dean, Deddington. Second, J. Hall, Thrupp.

CHAMPION PRIZES (Offered by Holford C. Risley, Esq., President).—First and Second, Duchess of Marlborough.

Mr. G. Botham, Wrexham Court, Slough, was Judge, the Rev. Mr. St. John, Woodstock, assisted him.

MIDDLETON POULTRY SHOW.

THE entries of poultry and Pigeons at this Show, which was held on the 17th inst., were extremely numerous, so much so that a much larger extent of ground had to be enclosed for the purposes of the Exhibition. The following is a list of the awards:—

CHICKENS.

GAME (Black-breasted and other Reds).—First, Duke of Newcastle, Clamber. Second, W. Bourne, Heavily, Stockport. Third, J. Holland, Manchester.

GAME (Any other variety).—First, R. B. Ryley, Jumbles Lodge, Ovenden. Second, J. Fletcher, Third, Duke of Newcastle.

GAME (Any variety).—Pullets.—First and Cap. J. Wood, Wigan. Second, H. Mann, Stand, near Manchester. Third, W. Bourne. Fourth, A. Haslem, Hindley, near Wigan. Highly Commended, T. Statter, sen., Whitefield; J. Fletcher; J. Jeken, Eltham. Commended, W. Bourne.

SPANISH.—First, Burch & Boulter, Sheffield. Second, J. Walker, Wolverhampton. Third, H. & S. Cooper, Walsall. Pullets.—First, J. Thresh, Bradford. Second, Burch & Boulter.

DORRINGS.—First, Duke of Newcastle. Second, Hon. H. W. Fitzwilliam, Wentworth Woodhouse. Third, J. Stott, Healey. Pullets.—First, T. Statter, sen. Second, Mrs. Hurt, Alderwasley, Derby. Highly Commended, H. Ashton, Prestwick; D. Gellatly, Meigs, N.B.; J. White, Northallerton.

BRAMA POOTRA.—First, E. Jopp, Aberdeen. Second, J. Sichel, Timperley. Third, Rev. J. F. Newton, Kirby-in-Cleveland. Highly Commended, C. Layland; W. Hargreaves, Bacup. Pullets.—First, Mrs. Hurt. Second, A. O. Worthington, Newton Park, Barton-on-Trent. Highly Commended, G. Dixon, jun., Whitehaven; E. Leech, Rochdale. Commended, K. Jopp; J. Sichel.

COCHIN-CHINA (Buff and Cinnamon).—First, W. A. Taylor, Manchester. Second, J. Lee, Middleton. Third, R. E. Brown, Wass. Pullets.—First, Hon. Mrs. Saggden, Wells. Second, C. Sidgwick. Highly Commended, T. Evelyn, Bolton-le-Moors; W. A. Taylor, Manchester.

COCHIN-CHINA (Any other variety).—First, J. A. Taylor. Second, J. Horrocks, Middleton. Third, A. O. Worthington. Pullets.—First, H. Vaughan, Wolverhampton. Second, H. Lingwood, Bucklesham, Woodbridge. Highly Commended, J. A. Taylor; W. Bamford, Moston, Harpurhey; A. O. Worthington.

HAMBURGS (Gold-pencilled).—First, T. Wrigley, Tenge. Second, J. Robinson, Failsworth. Third, W. R. Park, Melrose. Highly Commended, H. Beldon, Goitstock, Bingley. Pullets.—First, F. Perrio, Killingbeck, Leeds. Second, W. E. Walker, Middleton.

HAMBURGS (Silver-pencilled).—First, H. Beldon. Second, M. M. Maur, Kendal. Third, F. Sharples, Rawtenstall. Pullets.—First, S. Newton, Chadderton. Second, W. & J. Bairstow, Bingley. Highly Commended, H. Pickles, jun., Earby.

HAMBURGS (Gold-spangled).—First, J. Buckley, Taunton, near Ashton. Second, J. Chadderton, Hollinwood. Third, E. Brierley, Heywood. Highly Commended, J. Munn, Stacksteads; R. Simpson, Hollawood; J. Preston, Allerton. Pullets.—First, T. Blakeman. Second, T. Scholes, Hollinwood. Commended, W. McMellon, Glossop.

HAMBURGS (Silver-spangled).—First, J. Fielding, Newchurch. Second, H. Pickles, jun. Third, W. H. Robinson. Pullets.—First, Ashton & Booth, Mottram. Second, A. Ludlam. Highly Commended, J. Fielding.

HAMBURGS (Black).—First, C. Sidgwick. Second, W. Robinson. Third, G. Fielding, Newchurch. Pullets.—First, W. Holt, Middleton. Second, T. Hanson, Castleton. Highly Commended, E. Buckley, Rochdale; Rev. W. Sergeantson, Shrewsbury.

FRENCH FOWLS.—First, Hon. H. W. Fitzwilliam, Wentworth Woodhouse, near Rotherham. Second, Duke of Newcastle. Third, J. K. Fowler, Aylesbury. Highly Commended, L. Biney, Manchester; W. R. Park, Melrose. Commended, Col. Stuart Wortley, London; H. M. Maynard, Holmewood, Isle of Wight. Pullets.—First, J. K. Fowler. Second, W. A. Bernel, Southwell. Commended, Col. Stuart Wortley.

ANY OTHER VARIETY.—First, J. S. Senior, Dewsbury. Second, P. Unsworth, Newton-le-Willows. Third, H. Beldon. Highly Commended, R. Loft, Woodmansey, near Beverley; J. K. Fowler. Pullets.—First, H. Beldon. Second, S. Farrington, Astley. Highly Commended, P. Unsworth. Commended, Mrs. E. Procter, Hull.

GAME BANTAMS.—First, W. F. Entwisle, Leeds. Second, J. Crosland, jun., Wakefield. Third, J. W. Morris, Rochdale. Highly Commended, J. W. Morris; Rev. G. Raynor; G. Birtwistle. Commended, J. Crosland, jun.; E. Toder.

BANTAMS.—First, S. & R. Ashton, Mottram. Second, E. Cambridge, Bristol. Third, M. Leno, Dunsstable. Highly Commended, T. C. Harrison, Hull; Aykroyd & Scott, Sunderland.

SELLING CLASS.—First, W. A. Taylor. Second, A. Bamford, Middleton. Third, J. Lee, Middleton.

DUCKS (Aylesbury).—First, E. Leech, Rochdale. Second, J. K. Fowler. Third, S. H. Stott.

DUCKS (Rouen).—First, E. Leech. Second and Third, T. Statter, sen. Highly Commended, J. J. Waller, Kendal; T. Wakefield.

ANY OTHER VARIETY.—First and Third, C. W. Brierley. Second, T. C. Harrison, Hull.

GEESE.—First, T. Houlker, Blackburn. Second, E. Leech. Highly Commended, J. K. Fowler; S. H. Stott.

TURKEYS.—First, T. Honiker. Second, T. E. Richardson, Cambridge.

SINGLE COCKERELS.

GAME (Black-breasted and other Reds).—First, Duke of Newcastle. Second, J. Fletcher, Stoneclough, near Manchester.

GAME (Any other variety).—Prize, T. Dyson, Halifax.

SPANISH.—First, H. & S. Cooper. Second, P. H. Jones, Folham.

DORRING.—First, T. Statter, sen., Stand, near Manchester. Second, Hon. H. W. Fitzwilliam.

BRAMA POOTRA.—First, Rev. A. G. Brooke, Rayton XI. Towns. Se-

cond, A. O. Worthington. Highly Commended, Duke of Newcastle. Commended, H. Pickles, Southport; E. Ryder, Stockport.

COCHIN-CHINA (Buff and Cinnamon).—First, W. A. Taylor. Second, J. C. Brierley, Rochdale. Commended, C. Sidgwick.

COCHIN-CHINA (Any other variety).—First, H. Lingwood. Second, J. A. Taylor. Third, A. O. Worthington.

HAMBURGH (Gold-pencilled).—First, H. Beldon. Second, J. Preston, Allerton, near Bradford. Commended, B. Bee, Bullsnappe Hall.

HAMBURGH (Silver-pencilled).—Prize, W. & J. Bairstow. Highly Commended, F. Sharples.

HAMBURGH (Gold-spangled).—First, J. Mann. Second, T. May, Wolverhampton. Highly Commended, R. Ellis, Saddleworth.

HAMBURGH (Silver-spangled).—First, W. H. Bentley, Hipperholme, near Halifax. Second, H. Pickles, jun.

HAMBURGH (Black).—First, C. Sidgwick. Second, Mason & Walker, Denton.

FRENCH FOWLS.—First, Duke of Newcastle. Second, J. K. Fowler.

ANY OTHER VARIETY.—First, H. Beldon. Second, P. Unsworth.

GAME BANTAMS.—Cdp, W. Adams, Ipswich. Second, J. Crosland, jun. Third, J. Bamber, Acricrington. Highly Commended, T. Whittaker, Melton Mowbray; J. J. Cousins, Chapel Allerton. Commended, J. W. Morris, Rochdale.

SELLING CLASS.—First, F. Sales, Crowle. Second, W. A. Bernel, Southwell. Highly Commended, J. S. Senior, Dewsbury. Commended, W. A. Bernel; Master W. Horrocks, Middleton.

PIGEONS.

TUMBLERS (Almond).—First, F. Key, Beverley. Second, J. Fielding, jun., Rochdale. Highly Commended, J. Hawley, Bingley.

TUMBLERS (Any other variety).—First, R. Fulton, Deftford. Second, J. Fielding, jun.

BAKES OR BEARDS.—First, J. Fielding, un. Second, T. Newell, Ashton-under-Lyne.

CARRIERS.—Cock.—First, E. Horner, Leeds. Second, Capt. Mangnall. Highly Commended, G. F. Taylor, Preston; R. Fulton. Hen.—First, J. Hawley. Second, R. Fulton. Highly Commended, and Commended, J. Fielding, jun.

POUTERS.—Cock.—First, R. Fulton. Second, J. Hawley. Highly Commended, E. Horner. Hen.—First, E. Horner. Second, R. Fulton.

BARNS.—First, E. Horner. Second, R. Fulton. Commended, J. Fielding.

TURBITS.—First, J. Fielding. Second, J. Elgar, Newark. Highly Commended, E. Horner; Capt. Mangnall.

JACOBINS.—First, E. E. M. Roysds, Rochdale. Second, T. Newell. Highly Commended, E. Horner.

FANTAILS.—First, E. Horner. Second, W. R. Park, Melrose. Highly Commended, E. M. Maynard, Ryde.

OWLS.—First and Second, J. Fielding. Highly Commended, P. H. Jones.

NEWS.—First, W. R. Park. Second, H. Yardley, Birmingham.

DRAGONS.—First, Countess of Derby. Second, T. Charnley, Blackburn. Highly Commended, E. Horner; P. H. Jones; G. Charnley, Prestou. Commended, E. Horner.

TRUMPETERS.—First, E. Horner. Second, R. B. Chouler. Commended, E. Horner.

ANY OTHER VARIETY.—First and Second, E. Horner. Commended, Countess of Derby; H. Yardley.

SELLING CLASS (Any variety).—First, R. Carlisle, Blackburn. Second, J. Thompson.

RABBITS (Lop-ered).—First, A. H. Easten, Hull. Second, G. Jones, Birmingham. Highly Commended, F. L. Jones, York. Angora.—First, C. Rayson. Second, W. R. Etches. Highly Commended, G. Jones.

Himalayan.—First, T. & A. Schofield, Rochdale. Second, C. Rayson. Silver-Greys.—First, A. H. Easten. Second, E. E. M. Roysds. Commended, C. Rayson. Any other variety.—First, J. Grandy, Bury. Second, C. Rayson. Highly Commended and Commended, F. L. Jones.

JUDGES.—Mr. R. Teebay, Fulwood, Preston, and Mr. W. B. Tegetmeier, Fortis Green, London, for Spanish, Cochins, Brahmas, Hamburgs, Pigeons and Rabbits; in the other classes Messrs. Fielding and Martin.

NORTHALLERTON POULTRY SHOW.

WITH a very wet and unfavourable day, this Show, held on the 18th inst, was rather unfortunate. There was an increase in the entries. Of Hamburgs there was a good muster, containing some good specimens. Spanish were indifferent, while Cochins were very good. Bantams had no less than thirty entries, while young Geese mustered eleven couple. Of Pigeons, the show was small.

Subjoined is the prize list:—

DORRINGS.—First, O. A. Young, Driffield. Second, J. White, Warlaby. GAME.—First and Second, W. Bearpark, Ainderby Steeple.

SPANISH.—First, W. & F. Pickard, Thorne, Leeds. Second, W. Bearpark.

COCHIN-CHINA.—First, R. E. Brown, Oswaldkirk (Buff). Second, W. Beres, Thirsk.

BRAMA POOTRA.—First, A. Grainger, Thirleby. Second, W. Serers, Kirby Fleatham.

HAMBURGS (Gold-spangled).—First, J. Bell, Thorne-le-Moor. Second, W. Bearpark.

HAMBURGS (Silver-spangled).—First, G. Holmes, Great Driffield. Second, W. Serers.

HAMBURGS (Gold-pencilled).—First, W. Ainderby. Second, R. Pennington, Market place, Thirsk.

HAMBURGS (Silver-pencilled).—First, O. A. Young, Driffield. Second, T. White, Warlaby.

ANY OTHER DISTINCT VARIETY.—First, G. Carter, Redale (Polands). Se-

J. Fox, Thirsk (Black Hamburgs).

BANTAMS (Any variety).—First, O. A. Young. Second, R. Trueman, Thirsk.

DUCKS (Rouen).—First, J. Mason, Boroughbridge. Second, Mrs. Mor-

ton, Lesk Hall, Thirsk.

Ducks (Any other variety).—First, M. Harrison, Pocklington (Aylesbury). Second, O. A. Young (Aylesbury).

TURKEYS.—First, J. Braithwaite, Otterington House Farm. Second, Mrs. Booth, Warraby.

GOSLINGS.—First, J. Braithwaite. Second, Mrs. Booth, Warraby.

PIGEONS.—*Carriers*.—Prize, G. Sanders, Stakesley. *Pouters*.—Prize, R. Wilson, Thirsk. *Jacobins*.—Prize, J. Fox, Thirsk. *Tumblers*.—Prize, J. Mason. *Any other Variety*.—Prize, J. Mason.

CROOK POULTRY SHOW.

THE sixth annual Show of poultry was held at Crook on the 16th inst. The birds exhibited were far superior, both as regards numbers and quality, to those shown at any previous meeting of this Society.

The following is a list of the awards:—

GAME (Black-breasted or other Reds).—First, W. Bearpark, Ainderby Steeple. Second, J. Wilson, Whitworth Woodhouse.

GAME (Duckwings or other Greys).—First, H. S. Stobart. Second, J. Graham.

SPANISH.—First, W. Bearpark. Second, J. Graham. *Chickens*.—First, W. Bearpark. Second, Withead.

DORKINGS.—First, O. A. Young, Driffield. Second, J. Graham. *Chickens*.—First, J. Graham. Second, D. Rutter, East Hainton.

POLANDS.—First, C. Proud, Biechester Lodge. Second, W. Whitfield, Hutton Station.

COCHIN-CHINA.—First and Second, G. H. Procter, Durham.

HAMBURGS (Golden-pencilled).—First and Second, Miss A. Ridley, Frosterley. *Chickens*.—First, W. Bearpark. Second, Miss A. Ridley.

HAMBURGS (Silver-pencilled).—First, W. Bearpark. Second, Miss A. Ridley. *Chickens*.—First, W. Bearpark. Second, M. Pickering, Bishopoy.

HAMBURGS (Golden-spangled).—First, W. Bearpark. Second, T. Mitchell, Mount Pleasant. *Chickens*.—First, J. Armory. Second, T. Mitchell.

HAMBURGS (Silver-spangled).—First, D. Rutter. Second, J. Taylor. *Chickens*.—First, W. Emerson, Frosterley. Second, J. Taylor.

BANTAMS.—First, J. Wilson. Second, C. Proud, Biechester Lodge.

DUCKS (Aylesbury).—First, M. Harrison, Pocklington. Second, O. A. Young, Driffield.

DUCKS (Rouen).—First, T. Roddam. Second, O. A. Young.

GEESE.—First, M. Heslop, Hamsterley. Second, T. V. Johnson.

TURKEYS.—First, Mrs. Sanderson, Bradley Hall. Second, T. Blackett, Low Shipley.

The Judge was F. Greathead, Esq., of Darlington.

WELLINGTON POULTRY SHOW.

DURING a long succession of years, the shows of poultry and Pigeons annually taking place at Wellington and Bridgenorth, were such as to secure the most favorable opinions of both amateurs and the public generally. It is somewhat difficult for us to say why such shows were discontinued; but whatever may have been the cause of their abandonment, the introduction of poultry again at Wellington, on the 15th and 16th of September, proved that a poultry exhibition is there as popular as it was eight or ten years ago. The crowd endeavouring to gain admission was so great that for even 80 or 100 yards from the gate to simply move an arm was almost impossible. The difficulty of obtaining admission once surmounted, everyone seemed pleased with the general arrangements, and undoubtedly, much to amuse was offered for inspection. On entering the tent the first object that met the eye was a most unexpected one; being a large number of cases of preserved birds and animals, chiefly foreign, but of great beauty, and although this collection included many rare specimens, all were ticketed at prices that would promote a ready sale. They were the property of Mr. Parton, of Tan Bank, Wellington.

The *Dorking* fowls were not equal to some of those shown many years back at Wellington, but the *Hamburg* classes were good, and some of the *Game* fowls were well worthy of supporting the reputation of Shropshire in the *Game* classes.

Turkeys were good, and the Hon. Sec., Mr. Jones, exhibited some exceedingly fine Goslings. This gentleman had also sent, simply to increase the interest of the Show, a curious piece of mechanism—viz., a clock surmounted by a tree on which when wound up the birds in the branches appeared to sing loudly, fluttering their wings, and moving their bills in a most life-like manner. A Golden Manakin on the ground appeared to be constantly drinking at a waterfall, smacked its month as though pleased at its welcome beverage, and then moved its head as though looking at the visitors in a way that caused great admiration. It cost, we were told, twenty guineas.

GAME.—First, R. Ashley, Nantwich. Second, A. B. Dyas, Madeley.

GAME (Black or Brown Red).—First, T. Radcliff, Cheswell Grange. Second, J. Plat, Swanlow. Highly Commended, T. Groncock; A. B. Dyas.

GAME (Any other variety).—First, R. Ashbury, Nantwich. Second, W. Dunning, Newport.

DORKINGS.—First, E. Shaw, Plas Wilmot, Oswestry. Second, J. Edwards, Eytton. Commended, T. Radcliff.

SPANISH (Black).—First, J. Dean, Wharton, Winsford. Second, E. Shaw, Commended, W. B. Eches, Whitehurch.

HAMBURGS (Gold or Silver-spangled).—First, Duke of Sutherland, Second, T. Bolton, Hanford. Highly Commended, T. W. Jones, Wellington. Commended, H. Yardley, Birmingham; T. W. Jones.

HAMBURGS (Gold or Silver-pencilled).—First and Second, Duke of Sutherland. Commended, W. Spekman, Duddingston Park, Nantwich.

ANY OTHER DISTINCT VARIETY.—First, H. Yardley. Second, E. Shaw. Highly Commended, Mrs. Walker, Keele, near Newcastle; G. E. Meredith, Ightfield; Duke of Sutherland; W. B. Eches.

DUCKS.—First, W. Hornby, Swanlow, Winsford, Cheshire. Second, T. Radcliff. Highly Commended, E. Shaw.

GEESE.—First and Second, T. W. Jones. Commended, J. Edwards.

TURKEYS.—First and Second, C. Brown, Withington.

EXTRA STOCK (Duckwing Game Cock).—Highly Commended, W. Dunning, Newport.

Edward Howitt, Esq., of Eden Cottage, Sparkbrook, Birmingham, was the Judge.

WEST GLOUCESTERSHIRE POULTRY SHOW.

THE Poultry Show of the West Gloucestershire Farmers' Club was held at Horfield, near Bristol, on the 18th inst. The *Game* fowls and *Brahma Pootras* were very good. The *Geese* fine, and the *Aylesbury Ducks* very large and perfect in bill; Rouen Ducks bad. There were also some perfect *Gochius*, the Partridge variety being the best; and the first-prize pen of *Game Bantams* was very small.

GAME.—First, Mrs. G. Langton, Stapleton. Second, J. Tiley. Highly Commended, C. J. Lambert, Two-Mile-Hill; J. Pillinger, Kingswood; R. C. Highnam.

DORKINGS.—First, J. T. Howes, Kingswood Hill. Second, W. Bennett, Yate.

HAMBURGS (Gold-pencilled).—First, W. Bennett. Second, W. Corbett, Yate.

HAMBURGS (Silver-pencilled).—First and Second, W. Bennett.

BRAMA-POOTRA.—First, J. Pillinger. Second, J. May, Two-Mile-Hill.

COCHIN-CHINA (Coloured).—First, C. J. Lambert. Second, W. Bennett.

COCHIN-CHINA (White).—Prize, H. H. Howes, Kingswood Hill.

BANTAMS.—First, J. May. Second, J. Pillinger.

GEESE.—First, R. C. Highnam, Doynton. Second, R. Hember, Westbury.

DUCKS (Aylesbury).—First and Second, W. Bennett.

DUCKS (Rouen).—Prize, Mrs. M. A. Shipp, Yate.

GUINEA FOWLS.—First, J. Bailey, Durham. Second, R. Hathway, Frampton, Cotterell.

The Judge was John R. Rodhard, Esq., Aldwick Court, Wrixton, near Bristol.

WHITBY CANARY SHOW.

THE Show of Canaries held on the 15th inst. was very good. The number of entries exceeded that of last year by 39. The competition being an open one, some superior birds were sent. Last year it was limited to exhibitors within twenty miles of Whitby.

The following is the prize list:—

NORWICH (Yellow).—First, R. Simpson, Whitby. Second, C. Burton, York.

NORWICH (Buff).—First, J. Bexson. Second, J. Baines.

NORWICH (Marked Yellow).—First, R. Hawman. Second, C. Burton.

NORWICH (Marked Buff).—First, R. Hawman. Second, G. Moore.

BELGIAN (Yellow).—First, W. D. Skelton, jun., Leeds. Second, W. Bulmer.

BELGIAN (Buff).—First, J. Bexson. Second, R. Hawman.

COMMON (Yellow).—First, J. Stevens. Second, W. Cotton, Middlesborough.

COMMON (Buff).—First, C. Burton. Second, W. Raw.

CRESTED (Dark).—First, G. Moore. Second, J. Bexson.

CRESTED (Light).—First, R. Simpson. Second, J. Wynn.

CINNAMON (Yellow).—First, J. Wynn. Second, J. Gray.

CINNAMON (Buff).—First, M. Taylor, Whitby. Second, G. Moore.

LIZARD (Golden-spangled).—First, C. Burton. Second, R. Hawman.

LIZARD (Silver-spangled).—First and Second, R. Hawman.

MULE (Marked Yellow).—Prize, J. Bexson.

MULE (Marked Buff).—First, G. Moore. Second, J. Bexson.

ANY OTHER VARIETY.—First, J. Wynn. Second, J. Stevens.

SALE CLASS.—First, W. Raw. Second, W. Inson. *A collection of not less than six of this year's breeding, and not more than two of each variety*.—First, J. Baines. Second, R. Simpson. *Parrot*.—Prize, J. Wilkinson. *Parakeet*.—Prize, G. T. Knaggs.

DISTRICT PRIZES.

ANY BREED (Marked).—First, E. Barker. Second, J. Waters.

ANY BREED (Clear).—First, W. Porritt. Second, J. Hart.

MULE (Any colour).—First, W. Waller. Second, R. Corner, Whitby.

GOLDFINCH.—First, J. Gray. Second, T. Thornton.

BULLFINCH.—Prize, J. Haw, Gosmont.

LINNET.—First, T. H. Woodrark, Whitby. Second, I. Dickinson.

EIGHT YOUNG CANARIES.—Prize, I. Dickinson.

ANTWERPS—JUDGING.

THE most successful winner in the great Pigeon race from Agen to Brussels, though he does not profess selling any of his birds, has been persuaded to dispose of one of the winning birds, with one to match for breeding, to a gentleman at Leith for £20.

The Belgian amateurs select their birds, judging by the development of the skull, eye, length of wings, thickness of beak, colour, &c.; and the most admired of all are those of Liège, the *Smurle* with the Bullfinch shape, notwithstanding the remarks of "AN OLD FANCIER," who by keeping to the old fancy of the inferior Carrier, has been left behind by the tide of progress.

In answer to "AN OLD FANCIER," that any other half-bred Pigeon does for feeding purposes, I say it is as dear to keep half-bred Pigeons as Antwerps, which are in good demand; and

for example I may state that I know some of my fellow fanciers who will be glad to buy good birds of this season at from £1 each; that is some difference from the 9s. per dozen of the half-bred.

And now a word about the exclusion of dealers from shows. I say it is quite impracticable, because every dealer will find a substitute to serve the same object, but let every fancier's voice be heard against dealers undertaking the duties of judges; and it will be for the advantage of both dealers and exhibitors, as one of the greatest dealers said to me, that "Judging is not a pleasant office, as to do my duty I must offend some customers, which is contrary to my interest."

My next communication will be on the comparison and merits of the long and short-beaked Pigeons in general. I will also report the result of the rump pills as I promised.—A FOREIGNER.

THE HONEY HARVEST—LIGURIANISING.

I AM at a loss to account for having such a bad season this year, only taking 60 lbs. off nine hives, whilst last year I took 56 lbs. from a Woodbury bar hive, and 41 lbs. from one and 50 lbs. from another common straw hive. All my neighbours complain, but two of my friends at four miles distance say it is the best season they have had since keeping bees, one having taken 158 lbs. from six hives. Is it that there are too many kept round me? I can count nearly one hundred hives within a radius of three-quarters of a mile.

I have to relate a curious occurrence which I saw last year. I was requested to hive a first swarm that had just left one of my friend's hives, and was surprised to see the bees settle on the neck and shoulders of a boy who was passing down the street. I told him to take his coat off, on which were the bulk of bees, and shaking them off on the ground, I then placed over them a hive, which they still occupy. The boy was not once stung, but was very much frightened. It was a strong swarm, weighing about 4 lbs.

Would it be too late to join a Ligurian queen in October?

Last year I had a very weak stock, the weakest of seven. This year I was surprised by taking more from it than any other. Could the old queen have died in the summer, and a young one been raised?—A TUNBRIDGE WELLS BEE-KEEPER.

[The honey harvest has been very capricious, varying much in different localities, and in some only short distances apart. Overstocking can scarcely be the cause of your comparative failure, seeing that you did so well last year.

October is certainly not too late for putting Ligurian queens at the head of stocks of common bees. In fact, there is less than the usual amount of risk at this season.

It is by no means impossible that your whilom weak stock may have raised a young queen, although such a change of dynasty would be more likely temporarily to retard than immediately to advance the prosperity of the colony.]

BEEES DECAPING.

Two strong healthy swarms of bees in Stewarton boxes that had made abundance of fine honey in supers, which were taken, each weighing 24 lbs. and 25 lbs., and were left with an ample supply to last them till next honey season, disappeared suddenly, leaving the combs quite empty.—GADGIRTH.

[We should be disposed to ascribe this remarkable desertion to one of two causes—either you were deceived in the supposed amplitude of the supply of honey, and when provisions ran short the bees quitted their hives as "hunger swarms," or the desertion was not quite so sudden as you imagine, in which case it may possibly have arisen from the loss of queens. We have known instances of this kind in which stocks have been plundered of every particle of honey before their proprietors have become aware of their loss, the systematic operations of active bands of freebooters having been in the meantime mistaken for vigorous working on the part of the lawful but really dispossessed inhabitants.]

EXHIBITION OF BEES.

Nor having seen in "our Journal" any account at any time of bees having been exhibited at poultry shows, I send the list of the winners in that class. I think if prizes were given at most of our shows for best collection of bees in improved hives, also for best bell-glasses of honey collected in the year, it would encourage bee-keeping, and be a source of pleasure

and profit to the working man. All shows held after the 1st of September would suit bee-keepers to exhibit both bees and honey.

I may say that I have acted as Judge at the Middleton Show for two years for bees. There were nine entries. The following are the names of the winners:—Best collection of bees, First prize (£2), J. Hall, Tonge, Lancashire. Second (£1), C. Turner, Foxdenton, Lancashire.

Last year there were prizes for the best bell-glass of honey, &c.—SOUTH LANCASHIRE BEE-KEEPER.

OUR LETTER BOX.

MOULTING (J. A. Bantam).—Relative to promoting moulting, the following is stated in our "Poultry-Keeper's Manual"—"All birds require more warmth and more generous diet during this time of drain upon their system. This is especially the case with old fowls. Do not let them out early in the morning if the weather is chilly, but feed them under cover, and give them warm soft food chiefly, such as bread and ale, milk porridge made very thick with oatmeal, a little boiled meat, such as liver, &c., cut small, potatoes mashed up with pot liquor, and a little ground pepper mixed daily in their mess."

HATCHING BANTAMS (Philornis).—If you wish to breed very small Bantams, hatch them late, in the end of June or in July. If you want strong birds reared with little trouble, hatch them in April or May.

FOWLS' EVENING MEAL.—INFLUENCE OF HATCHING HEN (Idem).—If fowls will not leave their perch for food, they do not want it; never attempt to coax or force them. Your informant is either very credulous himself, or he thought you were. It is utterly impossible the breed of the sitting hen should have any effect whatever on the produce of the eggs she hatches.

FOWLS EATING SHEEP'S DUNG (E. A. S.).—All birds like to scratch and pick in the way you mention, and on the same material. It is harmless, but pleasant neither to see nor think of.

SPANISH COCK BLIND (Subscriber).—Spanish cocks and hens are subject to the swelled face you mention, and it always ends in the loss of the eye; but we have seldom, if ever, known it attack both sides of a face. It is incurable.

GREY AND TUFTED BANTAMS (A Notice).—The Bantams, grey and tufted, are not Game Bantams, and must be shown in Class 3, "Any variety except Game." There used to be a breed of Lark-crested Game, but they had no tuft between the eye and ear-lobe. Such were called Muffees. They were once admired, but are now seldom seen. All Bantams are now so much noticed, that we should expect those you have to be very attractive.

THE POULTRY CLUB (Egmont).—We believe the Poultry Club ranks among the things that have been. We know not the source whence come the cups at the Birmingham Show, unless they were the legacy of the defunct, or of some members who wish to enshrine the memory of the deceased. As two poultry clubs have died a natural death, we do not think it likely there will be a third.

BREWERS' GRAINS FOR CHICKENS (K. X. X.).—We have tried brewers' grains as food for poultry. We found it too stimulating, except for laying hens. We believe the grains are injurious to all poultry, and have a tendency to produce dropsy. We sometimes give grains mixed with meal, one part of grains to two of meal, but only in hard weather.

PIGEONS (J. T. C.).—We do not know where Mr. Eaton's work can be obtained. It is one of the crndest of books.

HARTLEPOOL POULTRY SNOW.—"In reply to Mr. Hawkins respecting the decision of the Judges in 'Any variety not named above,' the first prize was given to Brahma Pootra, not Houdans. There were only two pens of Houdans exhibited, both mine, one with crests, whiskers, and beards, the other only with crests. The second prize was given to the inferior birds only with crests. The better birds bred from a cock and hen which won the first prize last year at Preston, and which I sold for £3, were awarded no prize. My Rouen Ducks were second to Mr. Leach's when Mr. Dixon, of Bradford, was Judge. Of those which were awarded the second prize at Hartlepool, the Ducks had white feathers in their necks, and it is well known that Rouen Ducks ought to be similar to the wild ones.—J. G. MILNER, *Bellerby Vicarage, near Leyburn.*"

ERRATUM.—In the fifth line of the second paragraph of the article in page 214 on the Manchester Poultry Show prize list, for "do little," read "do battle."

"BEE-KEEPING FOR THE MANY" (S. B.).—A new edition (the seventh), is just published, and may be obtained of any bookseller, or direct from this office for five stamps.

HIVES AND BEE APPLIANCES (Mrs. Francis).—Of Messrs. Neighbour, 149, Regent Street, and 127, High Holborn; also of Mr. Marriott, Tropical Department, Crystal Palace.

TOMATO JAM.—"In answer to 'T. W. W.' who wishes to know my receipt for making tomato jam, it is as follows:—To every 3 lbs. of fresh-gathered ripe tomatoes, add the juice and rind of two lemons. Boil together half an hour, then add 4 lbs. of loaf sugar, and a little crushed ginger, and boil the whole during another half-hour.—**LOVEAPPLE.**" The request of a correspondent for a receipt for making tomato jam induces me to give our experience in making this really delicious preserve. The red tomato, to keep well, requires much boiling, and close careful tying-down with bladder. Take note of the weight of the dish, fill it with five ripe tomatoes, and put it in a moderately warm oven for several hours, until they will pulp without difficulty. Either before or after this taking, remove the skin. Weigh the tomatoes, add to them half their weight of sugar, and the juice of a lemon for every 4 lbs., boil them in a preserving pan, until the juice will set, put the jam out in jars, and fasten them down securely. I believe the small cherry tomatoes are the best of the red kinds; but all these require a good deal of boiling. The small yellow variety requires no more cooking than plum jam, and is very fine in flavour.—E. W."

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 1-7, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year
			Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. a		
1	Th	Twilight ends, 1h. 56m. after sunset.	63.6	47.1	54.4	21	2 af 6	36 af 5	53 af 5	19 af 5	0	10 23	275
2	F		61.7	44.4	54.5	19	4 6	34 5	16 6	22 6	16	10 43	276
3	S	Royal Horticultural Society, Promenade.	64.0	41.8	52.8	17	6 6	31 5	41 6	21 7	17	11 7	277
4	SUN	17 SUNDAY AFTER TRINITY.	64.1	43.0	53.5	20	8 6	29 5	7 7	37 8	14	11 25	278
5	M	[and General Meeting]	63.0	40.6	51.8	21	10 6	25 5	39 7	45 9	19	11 43	279
6	TU	Royal Horticultural Society, Fruit, Floral,	62.1	43.8	53.7	21	12 6	24 5	16 8	53 10	20	12 0	280
7	W	Erewash Valley Horticultural Show.	63.9	44.1	54.0	20	13 6	22 5	1 9	noon.	21	12 17	281

From observations taken near London during the last forty-one years, the average day temperature of the week is 63.6; and its night temperature 43.2°. The greatest heat was 80°, on the 5th, 1834; and the lowest cold 25°, on the 5th, 1863. The greatest fall of rain was 1.06 inch.

EARTH HEAT.

(Continued from page 44.)



COLD PITS.—These structures being well known, and extensively employed for the preservation and growth of plants, any remarks upon them must necessarily possess little novelty; but considering that few improvements on pits of this description have been made, and that they remain almost in their original condition, I will point out what I consider would tend to diminish their great,

and, I believe, only drawback—damp. I do not think cold pits are the ideal of perfection; indeed, I am persuaded that for affording protection to plants from the cold and wet of winter, and the fluctuating heat and drought of summer, they are but in their infancy. It seems strange that we should employ for the summer decoration of the flower garden plants that are in winter the better of roasting in what is very often little less than a glass oven. We are told that if fire heat be not given in frosty periods, and to dispel damp, the plants will all perish. I do not consider frost need be so much dreaded as it is, nor that it is necessary to maintain such high temperatures as are often given to keep it out; and as to damp, surely that is not dissipated by putting on a fire when very commonly the structure is kept closely shut up as if there were a danger of frost or damp air entering. Now, for plants which need no further protection in winter than from frost, I look upon the erection of a place with glass at the top, ends, and sides as simply striving to build so that as much artificial heat as possible will be required. Is it possible to obtain warmth by employing a material so favourable as glass to the cooling of heated air? Its use to twice the extent that is necessary in the construction of houses in which plants are required to be wintered safely, and with as small an expenditure of fuel as practicable, is simply waste, involving an additional first cost and a maximum of annual expenditure. It is vain to seek for a heating apparatus that will afford the maximum amount of heat from a minimum of fuel, so long as we go on building our greenhouses and hothouses with double the extent of glass roof and sides that is requisite, employing glass in place of some frost-resisting material.

We must, however, not only seek to secure the preservation of plants from frost, but other conditions essential to their existence. These are, besides a suitable temperature, light, air, and a sufficiency of moisture. The first of these, temperature, we have stored up for us in the earth; all that we have to do is to prevent its escape or ward-off cold. This may be effected by affording sufficient covering, but as there must at times be waste, any loss of stored-up heat should be made up for by catching more heat in mild periods when the external is warmer than the internal atmosphere, and enclosing it before it becomes cooled. As regards light, erecting houses with side lights for wintering plants not required to grow, but to be kept safe and in health, is a mistake. If plants are excited by heat, and growth takes place, by all means afford light: but if they are stimulated

by artificial heat when Nature would have her subjects at rest, the case is not then one of the preservation of plants, but of forcing, and to that I intend none of my remarks to apply, for I shall not introduce any heat beyond that of the sun, and what it leaves stored-up in the earth. There is, therefore, no fear of the plants being unduly stimulated; no growth will take place but when the external temperature is equal to or above that of the pit or house, and at such times the exposure of the pit will have a tendency to give increased heat, instead of reducing the internal temperature, and the plants thus derive the light required for healthful growth. What good a powerful light can do plants that are inactive I cannot comprehend. Side lights, and in a measure end lights, I look upon as worse than useless. All the light we require is that admitted by covering with glass in the most economical manner the area occupied by the plants. "What, dispense with side and end lights! The plants will draw." Not at all, if only artificial heat be afforded, and the plants be allowed to rest. Look to your fathers in these matters, the Dutch. "And return from the very elegant and aristocratic span-roofed house to the Dutch pit?" Just so, and why? Because these structures cost less, are less expensive to keep up, and answer their purpose quite as well. "But this is a retrograde step." Perhaps it may be, but I think it a very necessary one, for of late very many have so extended their taste for the massing of tender plants that, finding it such a drain on their resources, they are glad to back out, and advance Beetroot, Scotch Kale, and the like as substitutes: which, at the risk of being thought singular, I consider as much out of place in a flower garden as vegetable quarters devoted to flowers are in a kitchen garden.

Air, it may be said, cannot be given plants in pits when the external atmosphere is frosty, and without it there will be an excess of damp. This may be the case when artificial heat is employed; but in an unheated structure there is little to dread on that head, as the evaporation is extremely small, and what excess of moisture there is may be carried off by judicious ventilation.

As to damp, that certainly is a serious evil in pits; but why should it not be overcome? Great as the evil is, I look upon it as an evil arising from the bad selection of a site and from bad construction, rather than as an obstacle to the preservation of the plants. In the selection of a site prefer high to low ground, but if there is undulating ground, take the southern side of a ridge; or a sloping bank will be an excellent place, particularly if it face south. The more sheltered the situation the better, and if the soil is sandy or gravelly, if water does not remain stagnant within 3 feet of the surface, and there is a good fall for any drain that may be necessary, so far as site is concerned such an one is eligible: but as there are not sites offering all these advantages in every garden, take the driest, most sheltered, and most easily drained. If the ground slopes, it will be necessary to remove the soil at the back, so as to form a pit that will be of the required depth, which for plants planted out or put in as cuttings in the bed need not exceed 15 inches in front and the same at back, but for

plants in pots the pit may vary in depth according to the size of the plants, and in the generality of cases need not exceed 2 feet 6 inches in front, and 4 feet at back. For *Calceolarias*, *Verbenas*, *Gazanias*, *Lobelias*, and similar plants, the first-named depth is quite sufficient, but as we may require drainage, and shall need soil, we will excavate 2 feet, making the excavation wider than the required breadth by 2 feet 6 inches. The section of the excavation will appear as shown in *fig. 1*,



Fig. 1.

the soil being taken out 2 feet deep in front, and only 6 inches at back. This will give a good slope to the front, and will answer quite as well as going down the same depth at back as in front; and in digging it out let the soil be thrown clear of the excavation, to the north of the pit.

The walls are to be built hollow, and may be 4½ inches in thickness, with a 4½-inch cavity between them. Commence by laying a course of bricks all round, and headers, so that there may be an 18-inch base for each double wall. The inner walls are to have the first course of the 4½-work laid pigeon-hole fashion, and in or on asphalt instead of mortar, and the course of bricks above it also set in asphalt, but the remainder of the work should be done in mortar. Within a course of bricks from the top half a brick should be left out at every 3 feet, commencing at 18 inches from the end; and a 3-inch earthenware pipe ought to be introduced through the openings left in the outer walls, and having a bend it will fit exactly, and come somewhat above the ground level. The course above the openings must have a heading course of bricks, and this so as to close the cavity, and for the front I would recommend it to be laid in Portland cement, but at least make the joints good by pointing with cement. The back course I would supplement, after the frame is put on, with a course of bull-nose firebrick on edge, and make the joints good with Portland cement.

The frame, of red deal, may be 4½ by 3 inches, and that of the lights 2½ by 2 inches, the sash-bars 2 inches by 1½ inch, and in place of chamfering the edges on the under side, or beading or moulding, rebate them for glass the same as the upper side, and you will have means for double glazing. Paint with three coats of white lead and oil, and put in the inner or under side of the lights 15-oz. glass without a lap, and use no putty, but secure with a light wood moulding. Glaze the outside with 21-oz. sheet glass in the ordinary way. The whole of the woodwork should be well puttied and painted, and made drip-proof, and a 3-inch semicircular iron spout should be fixed in front to the frame to carry the water from the lights.

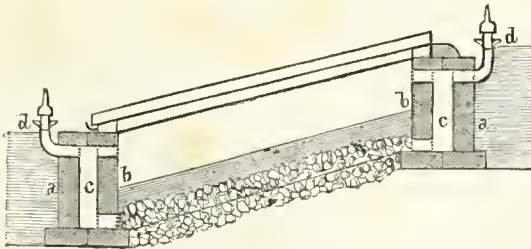


Fig. 2.

We have in the pit, *fig. 2*, a winter mean temperature of 38°, or we have that temperature in the earth, and may have it in the pit providing sufficient covering be given to retain it. Though sunk in the ground the pit will be fairly dry, for the walls, *a, a*, will keep damp from the inner walls, *b, b*, and damp cannot rise up them on account of the lower courses being laid in asphalt. Any water accumulating in the area or cavity, *c, c*, will descend to the bottom, and pass, as regards the back, into the drainage through the pigeon-holes, whilst the front will take the water from the drainage, and that in the front cavity should communicate with a drain. Any damp rising in the cavities is to be dissipated by removing the wood plugs that close the pipes, *d, d*, which will cause a change of air in the pit at any time, and that may be effected without opening the lights in dull, damp weather, when the heat of the pit is deficient.

Much may be done in the way of securing more heat by keeping the lights closed in sunny days, and ventilating through the pipes, *d, d*; and another use of the pipe ventilators is, when the external air is warmer than 38°, they may be opened for a few hours in the middle of the day, and a change of air thus given the plants, as well as the temperature increased, and this without removing the covering. The pipes all have wood plugs, kept close when the atmosphere is below 38°, and open when above that temperature, day and night.

The lights being double-glazed a more uniform temperature is secured, and the temperature is not so quickly lowered, such lights being equal in protection to a single covering of mats. No water can enter the cavities from above; it is cut off by the cemented course of bricks, and the water does not run from the lights and enter the ground by the front wall, and make that wall wet, but is taken off by the spout. The soil is placed all round the pit, level with the under side of the wood frame, or level with the course of bricks set in cement. We have, therefore, the full benefit of the heat of the earth. Without protection 10° of frost will be kept out when not of longer continuance than an evening, or a night, and with a 9-inch covering of dry straw, or litter of any kind, which must extend over the pit as far as the pipes, *d, d*, the pit is proof against any frost occurring in our climate; but a 6-inch covering will in most cases be sufficient. The covering put on should remain day and night so long as the ground continues frozen; but in case of fine days, when the frosts at night are thawed before midday, the covering should be daily removed, and replaced on the approach of frost. The pit should not have less than 6 inches of drainage, two-thirds of coarse material, and then one-third of finer, finishing with 6 inches of soil.

To winter plants safely, it is necessary that the soil be kept dry. The plants, therefore, should be rooted in good time, the cuttings of all kinds being put in in August, except those of *Calceolarias*, which are best put in during October, just before frost; and the plants should be well hardened off, and the soil dry by October. The reason of many plants being lost in wintering, is that they are struck late, are acculent in growth, and very susceptible to cold. So long as the foliage of the plants does not flag, the soil cannot be too dry.—G. ABBEY.

MARÉCHAL NIEL ROSE.

THE Bath Horticultural Society is one which Nature most assuredly seems to smile upon, for it possesses a charm in having almost, as a matter of course, a fine day, and a splendid one it was on the 9th of September, and a wonderfully good show, taking into consideration the intensely hot summer we have experienced.

Tent No. 1, filled with a rich display of fine-foliaged plants, Ferns, Cacti, and cut flowers in great abundance, is that to which I wish to draw the attention of the readers of THE JOURNAL OF HORTICULTURE, and let them imagine one hundred and fourteen fine blooms of *Maréchal Niel* Rose being exhibited by Mr. Samuel Pavitt, Rose Cottage Nursery, all in different stages of development. A glorious sight they were, clearly proving that this choice variety can be successfully cultivated in the west of England. Mr. Keynes, of Salisbury, had also some remarkably high-coloured blooms.

Mr. Pavitt's were cut from a number of robust and healthy plants growing in his garden. This Rose is there budded on the Briar, which seems to suit it in every particular, as numbers of blooms in all stages are now (September 15th) to be seen in the garden. There is no mistake about its being a free bloomer, and I know no reason why it may not prove quite hardy when thoroughly established.

What a fine sight it would be at any future exhibition, if some spirited nurserymen and amateurs were to agree to grow a number of plants of select varieties, and exhibit boxes of such Roses as *Maréchal Niel*, *Cloth of Gold*, *Gloire de Dijon*, *Souvenir de la Malmaison*, with Hybrid *Pepeuets* *Alfred Colomb*, *Charles Lefebvre*, *John Hopper*, and *Comtesse Cécile de Chabillant*. If these were shown together in a tent devoted expressly to them, what could be more beautiful? and does not he who has written this article wish he may live to see such a sight!—AN ARDENT LOVER OF ROSES, Bath.

POTATOES AND HOPS.—We have been obliged by the following official returns from the Statistical Department of the Board of Trade. The average of land in Great Britain under

Potatoes in 1868, was 539,951 acres, against 492,217, in 1867, and 498,813, in 1866. The average under Hops, in 1868, was 61,488 acres, against 64,284, in 1867, and 56,578, in 1866.

NOTES ON PEACH AND NECTARINE GROWING.

(Concluded from page 221.)

PROTECTION.—The main object of protection is to keep the blossoms dry. On the tops of hills, where hoar frost does not prevail as it does in valleys, less protection is needed. Thatched mud walls do not require so much protection as brick walls with narrow copings. Fir boughs may suffice for such situations and circumstances, but in valleys they will only harbour the damp without keeping it out of the blossoms. If the blossoms are wetted and a frost succeeds, they will wither away as soon as the sun is powerful. I have often been amused at seeing these trees protected (?) by rabbit nets. As well might a shepherd on Salisbury Plain put a hurdle against his back to keep out a driving rain! To make up for the loss of night dews I water my trees, which are protected by sheets. These sheets I put on soon after Christmas to prevent the whole tree being injured. People suffer rain and snow to fall on their trees, a thaw melts the snow, which subsides to the knots, a frost comes on before the tree is dry, and canker at the knots ensues. Canker is more from without than from within. The skin is killed at the knots, where the passage of sap is always difficult, and hence canker and gum are produced. Strong roots are not the cause of canker, but merely ancillary. I am inclined to think that glass copings resting on brackets, and removeable at pleasure, would be a good plan. In cold, wet sunless summers they would greatly help to ripen the fruit, also the wood. The success in the future year depends mainly on the management and ripening of the wood of the current year. Peach and Nectarine trees should be mulched, at any rate during the first winter and summer after planting.

THE FORMS OF TREES.—I think the fan form is best. I, however, use cordons, also trees on high stems to go between the trained trees, which should not be suffered to grow higher than 7 feet, with 14 feet expanse. By allowing trees to ramble high and wide, especially with long-pruning, their centres and bases become bare, and their main stems like rake-handles. It is a good plan to fill up spaces between the trees with single, double, or triple cordons placed perpendicularly. If cordons are placed at an angle of 45°, you must plant so as not to be obliged to strain them with tight ligatures, which will stop the circulation of the sap and produce gum in proportion to the sap. I plant mine upright.

REMOVAL OF LEAVES.—After the crop is gathered, the sooner leaves can be removed without violence the better, to let in the sun and air to harden the bark and buds. In a cold sunless autumn this is a material point. Last year I cut all my leaves in half, without any injury that I can perceive. This year I have done the same. I see it is recommended by Mr. Earley. I am glad to have his confirmation, for I did not know whether it was right or wrong practice. It should not be done while there is a flow of sap. I cut my leaves in half on the 7th and 8th of September. Before this was done the leaves were so green and thick, that some of the wood looked tender.

TILING THE ROOTS.—After cropping is over, keeping the roots dry greatly helps the tree to harden its wood, also to ripen it and prevent late, useless, secondary growths. To effect this I shall lay four or five loose tiles, overlapping each other, over the roots near the stems. Unless the winter is very severe they would be sufficient protection to the roots without any further mulching.

INSECTS.—So far as my experience goes, I have never found any trouble except from scale and red spider. Till I came here I never saw the former. Both have been very troublesome this season, so favourable to these pests. They have, however, done no material mischief to my trees. The best remedies are hand-killing the scale and syringing, and constantly syringing the trees affected by red spider. At one time there were a few Peach aphides, of a duller colour than the Rose aphid. These were destroyed by hand-killing and syringing. In syringing, people should jet the water sideways; first one way, and then the other. It is of no use to stand opposite the tree, as red spider and aphides are concealed under the leaves. All curled leaves should be taken off, as the insects conceal themselves and propagate under the edges of the leaves, where water cannot touch them. As the fruit is nearly all picked, I have cut off

half of every leaf, in order to better reach any remaining enemies. I have also poured from a watering pot blue vitriol and water over the leaves so cut. I am persuaded that the spring and autumn, no less than the summer, are the times to keep insects down. They propagate with wonderful rapidity, and the neglect of syringing only for a few days will be followed by a dense population. In order to detect them, people should have a magnifying glass. When the leaves look yellowish on the upper side, and silvery on the under side, the mischief is done. The leaves will not recover their colour. I admire Mrs. Pollock and Lady Cullum Pelargoniums, but I cannot admire bicolor or tricolor Peach and Nectarine leaves.

FUNGUS.—I never remember seeing out of doors any on my Peach and Nectarine trees. I believe mildew is the more common disease, and confined to glass culture. Glandless leaves are said to be more affected by mildew than those which have glands. The reason, I believe, is that viscid secretions, where there are no glands to carry them off, pass through the leaves, that the spores adhere, and in due time, when the weather is favourable, root into the tissues of the tender leaves. Where there are glands, these secretions pass off by the glands. Probably sorts with glands have leaves with closer tissues. I have always observed that Rose plants which have close-textured glazed leaves, are not so much affected by mildew as others. I never remember seeing any on Solferino Rose. I mean to dress my trees again after Christmas with blue vitriol and water. Two ounces of blue vitriol (sulphate of copper), to three gallons of water, could do no harm, and might destroy much that would prove injurious. Soft-soap, which contains arsenic, dissolved and added to water, is, I should think, a good winter dressing. With regard to the blue vitriol and water, observe it is only an experiment, and not a recommendation. At any rate, whether our foes are insects or fungi, the sooner we are free of them the better. We may be assured that whatever does harm to the foliage during the time of growth will injure the health of the tree, decrease its longevity, and spoil to some extent the flavour of the fruit. The value of leaves, as respects flavour, is seen in the difference between a Peach or Nectarine that has a terminal leaf, and one that has none. More care must be taken of the foliage.—W. F. RADCLIFFE, *Okeford Fitzpaine.*

POTATOES SUPERTUBERATING.

Your correspondent, "A WILTSHIRE FARMER," requires advice, as the earliest-formed tubers have numerous young tubers issued from them. I reply, Allow the crop to remain undisturbed, as there may be just a chance of the young immature tubers becoming ripe before the frost come. On them "A WILTSHIRE FARMER" must now rely for a table supply, as the first tubers, from which the young tubers issue, will on cooking be found centred with fibre as tough as boiled straw, and worse than a boiled Dahlia tuber. At taking-up time these old tubers whence the young ones sprang should be separated, and boiled down at once for lean store pigs, making the mess palatable by adding salt, with bran or pollard.

I presume fresh haulm is not growing from the young tubers, as it frequently does this season, for in that case the sooner the whole crop is out of the ground the better, and the supertubers merely kept for seed, as I explained in page 146 of this Journal.

I promised to say something about my class Regents, and I now take the opportunity. I took them up last week from three different soils—namely, a light loam, stone-brash, and a gravel-brash, well dunged.

Almond's North Riding Beauty, Regent (second early)—I watched them narrowly, and dug them up the moment they began to "spear," or they would have thrown up a thicket of young tops without forming supertubers.

Gryffe Castle Seedling, the best of all the Regents (I shall grow no other of them for the future), is a capital crop. I believe it would have remained in the ground till next spring without "spurting."

York Regents were a thicket of sprouting greenery, with no crop at all, and of Sutton's Finest Regent, there was a miserable supertuberated crop.

Walker's Second Early Regents supertuberated very badly, and had feathers to their bonnets.

Prolific Regents were small Potatoes, and a few in a hill.

Scotch Rough Whites supertuberated. A miserable crop, rough enough in all conscience, having cracked skins to an unlimited extent.

So much for Regents. The class served me the same in

1859, and 1863, and so they will again to anyone who may choose to pin his faith to them, excepting, I think I may affirm, the Gryffe Castle Seedling. I have yet three more sorts I grow in the above soils—viz., The old Flake, a spare, very ugly crop, speared with greenery; Salmon Kidney, with some tubers perfect, and others with "small fry;" Paterson's Victoria, good crop. I watched them narrowly, and dug them when they were offering to "spear," otherwise they would have thrown up a forest of green tops without forming any supertubers. These features were the same in all the differing soils, and as regards the last sort in the garden included.

I was lately inspecting several acres of Flukes and York Regents, at Redenham, near Andover. The tops were as green as in spring, and in full blossom. As to the crop, three out of four of the Regents might be said to have produced two or three tubers, the remainder having some of them strong fibrous roots, and others stout tap-roots striking directly down into the subsoil like young Oak trees, having no Potatoes attached. The Flukes were slightly better, but a remarkably ugly sample, throwing up green independent tops. It was painful to witness the extent of ground that had to be forked over to gain a basket of tubers, and when cooked I likened them to chopped-up, earthy-flavoured candles, wicks and all. In my garden I left the Lapstone Kidney to take its own way, and what few tubers it did produce formed supertubers, which threw up independent haulm, and then caught the disease, which killed them all. My beautiful crop of Taylor's Yorkshire Hero, and many others of my garden sorts, would have followed suit in this last respect, if I had not copied the "early bird."—UPWARDS AND ONWARDS.

THE IMPROVERS OF THE HOLLYHOCK.

As my name has been mentioned by Mr. Abbey, as one of the improvers of the Hollyhock, I may, perhaps, be allowed to recall the part I have taken in this work. I have always understood that the late Mr. Baron* was the first great improver of this flower, and that to his efforts more than to those of any other are we indebted for the beautiful varieties we now possess. He broke the ice, cleared away the fragments, and left a smooth and open sea for his successors to sail in. Mr. Chater, Mr. Parsons, and Mr. Roake followed him, and each of them accomplished great things.

To speak of my labours, I must go back twenty-two years. At that time my father, the late Mr. A. Paul, had a large good collection of which he was very proud. I thought them unequalled, until one day I happened to call on Mr. Parsons, then living at Ponder's End, and found several kinds superior to ours, and of them he obligingly offered me seeds and cuttings in exchange. I understood him that these varieties were principally Mr. Baron's, but that some of them were his own seedlings. I went to work crossing and raising seedlings, and in 1853 had, I believe, the finest collection in Europe. In that year I obtained thirteen first prizes for Hollyhocks, in England and Scotland, principally with my own seedlings. I think the following, which were raised by me, those who remember that period will say were the best of their colours then known:—Beauty of Cheshunt, Lizzy, White Globe, Fireball Superb, Argo, Darius, Romulus, and Shylock. Later I was fortunate in obtaining Avalanche, Primrose Perfection, Queen of the Whites, Village Maid, Blushing Bride, Lord Jocelyn, Celestial, El Dorado, Lady Franklin, Lady Palmerston, Ossian, Plutarch, Queen of the Yellows, Sir Colin Campbell, In Memoriam, General Havelock, and many others, all gems of the period, one of the latest being Beauty of Waltham. More alluring paths in horticulture (commercially considered, as Roses, Fruits, Pelargoniums, &c.), have kept me from following out the department of raising seedling Hollyhocks to the extent then practised: but after the above instances of success, which I have no doubt many living growers can attest, I think it is rather hard of your correspondent, "A HOLLYHOCK AMATEUR," to leave me out in the cold.—WILLIAM PAUL, *Paul's Nurseries, Waltham Cross, N.*

GESNERA EXONIENSIS.—Messrs. Lucombe, Pince & Co., of the Exeter Nurseries, have sent us a coloured drawing by Mr. Andrews, of their superb new plant, *Gesnera exoniensis*. Its numerous scarlet flowers are very rich, and standing very erect they are remarkably striking, and the more so on account of

the dark green foliage. It is certainly one of the richest of the Gesneras, and a valuable addition to our winter-flowering plants.

MESSRS. RIVERS' NURSERIES, SAWBRIDGEWORTH.

(Concluded from page 170.)

GRAPES have long been a pet subject with Mr. Rivers, and numerous are the varieties which have been introduced by him to our notice, chiefly cuttings from the almost endless mass of continental varieties of the Chasselas class, of which the Royal Muscadine is a good type. Mr. Rivers has a very large and fine collection; these are excellently suited for orchard-house cultivation, they ripen well and freely without any artificial warmth further than is obtained by solar influence, and the protection from cold blasts. It is really astonishing to see what can be done with Grapes without the slightest assistance from fire heat; with the ground vineries, of which we have all heard so much, and with few exceptions believed so little in their favour, Mr. Rivers works wonders. This simple contrivance has been so often noticed and described in these pages, that it will be unnecessary for me to do so. Mr. Rivers was about the first to adopt this simple structure; years ago its success had been proved at Sawbridgeworth, and this year the results were even more remarkable. One of the original Vines, a Trentham Black, planted from five to six years ago, is now 50 feet in length, is in the most perfect health, and is bearing about 130 bunches of fruit, good heavy bunches; and this, be it remembered, is a variety which is known to be somewhat difficult of cultivation. The berries were of fair size, and colouring well—indeed, much better than one would expect in our best heated vineries, looking at the enormous crop upon the Vine. One-third would have been ample. Mr. Rivers, however, labours not in this instance for the production of a few highly-finished bunches of Grapes, such as would gladden the heart of a Meredith, but rather to demonstrate the practicability of the system. That it is successful is abundantly manifest. The next Vine, a Black Hamburgh, has twenty bunches, the weight averaging nearly a pound each, and they were ripening and colouring off in splendid style, superior to many that I have seen in fine and expensive houses this season. Who need be—who would be, in fact, without his dish of Grapes, when it is seen how easily and cheaply they can be obtained? The labourer and the mechanic can by the outlay of a few shillings for the glass, with their rod of ground, produce as good a dish of Grapes as a peer.

In one small house about 20 feet long, Mr. Rivers has the Vines planted out vineyard fashion—the same way, in fact, as we have our Raspberries—i.e., in lines about 3 feet apart, and trained to stakes about 4 feet in height. In Mr. Rivers's house there are four lines, two on each side of the centre path. This house is not heated, and many of the varieties tried have not succeeded well. Some of them, however, are growing splendidly, and bearing good crops, such as Foster's White Seedling, Ingram's Hardy Prolific Muscat, &c. The idea of growing Vines in houses in this way, is a very happy one; I like it exceedingly. The plants look extremely handsome, and there is something very pleasing in being thus able to walk round, in, and amongst a grove of Vines, and to be able to inspect every berry and every leaf at ease, instead of being in danger of breaking one's neck by climbing up a pair of rickety steps, as in the ordinary way. It is questionable whether even a greater amount of space is not obtained for the Vines in this manner, than by any method of training over the roof. At all events, for the sake of variety alone, in which there is much enjoyment, it is worthy of adoption. In one of the span-roofed orchard houses, in which the principal rafters are some 10 or 12 feet apart, some Black Hamburgh Vines are trained over them very neatly, which when the Grapes are ripening gives the house quite a jaunty and elegant appearance.

Oranges are cultivated here very largely in pots. This season's stock of plants exceeds three thousand, in number. They are all of them in most splendid health, and many of them are loaded with fruit. They are principally of the dessert or sweet kinds, such as the little Otaheite and Mandarin. I have tasted some of the Oranges grown by Mr. Rivers, and they were really splendid, quite as rich as any of our imported fruits, and much more pleasing. It seems strange that there is so very little attention paid to the cultivation of the Orange for the fruit in this country, seeing how very simple it

* See my "Hour with the Hollyhock." Second edition, pages 7 and 8.

is. What a fine addition to our dessert at Christmas would a dish of fresh-gathered ripe Oranges be, dressed up with their own leaves and Orange blossom. I long to see the day when home-cultivated Oranges will be as common at the dessert table as Peaches are now.

Mr. Rivers has such a number of structures and contrivances for the cultivation of fruits, and carrying on his experiments amongst them, that it is impossible to notice all, although there may be some little peculiarity pertaining to each that makes it interesting. There is one huge structure 400 feet long, the roof of which only is of glass, the back composed of boarding, and the front open, excepting the slight protection of a common net just to break the severity of the cold blasts. This is used for housing Pears and Plums in pots in spring, until the danger of frost is over, when they are placed out of doors; also for Roses, the whole saleable stock of which is taken up on the approach of winter, and placed here. In this way there are no losses from winter frosts. In a house of this size about four thousand trees may be placed. If these are Pear trees, estimating the produce at six fruits a-piece, and there is no danger of not having that quantity, a very neat return is obtained for the outlay. Mr. Rivers's trees which he had turned out from structures of this sort were, both Pear and Plum trees, loaded with fruits. In one group alone I counted some hundreds. Many of the Pears were of large size, and, no doubt, of excellent quality; they had that full, juicy, warm appearance, which tells of lusciousness. Some of the earlier varieties I tasted. Summer Beurré d'Arenberg (noticed at page 171), is a seedling of Mr. Rivers's, and is in all respects excellent. It has that nice, brisk, rich acidity which makes the old Beurré d'Arenberg, when well ripened, such a favourite. This brisk acidity with juiciness, to some tastes—to mine at least—is far more refreshing than so much muskiness and sweetness, especially in summer.

On the Plum trees in pots there were enormous crops; the little trees were literally loaded, all sorts of them—Green Gages, Golden Drops, from the big Magnum Bonum, to the little Mirabelle. This last is a variety very much like a small Bullace, which is much cultivated in France for dessert. It is very sweet and agreeable, and a most enormous cropper. There were many seedlings amongst these Plums, some very promising, and like the Peaches, of somewhat curious origin; one, a large late blue sort, was raised from Reine Claude de Bavière, which is a rather early green sort. This introduces me again to the subject of raising Peaches, in which I must correct a slight error I have made. The Princess of Wales Peach was raised from the Pavie de Pomponne, not from the Silver; and one of Mr. Rivers's theories is, that the Madeleine Blanche, the Malta, and Noblesse Peaches, which are all pale in colour, and piquant in flavour, owe their origin to the White Nectarine, one of the oldest of the race, imported from Syria many, many years ago. The flowers of all of these are similar to those of the White Nectarine.

Of cordons, about which we have heard so much lately, Mr. Rivers has many examples to show, some have been in existence for several years. In France, this style of training in all its various forms is greatly practised, and where well carried out, the lines perfect, and the trees loaded with fruits, as I have seen them, they are certainly extremely pretty. When I first visited France some years ago, and saw the cordon Apple trees as edgings along the sides of the walks, covered with beautiful fruit, as they were then, I was much struck with their beauty, and fancied that when I got home again I would do wonders with them. Subsequent experience, however, has convinced me, that, as a general rule, they are unsuited for this climate, and that after all is said, it is too much like playing at fruit-growing; the expense for attention, &c., is too great for them ever to be largely adopted. As pretty objects of ornament, in suitable soils, where plenty of care and attention can be bestowed, then by all means have your cordon trees, but if all this cannot be given, then avoid them. Mr. Rivers has some lines of these low cordon Apple trees doing extremely well; the best are those grafted on the English Paradise stock, which Mr. Rivers considers the same as the French Doucin. Those on the French Paradise are not doing so well; some are trained to a fixed wire, the same way as the French do, and which is decidedly preferable to that of pegging them down with hooked wires—another mode adopted by Mr. Rivers, my objection to which is, the difficulty of growing the shoot straight, owing to there being nothing to fix it to: we can peg down, but we cannot peg up, and the tree bends just as often the one way as the other.

The oblique and vertical cordon Plum and Pear trees on the walls and trellises under glass and in the open air, were all looking well, the trees being in fine condition, and full of fruit buds. The masterpiece of all, however—without exception the finest piece of training and gardening in the whole establishment, is a line of thirty-two upright cordon May Duke Cherry trees in the open ground. They are grafted on the Mahaleb stock, and range from 8 to 10 feet in height. Never have I seen more beautiful trees than these, perfect in every sense; from the very ground to the very tip, they form just one unbroken column of beauty, the stems being densely clothed with fruiting spurs, none exceeding much more than 3 inches in length. How beautiful they must have been when in flower, and again when the fruit was ripe. When I saw them the crop was just over; by the stalks remaining on one, I could see that the produce had been immense. Day by day for years, these trees must have been attended to with the greatest care for them to have attained their present beauty. How beautiful a garden would be with lines of trees like these! and Mr. Rivers shows that it may be done.

Another feature here, which in some respects resembles these Cherry trees, was the pyramidal Prince's Englebert Plum trees. There are great numbers of this variety growing in the fruit-tree quarters, the trees about 5 feet high, all loaded with beautiful fruit, from the ground upwards. They were extremely handsome. This is a most excellent Plum, the quality good, and the tree is an extraordinary bearer. What an enormous quantity of fruit could be obtained from an acre of ground planted with trees like these. They might be planted in lines like hedges to divide the quarters in the kitchen garden. Mr. Rivers grafts from five to six thousand a-year of it, so much is it in his favour as a profitable market variety.

I must not omit to notice a most remarkable variety of Cherry—the Belle Agathe, which is to be seen here. There are two goodly-sized trees of it just at the back of Mr. Rivers's house, loaded with fruit. This is the latest variety of Cherry in existence, ripening generally in the end of September, and hanging on the trees until October. I have seen them in November. It is a free-bearing variety, of rather small size, when well ripened very pleasant in flavour. Its peculiarity, however, is this, that the birds do not eat it. Why they do not, it would be interesting to find out. It is sweeter than many others that they do eat. It is well known that our feathered friends also do not meddle with the yellow Cherries, which are as sweet as any. That, however, has been accounted for on the supposition that the birds never know when they are ripe. This theory, however, scarcely holds good, as there are many yellow fruits very greedily devoured by them. Here is a question worthy of the notice of our scientific men.

There is here also, in one of the compartments near the orchard houses, a group of about one hundred dwarf bush Apple trees, that are well worthy of notice. They are about 3 feet in height, just resembling little Gooseberry bushes, and planted 3 feet apart each way. Pretty little trees they are, abundantly set with fruit-buds, and some of them well loaded with fruit, on an average from eighteen to twenty-four on each. These trees are from seven to eight years old, and are kept in their present fruitful condition by being every alternate season transplanted, at least such of them as may seem to require to have their vigour suppressed. It is only by this continual removal, and checking their superabundant growth, that these trees can be kept in such a dwarf and fruitful state. The soil in Mr. Rivers's grounds, however, is uncommonly well suited for this system of culture, being of a light calcareous nature, with a sandy or gravelly subsoil.

It cannot fail to be observed, in walking through Mr. Rivers's nursery, how stubby, short-jointed, and fruitful all the trees seem to be, even in their youngest stage. This may partly arise from the stock on which they are worked, or from their repeated removals. It is, however, chiefly owing to the calcareous sandy nature of the soil. In soil like that, I have always observed that fruit trees grow but slowly, but bear fruit enormously. It would be quite correct to plant fruit trees by the acre, at 4 or 6 feet apart in ground of this nature. It would be decidedly the most profitable. The trees, whether Apple, Pear, Plum, or Cherry, would bear well in a young state, and through growing slowly, it would be many years before they became too crowded. In rich, alluvial loams, however, the case would be far different—such as in the Middlesex valley of the Thames. There young trees grow like Willows, and bear but little fruit, all the crop being produced on the older and larger trees that have been allowed a little more of Nature's way. The

attempt to keep them within the same compass, by pruning, pinching, or transplanting, as those that may be growing on the lighter soils, is always done at the expense of the crop. The trees may be formed, but the fruit will be wanting, and it is for the fruit that they are grown. A rule that may be perfectly suitable for one district, is totally inapplicable to another, and to plant trees, and pursue the same methods of cultivation in different situations, without regard to the constitution of the soil is simply absurd. I would recommend all who are fond of this fancy miniature fruit-tree gardening, before adopting it to visit Mr. Rivers's establishment, and see how it is done there; that they will be delighted I have not the slightest doubt, but it is that they may be benefited that I recommend it. A day at Sawbridgeworth or Bonks Hill (the old name of the place), with Mr. Rivers, is a day well spent.—ARCHAMBAUD.

AUTUMN-FLOWERING WHITE PINK.

I do not know whether this desirable plant is well known. I never saw it until to-day, when taking a stroll through the Dorset Nurseries, at Blandford, now being entirely remodelled under the care of the present proprietor, Mr. H. Blandford. I noticed a bed of it in bloom; it is simply the white Pink, with which we are all so familiar, but evidently grown a double flower. As it was full of flowers and buds ready to open, it might surely be made a valuable plant for bouquets if grown in pots, as it would, doubtless, go on flowering for some time; and for places such as Brighton, where flowers are much needed during the autumn months, I should think it would be very useful.—D., *Deal*.

GOLD AND BRONZE PELARGONIUMS.

I HAVE at various times been surprised at the amount of misconception existing respecting the origin and parentage of the varieties of Gold and Bronze Pelargoniums, it being frequently asserted that Beauty of Oulton is the parent of all this section of popular plants, than which nothing can be more contrary to fact. For several years prior to its appearance, such varieties as Mrs. Milford, Annie Williams, and Mrs. Hutton, were catalogued by Messrs. Henderson, of the Wellington Road Nursery; Luna, by Mr. Saltmarsh; and Sceptre d'Or, by Messrs. Downie, Laird, & Laing. Any one of these has a better claim to be called golden than Beauty of Oulton, which clearly had nothing whatever to do with their production. It is a representative of a section of Bicolors which have more green than yellow, and which, as usually seen, might with propriety be called the Bronze and Green section. They have, it is true, enough yellow to make them under certain circumstances a very pretty class of plants, but unfortunately they are wanting in constancy of character. Model, one of this class, is really very pretty, but too dull and heavy for a bedder where distant effect is studied. Beauty of Calderdale is, perhaps, the best for bedding, though better suited for pot culture. Like Beauty of Oulton it lacks constancy of character when planted out. Glowworm and Cirlet are far too green to have any claim to be called Gold and Bronze. Beauty of Ribblesdale, again, is often quite green. A narrow-belted variety which would, when planted out, retain the yellow ground throughout the season, would be a great acquisition.

Advances on the varieties to which I have referred, are those of which Egyptian Queen may be considered a type; these have a bronze-yellow ground with broad heavy zones, and in the hands of a skilful cultivator become very beautiful objects for the exhibition table; but so far as we may judge of them, as seen at Battersea Park, the bronze and green shadea render them anything but the effective subjects for bedding purposes which the flower gardener will always require for out-door decoration.

Sceptre d'Or was the first of the bright Gold and Bronze varieties, and where known it has been a great favourite, though, like many others, it must give way to the improved varieties of which it may be considered a type. These have a different habit of growth from those already mentioned, are much brighter in colour, and form a better contrast with *Coleus Verschaffeltii*, than any other yellow-leaved plants, the Golden Pyrethrum not excepted. This is especially the case with Kentish Hero, which will, and without any trouble, keep pace with the *Coleus*. Having also a large leaf, with a distinct zone, which may be seen from a great distance, and a robust habit, it is one of the most desirable plants of the season. It has held its own

against all others at Chiawick, and will, no doubt, become a great favourite, being not only beautiful, as seen when near, but at a great distance it is quite as effective as a good bed of yellow *Calceolaria*. I fear I may have trespassed too far on your space, but this is a section of Pelargoniums of which I am very fond, and which I think will quite eclipse Tricolors as bedding plants, though they may not surpass them as examples of individual beauty; but even this remains to be proved.—W. B. G., *Rutland Road, Perry Hill*.

A FRAGMENT OF DORSETSHIRE.

A FEW weeks only have passed since I was staying at Weymouth, or, to speak more truly, at Melcombe Regis, for all the most worthy of residences are here, although the name of its twin borough of the other side the river Wey prevails so far as now to include the whole. So soon as I had provided the where to rest and the wherewithal to gladden the heart and to give a cheerful countenance—though be it observed that the latter effect was brought about by other agents than oil—I pursued my wonted course, and sought for the local guide books. I am prone to patronise local literature; but (that is a benumbing monosyllable), I am obliged to confess that, bad as such literature usually is, the local literature of Weymouth is in the superlative of defectiveness. I would forgive its meagreness if even it was correct meagreness; but it is just the other thing, and especially upon topics which interest me most. I believe that Prudical blood is in my veins, for I venerate "Gospel Oaks," and have pilgrimed to every tree of celebrity between the Wallace Oak and Burnham Beechee. So when I read in one of the Weymouth guides of "Culliford tree" I rejoiced inwardly, and prepared to unravel legends, and jot down for your pages marvels of interest. Now, I will wager my golden pen against a crowquill stump, that not one of the readers of those pages would guess that no such tree exists. Yet such is the fact, and Culliford tree is the corruptly spelt name of one of the divisions of the county! So I put no faith in the guide books, and accepted that most unerring of informants, the Ordnance map; and with that in pocket I know of no more enjoyable mode of "looking around" than strolling on to a church the tower or spire of which peers up above distant trees, and, having reached it, inquiring the name, and then rummaging one's memory and books to find out "all about it." This was my occupation during a day in August last past; and the church I reached was that of Portisham, a village distant from the old highroad, and further still from the iron way, nestling into the base of the chalk hill rising above it. Such quiet out-of-the-world places seem suited only to the production of men whose "talk is of bullocks," and of women to sit in the sun and knit stockings; so it comes upon us surprisingly when we find that such a place of quietude has produced one of the world's great ones. And Portisham causes this surprise, for here was born that Sir Thomas Hardy who was the brave companion of Nelson and Collingwood. Your pages are not the fitting place in which to dwell upon their naval deeds; but space may be spared to note that they all delighted in gardening. Nelson used to set-to and dig in his garden at Merton as if he was doing piecework. Collingwood's charming letters to his daughters show how his heart yearned to be at home, to make holes with his walking-staff, and drop acorns into them where a fitting vacancy offered itself.

There was but little to detain me at Portisham, so I rested beneath the shade of one of its Elms, and consulted the unerring map. It revealed that the road before me led to Abbotsbury, and of the swannery there I had often read, so I was promptly up and away thitherward.

The previous day I had reached Fleet, the fishermen's village whose church was swept away by the wondrous tide of the 23rd of November, 1824, and the height of which is shown to have been 23 feet above its usual high mark by the record on a pole, to which you have to raise your eyes at the Abbotsbury Decoy. To the interior of that treacherous enclosure I was now admitted; but the swannery at that, the breeding, season, was forbidden ground. It is in the broad part of the Fleet, as the narrow strip of sea there is called, and there are kept six hundred and more swans, though it is certain that more than twice that number were there formerly; and including "hoppers"—that is, a small species, which fed, ranged, and returned, some accounts enlarge the numbers to eight thousand. It is certain that five hundred were there in the reign of Elizabeth, each of the value of 2s. 6d., and possessed by Joan, widow

of Sir John Young, Knt. All the unmarked white swans, four hundred in number, were then seized in pursuance of the Queen's writ, for if found in a river unmarked they belong to the Crown. Joan then pleaded that "there was time out of mind a game, or flight, of wild swans," belonging to the abbots of the monastery of Abbotsbury; that the swans were not marked, but the abbot marked some of the cygnets yearly, by cutting off part of the pinions, and these were for helping to sustain the monastery's hospitality. She further pleaded that Henry VIII. at the time of the monastery's suppression granted the swannery to Giles Strangways, Esq. Joan's plea prevailed; she was wedded to one of his descendants, and to his descendants, now Earls of Ilchester, the swannery still appertains.

Swans were especially valued by our ancestors, in whose banqueting regard to quantity far surpassed daintiness as to quality. This is testified by the boars' heads, barons of beef, and porpoises which loaded their oaken tables. So the law specially protected the said swan for its cut-and-come-again merit. It was the only bird that could be claimed by its owner as a stray; and he who stole one had to render to its owner as much corn as was necessary to cover another swan hung up by the beak, which, considering its length of neck, must be not a few bushels. One of the standard dishes of the first course for Henry VIII.'s dinner "on a flesh day," was "swanne, great goose, or storke," and as early as the fifteenth century this was the orthodox sauce or "CHAUDERN FOR SWANNES:—Take the lyver and al the offall and make hit clene, and let hit sethe, and when hit is sothen, take hit up and pyke oute clene the bones, and dresse the lyver and al the entraile, and chop the best; and take bredde steped in brothe, and drawe hit up with the blode and brothe thurgh a streynour; and do hit in a pot, and let hit boyle, and do therto wyn, and a lytel vynegur, and powder of pepnr, and of clowes, and of gynger, and serve hit forther."

Foiled in my purpose I strolled back to Abbotsbury, and in its churchyard near the door through which he passed into the church, is a raised gravestone thus inscribed:—

WILLIAM THOMAS HORNER,
4TH EARL OF ILCHESTER.

BORN 7TH OF MAY, 1795; DIED 10TH JANUARY, 1865,
"The Memory of the Just is Blessed."

At one end of the gravestone is the family heraldic shield and motto, "*Faire sans dire*," (To act without boasting)—by his example especially appropriate, for no one looking at that gravestone, neighboured as it is by the greensward mounds over the village dead, would think that a descendant of the Plantagenets lies there. Yet so he was, for the Strangways come lineally from one of the sons of Edward III.; and William Thomas Horner Fox-Strangways, whom that stone commemorates, was one of the most worthy of the race. He had long been employed in the diplomatic service of England; and whilst acting as Secretary of our embassy at Vienna in 1832 he noticed the *Pinus austriaca*, or Austrian Pine, and introduced it into this country. When Under-Secretary of State at our Foreign Office he had the opportunity, and fully availed himself of it, to promote the acquirement of new plants; and the Transactions of the Royal Horticultural Society record the names of many rarities which he contributed to its stores. When he retired from public life he made the culture of plants still more his recreation. The mild climate of Abbotsbury rendered that the favourite repository for his plant treasures, and this, and other associations telling of a loving heart, prompted him to direct that, though he died at Melbury, his last resting-place should be near his mother in Abbotsbury churchyard. The best testimony to the Earl's worth was this by Mr. McNeil, the gardener at Abbotsbury—"He was liberal to his tenants and servants, and a true friend to the poor."

I had often heard of Melbury as the mansion of the Ilchesters, but no one ever talked of their Abbots Castle residence. The keeper of the decoy first aroused my attention by saying, "There is a wonderful many strange trees in the garden." Then I remembered a photograph of an Agave that flowered there—but it is a photograph probably unknown except in the cottage window of Mr. Green, the really clever photographer at Abbotsbury. These facts combined made me resolve to see the Earl's garden, and thoroughly well was I repaid for my determination.

Every great patron of plant collectors has some special mode of enjoying the novelties they introduce. The late Duke of Devonshire, for example, had them one at a time brought before him as he sat in his easy chair, and he had the then Mr. Paxton with it to talk over the plant's peculiarities. The

Earl of Ilchester, on the other hand, had no delight in potted plants, but he was unwearied in accumulating those into his Abbotsbury garden which he thought might endure our climate. The result was before me, and never did I see such an accumulation in a small garden in any other corner of the British islands. Mr. McNeil, the obliging and well-skilled gardener, really bewildered me as he took me from one shrub and tree to another, planted without the slightest attempt at order, but evidently stuck in as soon as received in any place where there was a vacancy.

For the following list of some of the trees, shrubs, and other plants I am indebted to Mr. McNeil:—

- Garrya macrophylla elliptica, male
- elliptica, female
- Aralia longifolia, 12 ft. 10 in.
- trifoliata, 11 ft.
- Shepherdii
- Sieboldi
- papyrifera
- Eriobotrya japonica, 15 ft. 10 in.
- Clethra arborea
- Kerria japonica
- Clianthus puniceus
- Laurus indica coriacea
- fecuens
- canariensis
- horbonica
- regia
- carolinensis, and others
- Hovenia dulcis
- Sterculia palmata
- Lagerstroemia indica, 14 ft. 6 in.
- In the shrubbery in perfect health, but has never flowered. One on a south wall for the last twelve years is now in beautiful bloom for the first time.
- Thea assamensis
- bobea
- viridis
- Punica, red and white, flowering well.
- Psoralea glandulosa
- Pittosporum undulatum
- bracteolatum
- scoparium
- Mayii
- tobira, and others
- Ilex magellanica
- perado
- serrata
- ferox
- crassifolia
- fructu-luteo
- balearica
- daboon
- latifolia
- opaca
- vomitorea
- mexicana, and others
- Carmichaelia australis
- Quercus egilops
- japonica
- reticulata
- annulata, beautiful. And Alcock's, Turner's, Miller's, and a great variety of American and other Oaks, fine.
- Edwardsia microphylla
- macrophylla
- grandiflora
- recurva
- chrysophylla
- Pistacia lentiscus
- narbonensis, and others
- Nandina domestica, 11 ft.
- Prinos glaber
- prunifolius

- Benthamia fragifera. Of late years fruited well, this season deficient.
- Olea exelsa
- ilicifolia
- Nerium splendens
- Philesia boxifolia
- Cantua dependens
- Smilax in variety
- Escallonia pterocladon
- montevicensis
- organensis
- Eurybia furfuracea
- Ceratonia siliqua
- Myrtus bullata
- Viburnum japonicum
- Tetraulthera japonica
- Drimys Winteri, 19 ft. 9 in.
- Rhododendron Falconeri
- Tasmania aromatica, 6 ft.
- Ceratopetalum apetalum
- Mitrasia coccinea
- Mysine africana
- retusa
- bifaria
- Rhynchospermum jasminoides
- Callicarpa purpurea
- lanceolata
- Beaufortia purpurea
- decussata
- Eucalyptus montana, 25 ft. 10 in.
- coccifera, 7 ft.
- cordata, 11 ft.
- Magnolia grandiflora, standard, 19 ft. 10 in.
- Mandevilla suaveolens
- Physianthus albiens
- Billardiera fruticosa
- Kadsura japonica
- Deutzia gracilis
- Dianella cærulea

FERNS.

- Cyrtomium falcatum
- Doodia caudata
- aspera
- Osmunda spectabilis
- cinnamomea
- gracilis
- interrupta
- Lomaria magellanica
- chilensis
- alpina
- Polystichum vulgare proliferum
- Nephridium acrostichoides
- Adiantum fulvum
- Cunninghamii
- Phymatodes Billardieri
- Pteris cretica
- longifolia
- serrulata
- Asplenium decompositum
- ebencum
- fountainum
- lucidum
- Microlepia nove-zelandica
- Onclea sensibilis
- Woodwardia radicans
- Platylova falcata

I have not recorded these as specially rare; but I do ask for attention to the fact that the Loquat, *Eriobotrya japonica*, quite a standard tree, *Lagerstroemia indica*, the Theas, the *Pittosporums*, *Ilex vomitoria*, *Drimys Winteri*, *Rhododendron Falconeri*, the *Callicarpas*, *Mandevilla suaveolens*, and *Billardiera fruticosa* have endured many winters unprotected in the shrubberies. I do hope, and all lovers of gardening will hope, that the present Earl of Ilchester will enable Mr. McNeil to extend the garden, and to give more space by judicious shiftings and arrangements to the many beautiful specimens suffering from overcrowding. They are truly worthy of the outlay.—G.

POMEGRANATES RIPENING IN THE OPEN AIR.—Mr. Daubuz informs us that the Pomegranates have ripened this year out

of doors in his garden at Buckingham Villa, Ryde, Isle of Wight.

OKEFORD FITZPAINE IN THE AUTUMN.

I HAVE recorded my visit to my good friend Mr. Radclyffe in July, and I should now, at the close of this most trying season, just like to say what I have seen to-day (September 23rd); and you, my friend, who are mourning over your mildew and orange fungus, over puny growth and weakly shoots, who begin to think that Briars are after all doubtful, would only have to come here and have all your doubts confirmed, and go back and say, "Nothing but Manetti for me." I have been through all my friend's garden to-day, and everywhere the proofs of high cultivation, great skill, and thorough knowledge of all that he takes in hand are to be seen. Mr. Radclyffe holds the first place as a rosarian, if by that we mean one who thoroughly understands the nature and culture of the Rose—who loves it for its own sake, and not for the prizes which it brings. Well, all Rose-growers know how this season has "bothered" them, and in how many cases it has conquered their energies, and made them give up in despair all hopes of doing anything this season with Roses. But not so with my friend. "Never despair" is his motto; and so he has fought and fairly conquered his enemies. With knife in hand and scissors at his belt, he cut off all wilding shoots and mildewed leaves; while a bucketful of manure to a tree, and a gallon of water every second day to each, for seventy-five days of this broiling summer, supplied the moisture and vigour that the skies denied. And now what is the result? Clean foliage, shoots from 5 to 6 feet long, heaps of flowers all over his garden; blooms of Charles Lefebvre 5½ inches across, of Souvenir de la Reine d'Angleterre 5½; beds of Souvenir de la Malmaison a sheet of snow; and Triomphe de Rennea with corymbs of flowers that would not disgrace a stand at the best time of the palmiest year. I have been through many a Rose garden this autumn, and have seen thousands of Roses and plenty of mildew; but I have not seen—I say it advisedly—any plants to equal in vigour and beauty those at Okeford Fitzpaine. Mr. Radclyffe has added again to his rosery this autumn, and I expect his garden next year will be indeed a fine sight.

Mr. Radclyffe's three Peach trees at Rushton have often been noticed with approbation in the columns of THE JOURNAL OF HORTICULTURE, and I believe we shall have by-and-by to say as much of the Peach trees here. His wall is now covered with a number of young healthy Peach and Nectarine trees; and I was quite surprised to find that they were all denuded of their leaves—so much so that I thought they were dead, but found that they had been half cut off, and then syringed with water in which blue vitriol, in the proportion of two ounces to three gallons, had been dissolved. This had caused the leaves to drop off, and given the wood a fine opportunity of ripening. The blossom buds were all well developed, and a fair chance given to them. We had some delicious samples of that first-rate fruit, the Princess of Wales, raised by Mr. Rivers, to-day. It is one of the most luscious and juicy Peaches I ever tasted, and Mr. Rivers may well be proud of having raised such a fruit. It is not often that a prize is obtained by Peaches grown on trees the first year of planting, and yet Mr. Radclyffe was enabled to do this at the Blandford Show this year.

Another fruit here taken in hand is the Strawberry—indeed, has not Mr. De Jonghe dubbed Mr. Radclyffe the prime arbiter of the destinies of every new Strawberry? Here, assuredly, the Strawberry is well treated. Noble plants were to be seen on all sides, runners of this year making splendid growth, and well furnishing themselves to withstand the winter's frost. Dr. Hogg, Mr. Radclyffe, Cockcomb, Wonderful, Bicton Pine, Lucas, Frogmore Late Pine, and Rivers' Eliza were the sorts most grown, and with them Galande, Red and White Alpine, and Royal Hautbois. Nor is it for himself all this is done. I do believe his greatest pleasure is to send "Steevie" round to his neighbours with the well-filled dishes of fine fruit produced by such skill and labour, for nothing is done without high cultivation here; and whether it be the Peach, the Rose, the Strawberry, or the Potato, nothing is left to chance, constant care and liberal supplies of good food being provided for all his pets.

I have just mentioned the Potato, about which there has been such difference of opinion. Mr. Radclyffe has strenuously maintained that where the haulm was green then the tubers ought to be left. We examined some to-day treated thus, and the produce was wonderful—in one instance fifty Potatoes

from one plant, and from another 11 lbs. weight! and this, in such a season as the present, is a result by no means to be despised.

There are many more things that might be said about my excellent friend's garden, but enough has been said to show that what he advises he practises himself, and the results which he promises to follow from his mode of treatment are realised in his own garden.—D., Deal.

METEOROLOGICAL DEPARTMENT BOARD OF TRADE.

HAVING annually remarked the great superiority in quality of the second crop of Figs in a warm orchard house over the first, and having attributed it to the dryness of the atmosphere in the autumnal months, when the Peaches are removed from the house and syringing discontinued, I was curious to learn what was the state of the atmosphere in those places where the Fig out of doors attains its greatest perfection. With this object I referred to the tables furnished daily to the papers by the Meteorological Department of the Board of Trade, but the only place that fulfilled my requirements was Toulon. Great was my surprise to find that on every day during the last fortnight on which I have seen the tables, the wet and dry bulbs stood exactly at the same figure, though no rain was falling, which is absurd.

Now, these tables, coming out as they do from a Government office, are likely to carry great authority with them, and to be made hereafter the foundation of meteorological science. A medical man, relying on their accuracy, might forbid his patient going to Toulon, on the ground that it had a damper climate than any known locality on the globe. When Admiral Fitzroy was alive, I pointed out to him that the temperature recorded as of Dover was obviously too high, and he afterwards added a (?) to the figures. I inspected personally the position of the instrument, and found that, though sheltered from the direct sun, it received some reflected heat. Upon this I urged the Admiral to depute some competent person to visit the several stations, and to examine—first, whether the instruments were trustworthy; and secondly, whether they were rightly placed. An accurate observer is a third desideratum.—G. S.

LECTURE ON PARASITIC FUNGI AFFECTING PLANTS.

By TUFFEN WEST, F.L.S., F.R.M.S.

It may not be amiss to preface the following by a few introductory remarks on Fungi, the parts of which they are composed, and the way in which their presence may induce disease, either in vegetation or in animal life.

Fungi may be defined as plants of a low type, and of the humblest structure. Mushrooms, Toadstools, and Puff-balls are Fungi; so are the blue moulds of paste and of cheese, whilst brewers' yeast presents us with one of the tribe in its simplest form.

Fungi are almost universally present in decaying organisms. The multiplied observations of scientific men in various parts leave no room for question that they are the principal agents in inducing ferment-changes and decay. Many kinds infest plants, occurring principally on the under (or respiratory) surface of the leaves. When such occur in greater number than usual, their effects may prove of serious consequence to the gardener or the husbandman, and even may be sources of national calamity, when, as in Ireland, the produce of one kind of vegetable is too exclusively relied on for the staple article of food. The injury done to Vines by their parasite Fungus—the Oidium—will be in the recollection of all. As examples of these leaf-loving Fungi, readily accessible and familiar to most, may be named the one found on Bramble leaves, whilst it is almost impossible to take up a straw without finding brown spots on it (called mildew by the farmer). These spots are constituted by masses of spores of a minute Fungus.

The term mycelium is given to delicate transparent filaments, which represent the root fibres of higher plants; these are present in all Fungi. In favourable circumstances these threads become, by multiplication with repeated forking, much matted together, and are then called thallus. The structures bearing the fruit are in their simplest condition only short upright branches, but various forms, often very elaborate, are

assumed by combination of these elements. The fruits of Fungi are designated spores. Sporules, sporidia, sporidiola, are synonymous terms, and should be disused. At the ends and along the edges of mycelium threads it is common to find rounded or oval bodies, having much the appearance of, and commonly designated, spores, from which, however, they should be distinguished as being merely buds, here called conidia. The mycelium is so much alike in all cases that it is practically hopeless to seek to distinguish Fungi by any characters resident in this part of their structure. The place of growth and arrangement of parts due to this cause, furnish useful provisional characters. Dimorphism—the occurrence of the same plant in two or three different states—has been well authenticated in several Fungi, and is on good grounds suspected to occur in more. The occurrence in many plants of cutaneous diseases from the presence of parasitic Fungi is in itself a fact of interest, when it is remembered that certain of the skin diseases affecting mankind are due to the same cause. Is it possible that transplantation from one to the other may occur? The present state of science seems quite to favour such a view, and the subject has been thought to possess sufficient interest to justify its being thus brought before the notice of the profession.

The existence in many of the higher plants of diseases accompanied with parasitic Fungi, and unquestionably induced thereby, has led to the attempt to ascertain how far careful study of these plant parasites may throw light on some difficult questions connected with analogous structures found in certain diseases of the human skin. The greater simplicity in the conditions of vegetable growth, and the readiness with which its processes can be observed under the microscope, lead to a reasonable expectation that in time questions relating both to practice and to hygiene may be assisted in their solution by such study.

The epiphyllous Fungi attack plants entirely irrespective of the health of their "hosts," which, however, when attacked, manifest symptoms of irritation and ill health in various ways, due to chemical changes set up in them by the parasite, and altering their nutrition. "Redness and swelling" are with some very marked (*e.g.*, *Æcidium compositarum* Lapsani, *Trichobasis beta*, *Aregma bulbosum*), and there are good reasons for supposing that heat is also a concomitant. These indications of suffering from the presence of the parasite correspond strikingly with the classical definition of inflammation.

The parts of plants are not always invaded alike; some—indeed, most of the Fungi in question—prefer to nestle in the tissues immediately beneath the cuticle of the leaves on their lower surface, others on the stems (*e.g.*, *Puccinia graminis*, *Ustilago hypodytes*), whilst a few invade one or other of the parts composing the flower (smut and bunt).

The effects of the Fungi differ greatly on different plants, some of which are sufficiently hardy to recover rapidly; but the softer herbaceous plants, through sap-drainage and deterioration, are usually quickly destroyed. In their mature condition they occur on leaves of different ages, according to the genus, and, in some cases, the species. *Æcidium* in its different forms almost always inhabits the young leaves; the *Uredo* fruits mostly affect older leaves; the *Puccinia*, leaves whose most vigorous condition is past; and in two species, occurring on the stems respectively of Hemlock and Asparagus, the fruit is not matured until winter, after the stalks of the plants have been long dead. It is not yet quite settled whether the *Erysiphei* pass into the tissues; in their *oidial* condition (*e.g.*, Vine-blight), they appear on the most vigorous leaves, and some pass to the state of mature fruit, with very slight, if any, visible disturbance to the tissues of their host. Plants growing near together are often attacked by the same species of Fungus. The explanation of the fact is easy. The spores from an infected plant of the previous year, or motile gemma just thrown off by members of the genera *Cystopus*, *Peronospora*, *Oidium*, however brought, whether carried by the wind or by insects, present in the soil, in or upon the seed, do undoubtedly spread in the way of a contagion induced by pre-existing germs.

Care must be taken not to confound the action of true parasites with that of the Fungi appearing on dead or dying vegetable matter. The first grow with the growth of their hosts, and in their vegetative portion, die at and through their death; with some there are evident precautions to prevent premature injury to the tissues of an infected plant. The latter feed upon, and reduce to simpler elements, decaying matters

which would otherwise cumber the ground and even prove noxious: these belong to totally different tribes.

The parasitic Fungi are apt to recur with so much regularity year by year in the same spots that, when their habitats have once been found, a supply from the same place may at the right period be calculated on with tolerable certainty. The presence of fungus-mycelium may be readily demonstrated (if present) in the apparently healthy tissues of healthy-looking plants. Parasites of this class produce changes differing greatly in appearance according to the kind of plant attacked and the invader—hectic red in some, sickly pallor in others, blackness followed rapidly by offensive decay in a third division. These appearances are so characteristic that the educated eye may often diagnose the kinds met with in a quiet stroll through country lanes, by their effects, with as much ease and certainty as in practice; the types of disease presented will not seldom betray their nature by their peculiar *physique*. Seasons largely influence the prevalence or scarcity of these Fungi; moisture favours their growth. As yet the present exceptional summer has produced large numbers, whilst some kinds, found but sparingly hitherto by me, have been abundant notwithstanding the heat and drought. Special meteorological conditions are known to largely influence their growth; a close still air likewise: hence their luxuriance often in shady spots, and on plants sheltered from the breezes by rank, thickly crowded herbage. The Fungi which attack plants placed in situations which are (for them) unusually moist (as Ferns in a wet Fern-case, or plants in a damp greenhouse) are quite different from those to which they would have been liable in their native habitats. It is doubtful if the feeble health of the vegetables have any direct effect in inducing the attacks of parasitic Fungi, as it is certain that intestinal worms develop when their germs are placed in favourable situations, and that the health of their hosts has nothing to do with facilitating access to such places. The state of weather favouring growth of the Fungi is unfavourable to healthy life in the higher plants; hence the rapidity with which the latter fall a prey to the abounding parasitic Fungi in unhealthy seasons. During winter the epiphyllous Fungi disappear, but the first fine days of spring rapidly call forth again their latent vitality; with the leaves they come, and with them disappear. A few (*Melampsora*) which appear as "rusts" in the autumn continue their growth on the decaying leaves, in damp spots, on which, in the following spring, they are found to have attained to a higher type of structure. Evergreens are almost free from them; five only are known to be subject to their attacks in this country—all rare except perhaps the *Puccinia huxi*. This comparative immunity may be due in measure to the density of their cuticles.

It may be stated as a general rule that each species of plant has its own parasitic Fungus, except in some of the larger natural orders, as the Leguminosæ, Composite, &c., where the same parasitic Fungus will be found attacking many of the specific forms therein included. It is rare to find plants belonging to different natural orders attacked by the same species of Fungus. There are many species, and even genera, of plants which have not been ascertained to be liable to parasitic Fungi. It is difficult to suggest any reason for such exemption. Hairiness of the surface will favour the arrest of floating spores, smooth polished surfaces the contrary. As in the case of galls, so it is again here. An abundant supply of nutritive juices, with thin cuticle, favours their production: hence the mutual preference for young leaves, stalks, and twigs in a state of active growth and sap-circulation. It is well known that the cellular are the least specialised of the tissues of plants, the woody and vascular the most complex; and it may not be without interest to remark that the first stages of decay are attended by Fungi of the simplest types—*Fusarium*, *Penicillium*, *Mucor*, *Botrytis*—whilst the reduction of the more specialised tissues seems to demand Fungi of more elaborate organisation—*Sphaeria* (ascigerous Fungi with corneous envelopes), *Peziza* (naked ascigerous Fungi)—and in vastly greater variety of specific type. As during life one plant furnishes oil of lavender, a second quinine, and a third strychnia, so during life will the tissues of the Potato seem only adapted to nourish its peculiar *Peronospora*, Corn its *Puccinia*, Mint its *Æcidium*, yet after death will all alike be preyed upon by the same kinds of Fungus, and suffer alike.

There are 235 reputed species of epiphyllous Fungi described as native to Britain, but several of the supposed genera are now considered by the best authorities to be only transitory conditions, so that the number is certain to be eventually

much reduced. The following represent some of the principal types ;

I.—ECIDIUM.

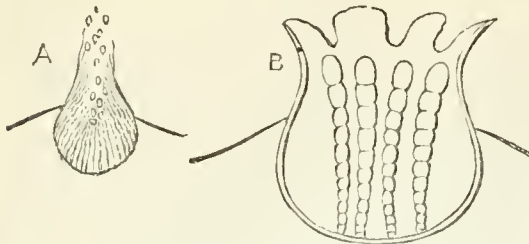


Fig. 1.—A: Spermogone containing spermata ("sperm-cells"); B: "Spores," germ cells produced in special sheaths (peridia).

With this genus are associated three others separated only by slight characters—Roestelia, Peridermium, Endophyllum. Spermogonia freely produced, ultimate destination of the germ-cells unknown; it has been thought, and may possibly be so, that from them, on the same or other plants, Puccinia-fruits may arise.

II.—UREDINEI (Rusts).



Fig. 2. Uredo, spores developed within cells, afterwards free. 3. Lecythea, spores free, along with them elongated cells (paraphyses). 4. Trichobasis, spores free, often with a short peduncle attached. (Spermogones are known to accompany some of the forms).

Several of these are known to be, and perhaps all may be, conditions of

III.—PUCCINIEI.

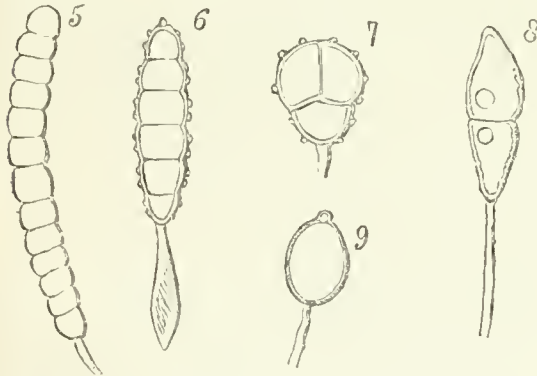


Fig. 5. Xenodochus (grows on Burnet). 6. Aecyia (Rosacea). 7. Triphragmium (Meadow Sweet). 8. Puccinia (Grasses). 9. Uromyces (Vetches).

Sperm-cells rare, but known to occur with some species. Podisoma and Gymnosporangium are associated genera, in which the Puccinia-fruits are imbedded in a tremelloid, gelatinous mass.

IV.—USTILAGINEI (Smoot and Bunt).

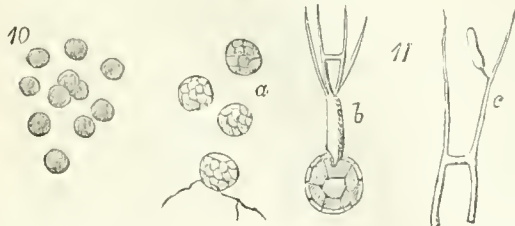


Fig. 10. Ustilago (Smoot), sexual conditions unknown. 11. Tilletia (Bunt); a, spores, which on germination, b, emit a filament, at the extremity of which short branches arise—these conjugate in pairs (as with Syzygites and some Algae), after which union a secondary fruit, c, is produced.

The essential nature of these changes has yet to be ascertained.

V.—PERONOSPOREI.

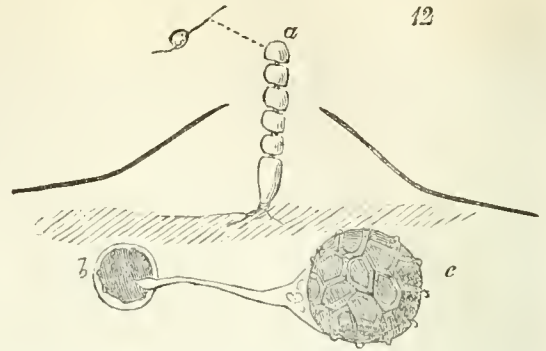


Fig. 12. Cystopus: a, "spores," arranged in headed threads, at first subcutaneous, then external through rupture of the plant-integument; their contents undergo segmentation and afterwards become motile; b, sperm-cell; c, germ-cell; a filament is produced from the former, which becomes closely applied to the latter, whilst without investment, after which a strong warted coat is formed.

Both "sperm," and "germ-cells" grow immersed in the tissues of the plant.

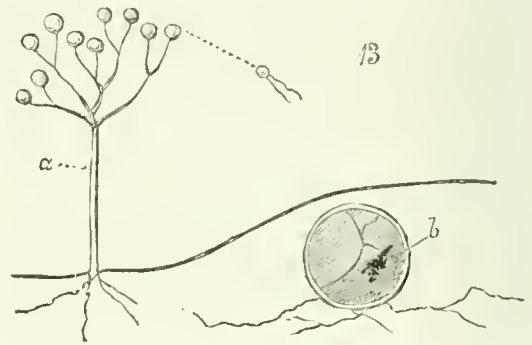


Fig. 13. Peronospora: a, arborescent threads, external to the surface of the leaf, bear at their tips gemmae, the contents of which, after segmentation, become motile; b, germ-cell ("oo-spore"), immersed; sperm-cells? ?

In this genus, the most deadly in their effects on vegetation of the epiphyllous Fungi are comprised. Suckers, analogous perhaps to the tendrils of higher plants, occur on the mycelium of members both of this and the former genus.

VI.—ERYSIPHIEI.

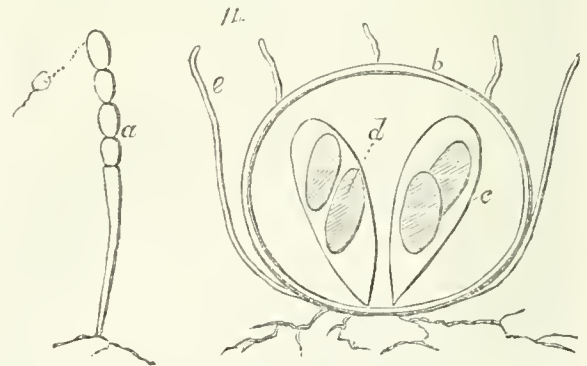


Fig. 14. Erysiphe: mycelium creeping over the external surface of the leaf, and throwing up at intervals jointed threads. a, the contents of the joints after segmentation become motile gemmae; b, fruit borne externally, globular and horny in texture, containing within them asci (c) or "spore-sacs"; d, spores; e, appendages.

The immature conditions of Fungi in this order constitute the spurious genus Oidium, so well known in connection with the Vine disease. Sexual conditions obscure.

With regard to the Fungi found parasitic in diseases of the human skin, so much of their life history yet remains to be discovered that speculation on their affinities cannot at the present time be other than barren of result. The well-known

mycelium represents principally the vegetative system or root-fibres of the higher plants, whilst it is very doubtful if the so-called "spores" (sporules, or sporidia), have any claim to be regarded as other than gemmæ—portions of mycelium thrown off to spread the plant, but having no connection with true sexual reproduction or its results. The greatest care and patience will be required ere we can hope to learn their entire life history, sufficiently even to know if what we meet in the different affections be really true species, native to the skin—forms fruiting when growing on plants, but barren on the skin—or common moulds (*Penicillium*, &c.) vegetating in conditions unfavourable to the production of true fruit. Artificial growth in water, glycerine, or liquor potassæ (!) can in nowise imitate the conditions under which they occur naturally; growth on rice starch, having been successful in resolving some other cases of similar difficulty, appears likely to prove the best material for furnishing the requisite pabulum. Beale's carmine fluid has in some cases enabled me to trace mycelium amongst surrounding tissues in a very happy manner.

Puccinia favi resembles *P. graminis* so closely (to judge from the figures and descriptions given of it), that one is led to ask whether it be not more probable that spores of the latter may have occurred to its discoverer as an accidental concomitant with favus-crusts than that it should be so excessively rare as to have eluded all further search for seventeen years by an army of good observers skilled in the use of first-class instruments. The incidental notices of its occurrence by subsequent observers do not produce on the mind a satisfactory conviction that they have really met with what *Ardsten* described. Spores are abundant in the air at particular periods; is it not possible that a favus patient or two, engaged in threshing, or passing near a spot where this operation was going forward, may have got a few spores of the corn mildew on their skin, and so been the means, all unwittingly, of causing grave error? In such a view of the case, notwithstanding the eminent authorities who have regarded it differently, we must consider the *Aechorion* as having no connection at all with the *Puccinia*. It seems not improbable that "alternations of generations" may occur—that is to say, that a certain point in development may be reached by a Fungus on one plant, that the parasite may reach a further stage on a second plant under a different form, whilst maturity may not be attained until it have passed through a third or fourth stage, characterised in each case by a different outward condition, as well as involving a different plant each time as host.—(*Medical Times and Gazette*.)

PHYTOLACCA DECANDRA OUT OF DOORS.

ABOUT a fortnight since, while making a tour through the principal Belgian gardens, I met with a beautiful bush of the above growing in the open ground in a partially shaded situation. It was certainly one of the most interesting objects I saw, and the most skillful in-door culture would give but a faint idea of the splendour of the plant as seen by me. It was composed of at least fifty stems, upwards of 8 feet high, of a bright crimson colour; the foliage was very luxuriant, and of a dark healthy green, the whole being surmounted by numerous and immense spikes of its Grape-like fruit. I might add that it was growing in an amateur's garden, about six miles from Brussels, on a broad open plain; therefore, I cannot at all perceive why it should not be extensively grown out of doors, at least in the south of England.

I was told that the plant above-named had been in the same place for a great number of years.—W.

TASMANIAN APPLES.

I HAVE sent per ship "Harrowby" one ordinary bushel case, containing three varieties of Apples—viz., Sturmer Pippin, Pearson's Plate, and Scarlet Nonpareil. I wish to know how they will carry a long distance. They were gathered from the trees and placed at once in the case on the day the ship sailed (April 15th). I have great hopes of the Sturmer Pippin arriving in good condition.

The Apple trees are suffering severely from a blight, apparently arising from atmospheric causes. It is a fungus of the lowest order, destroying the young wood every year. In appearance it resembles the mildew of England, but it is not that. I have tried every remedy that I could think of, but without any apparent benefit. It would be useless to send

you a specimen of the blighted wood, for by the time it arrived the fungus would all be dead.—WILLIAM THOMAS, *Nurseryman, Sandy Bay, Hobartown, Tasmania.*

The case above referred to arrived on the 6th of August, 114 days after its dispatch. The Scarlet Nonpareils were all quite decayed, and the fruit of Pearson's Plate were for the most part either much bruised and partially decayed, or wholly so. The few quite sound were excellent samples of the variety, sweet, and tolerably good, but the briskness was gone. With regard to Sturmer Pippin Mr. Thomas's conjecture proved perfectly correct, for only about one-fourth of the fruit was damaged and decayed, the remainder being excellent samples so far as appearance went, but in flavour they were sweet, yet without the briskness which English-grown fruit of the same variety possesses; still they were very palatable, and were equal to the fruit which is hawked about the streets.]

POMOLOGICAL GLEANINGS.

SANDALLS PLUM.—Mr. Dancer, of Little Sutton, Chiswick, has just called our attention to this, as he terms it, "really good Plum." An opinion like this, coming from such a quarter, is entitled to due respect, Mr. Dancer being one of the largest and most successful cultivators of Plums for the Loudon markets. The great merit of this Plum is its lateness. It comes into use in September, after nearly all our Plums are over; moreover it will hang on the trees after being ripe a very long time without cracking, thus prolonging its season and making it doubly valuable. Everyone knows what a nuisance it is that the most of our Plums crack and split when they are ripe, after a little rain; our great growers frequently lose hundreds of bushels from this cause. This variety, then, which resists the effects of the wet is quite a treasure. In size the Sandalls Plum is about that of the Orleans, in colour dark purplish violet, with a thick bloom, slightly spotted. The flesh is firm, reddish yellow or amber-coloured, clinging to the stone, juicy and pleasant, with a slight Damsou flavour. It is, however, more suited for a kitchen variety than for the dessert. It is a moderate bearer. The tree is small-leaved and twiggy like the Damson, attaining a great size. It is one of the few Plum trees that make timber.

There has always been some doubt as to the correctness of the name, "Sandalls," given to this Plum. The variety was discovered at Fulham, and is known in the market gardens under that name only. We have never been able to trace its true history, or detect a synonyme.

—**STIRLING CASTLE APPLE.**—This, in the south of Scotland where we have seen it during the past month, is considered the most valuable Apple grown. It is not so well known in the south of England as its great merits deserve. It is one of the Hawthornden class, a well-known one. In appearance it sometimes resembles Small's Admirable; indeed, we have seen examples of it which could not be distinguished from that variety. Others, again, more nearly resemble the Wormsley Pippin. In all respects it is, however, a most excellent sort. At Hopetoun House and Bothwell Castle, where we lately saw them growing, the trees were loaded with fine fruit. It is rather over medium size, roundish, flattened, slightly angular near the eye, of a pale green colour, a little russeted near the stalk, with a flush of dull red on the sunny side. Flesh whitish, tender, with a nice briskness, which makes it agreeable to eat, although it is in reality a kitchen variety. It is fit for use in September, and will keep good until February. The tree is healthy, and a most abundant bearer.

—**CHARLES VAN MONS PEAR.**—We allude to this Pear in order to notice how extremely fine it has been this season. It very much resembles the Napoleon, but is somewhat larger in size, the flesh more yellow, and richer in flavour than that variety. It might, indeed, be called an improved form of Napoleon. We have never tasted it so fine as it has been this season from an open pyramid on the Quince. It was exceedingly rich and juicy. The tree is very hardy and robust, and bears well as a pyramid on the Quince.

DISTRIBUTION OF PLANTS.—We are requested to announce that the First Commissioner of Her Majesty's Works, &c., intends to have distributed this autumn among the working classes and the poor inhabitants of London the surplus bedding-out plants in Battersea, Hyde, Regent's, and Victoria Parks,

and in the Royal Gardens, Kew. If the clergy, school committees, and others interested will make application to the Superintendents of the parks nearest to their respective parishes, or to the Director of the Royal Gardens, Kew, in the cases of persons residing in that neighbourhood, they will receive early intimation of the number of plants that can be allotted to each applicant, and of the time and manner of their distribution.

REPORT ON NEW FRUITS BY THE AMERICAN POMOLOGICAL SOCIETY.

APPLES.

THE MARTIN APPLE.—Originated at South Salem, County Ohio. It was a seedling planted by James Wilson, and first fruited between 1815 and 1820; after which it was propagated by root suckers. No trees have been grafted from it away from the farm upon which it grows. The original tree is said to be very productive, and has borne crops for nearly twenty-one years in succession, since the present owner has occupied the farm. It is thrifty and healthy, and always full of fruit; foliage large, branches upright.

The name was given because a little boy named Martin discovered its good qualities, and frequently stole the fruit from the original seedling tree.

DUZENBURY APPLE.—Specimens from Dr. James Fountain, Jefferson Valley, Westchester County, N.Y., who informs me that it originated on the farm of Charles Duzenbury, of Phillips-town, Putnam County, N.Y. Tree a vigorous grower, a good keeper, and retains its flavour well; fruit of medium size, roundish conical; skin greenish yellow, shaded, and rather obscurely splashed with red nearly over the whole surface; flesh whitish-yellow, crisp, tender, juicy, mild, sub-acid, excellent; somewhat of the New-England Seek-no-farther flavour. Ripe December till April.

STYMUS.—A new fruit, introduced by Dr. Fountain, and originated on the farm of Jacob Stymus, Dobbs's Ferry, on the Hudson. It came up by the side of an old Spitzenberg Apple tree (the whole orchard being Spitzenbergs). Growth rather more upright, but resembling it; a good bearer; fruit of medium size or above it; oblate, inclining to conic; skin yellowish, shaded, splashed, and striped with light and dark crimson nearly over the whole surface, some of the splashes of purplish crimson; flesh of fine texture, whitish, tender, juicy, with a mild, rich, sub-acid flavour, slightly aromatic; quality, best. Ripe October and November.

MOTE'S SWEET.—A new, beautiful, white Apple, raised from seed by L. S. Mote, West Milton, Ohio; to whom we are indebted for specimens, and who says the tree is hardy, of moderate growth, rather spreading, and productive. Fruit large, roundish, oblate, slightly conic, angular; skin pale whitish-yellow, with a tinge of red in the sun; flesh yellowish, fine-grained, juicy very tender, with a rich, sweet, honeyed flavour. Ripe September.

DEMOCRAT, OR VARICK.—Received from George L. Conover, West Fayette, Seneca County, N.Y., to whom I am indebted for specimens. Origin uncertain, but supposed to have originated in the vicinity of Trumansburg, Tompkins County, N.Y. Tree vigorous, upright, and productive; fruit always fair; size medium, or above, roundish, conical, inclining to oblong; skin pale whitish yellow, rather faintly striped and splashed with light and dark crimson nearly over the whole surface; flesh whitish, fine-grained, sometimes slightly stained next the skin, very tender, juicy, mild, pleasant, sub-acid flavour. A fine dessert fruit, ripening from December till March.

CREEK.—Received of Daniel Engle, Marietta, Penn., who says it is a native of Hellam Township, York County, Penn., where it has been fruited to a considerable extent, and is highly prized on account of its quality and extraordinary productiveness. It derives its name from Crenty Creek. Fruit medium, or below, oblate; skin greenish yellow, thinly shaded, and rather obscurely striped and splashed with light and dark red; flesh white, fine-grained, very tender, juicy, mild, sub-acid; quality very good at least. Ripe November.

HICKS APPLE, OR BUCKRAM.—Introduced by Isaac Hicks, of Westbury, North Hempstead, Long Island, N.Y., who found it in a hedge about the year 1853, and says it has proved the most productive and largest very early sweet Apple cultivated in that section,—earlier than Sweet Bough, and more productive. Fruit large, roundish, or roundish-oblate; skin pale greenish-yellow, considerably striped and splashed with crimson; flesh

whitish, tender, moderately juicy, with rich, sweet flavour, slightly aromatic. Ripe August.

PARK.—Introduced by William S. Carpenter, of Rye, Westchester County, N.Y., who values it highly as an amateur and market fruit. It originated on the farm of Roger Park, town of Harrison, N.Y. The original tree is still standing, and about seventy-five years old. Tree thrifty, and quite upright in its growth, and bears large crops every other year; fruit medium, roundish, inclining to conic, angular; skin yellowish, shaded, and rather obscurely splashed and striped with light and dark crimson nearly over the whole surface; flesh yellowish, rather firm, moderately juicy, with a rich, mild, sub-acid, slightly aromatic flavour; very good. Ripe January to March.

FAMILY, OR M'LOUD'S FAMILY.—An excellent early Apple of Southern origin, received from P. J. Berekmans, of Augusta, Ga. Mr. Berekmans says it is a beautiful grower, bears enormously, always regular. Fruit smooth, ripening for six weeks,—the most distinct foliage of any of our Southern Apples; fruit rather large, oblate, conical; skin yellowish, shaded, striped and splashed with dull red over two-thirds its surface; flesh white, tender, juicy, with a very mild, pleasant, sub-acid flavour; quality very good, or best.

SLIGHT'S LADY APPLE.—A new seedling, raised by Edgar Slight, Fishkill Plains, Dutchess County, N.Y., from the Lady Apple, and like it in every respect, except that it is double the size, and the skin a little more yellow and waxen, and comes into eating earlier in the season.

BRILL'S SEEDLING.—Raised by Francis Brill, Newark, N.J.; and he values it highly for market and culinary purposes. Fruit large, oblong, conic, angular; skin yellow; flesh yellowish, tender, juicy, slightly sub-acid. Ripe October, November.

CELESTIA.—Received specimens from L. S. Mote, West Milton, O. One of his new seedlings, which promises to be an acquisition. Fruit rather large, roundish, inclining to conic; skin pale yellow; flesh yellowish, fine-grained, crisp, very tender, juicy, with a rich, mild, sub-acid flavour, with considerable aroma; quality best. Ripe September.

PINE-CREEK SWEET.—Specimens of this fine sweet Apple were sent us by John Hamilton, of Jersey Shore, Penn.; and he writes us that it originated at Pine Creek, Jersey Shore, Clinton County, Penn., where the original tree is still standing. Fruit large, roundish, conical; skin pale whitish-yellow; flesh white, crisp, very tender, juicy, with a very rich, honeyed flavour; quality very good, if not best. Ripe October to November.

COCKLIN'S FAVOURITE.—Originated with E. H. Cocklin, of Shepherdstown, Penn., who describes it as a very fine dessert fruit; keeps well, and continues in use from September till February. Tree a beautiful upright grower, and very productive. Fruit rather small, roundish oblate, inclining to conic; skin whitish, with a thin shade of crimson in the sun; flesh white, fine-grained, crisp, very tender, juicy, mild, pleasant, sub-acid; quality very good.

FLAKE'S FALL.—Received from James A. Nelson & Sons, of Indian Run, Mercer County, Penn.; and they inform me that it originated near that place, and is a very profitable sort for market. Moderate, rather upright grower, great bearer, and a large valuable variety for that section. Fruit large, oblate, inclining to conic, slightly angular; skin yellowish, shaded, striped and splashed over the whole surface with light and dark crimson, almost purplish in the sun; flesh white, fine-grained, crisp, tender, moderately juicy, with a very pleasant, mild, sub-acid flavour, peculiarly aromatic; quality very good, or best. Ripe September to November.

PEARS.

EDMUNDS.—Originated with Eliphalet Edmunds, of Brighton, near Rochester, N.Y., and promises to be one of the best of its season. Tree a very strong grower; fruit medium to large, somewhat irregular in form, and surface uneven, obtuse, pyriform, angular; skin yellow, with slight nettings of russet; stalk very long, set in a shallow cavity; flesh fine, whitish, juicy, melting, with a sweet, rich, peculiar flavour, somewhat like Almond or Walnut; quality very good or best. Ripe middle of September to middle of October.

MARY.—Not having seen the fruit of this Pear, we give F. R. Elliott's description: "Raised by Christopher Wiegel, of Cleveland, Ohio, from seed of the Seekle. Tree upright, vigorous, an early and abundant bearer; fruit a little below medium in size; form generally globular, obtuse, pyriform, occasionally one-sided; skin rich, pale yellow, mostly overspread and dotted with bright, rich red, becoming deep next the calyx, and a little russet next the stem; flesh white, finely granulated, almost

buttery, juicy, sweet; very good; season before the Madeleine, or early to middle of July."

MARGARET.—Another of Christopher Wiegand's seedlings. "Its history the same as the Mary. Fruit medium size, oblong, ovate; colour lemon yellow ground,—when fully ripe mostly overspread with deep, dull red, small russet dots, and patches of russet; flesh white, finely granulated, juicy, vinous, sweet, and free from astringency. Season last of July and early August."

Other new kinds, such as Dr. Turner's, Dr. Shurtleff's new seedlings, Painter's Seedling, Howard, Richardson's seedlings, Clapp's new seedlings, and Hebe, are spoken of as valuable.

REEDER'S SEEDLING.—Specimens of this new Pear were sent us last fall by Dr. Henry Reeder, of Varick, Seneca County, N.Y.; and, judging from the fruit, we should think it of superior quality. Mr. Reeder writes that the tree is about twelve years old, and was raised from the seed of Winter Nelis; which tree grew near a Seckle, and is, no doubt, a cross of the two varieties. Tree healthy and vigorous, rather spreading in form, and an excellent bearer; fruit small to medium size, obovate, truncate; skin yellow, netted and patched with light russet nearly over the whole surface; flesh fine, juicy, melting, somewhat buttery, very sugary, sufficiently vinous, perfumed with musk, and slightly aromatic; quality best. Ripe November.

RUTTER.—An excellent late variety, raised from seed of Van Mons Léon le Clerc by John Rutter, of West Chester, Chester County, Penn. Tree a vigorous grower, an early and an abundant bearer; fruit medium size, obovate, obtuse, pyriform, angular; skin rough, greenish yellow, often considerably sprinkled and netted with russet; flesh white, not very fine in texture, sufficiently juicy and melting, with a rich, sweet, vinous flavour, slightly aromatic; quality very good. Ripe October and first of November.

ELLIS.—A new Pear, highly prized where known, and was raised by Mrs. Annie Ellis, of New Bedford, Mass., from seed of the Seckle. Tree a thrifty grower, very hardy, and an abundant bearer; fruit medium or rather large, obovate, pyriform, truncate; skin greenish yellow, considerably patched and netted with russet, and sometimes a shade of crimson in the sun; flesh yellowish white, juicy, melting, with a rich, sweet flavour, slightly vinous, and a little aromatic; quality very good, or best. Ripe October.

BRONX.—Specimens received from Prof. George Thurber, of New York, who writes us that it was raised by James R. Swain, of Bronxville, Westchester County, N.Y. about the year 1850. An upright grower, inclined to pyramidal; an early, regular, and abundant bearer. Fruit medium size, obovate, pyriform; skin greenish yellow, partially netted and patched with russet; flesh whitish, juicy, melting, with a sweet, slightly perfumed flavour; quality very good. Ripe from the 1st to the middle of September.

PLUMS.

FOOTE'S EARLY ORLEANS.—Grown from seed of Wilmot's Early Orleans by Asahel Foote, of Williamstown, Mass. Tree hardy, much more vigorous than its parent, symmetrical, bears heavy crops, and almost free from rot; fruit medium size, roundish, inclining to oval; skin deep black, covered with a blue bloom; flesh greenish, moderately juicy, with a sweet, pleasant, vinous flavour; adheres to the stone. Ripe from the first to the middle of August.

RASPBERRIES.

Many new varieties have been on trial; but the Clarke and Belle de Palluau have given the most general satisfaction. The Clarke is claimed to be hardy; and, if it prove so, it will add to its value. Duhring, Naomi, and Mrs. Wood, are said to be valuable; and Charles Arnold, of Paris, C.W., has raised some seedlings that are said to be of fine quality and hardy. There are also several new kinds of the Black Cap family that are highly praised, but not fully tested.

BLACKBERRIES.

Kittatiny and Wilson's Early are before the public as superior kinds, and, so far as tested, are worthy of extensive trial; the Kittatiny being hardier and sweeter in flavour than New Rochelle, and equally as vigorous and productive.

BLANCHING CELERY.

I HAVE had some experience in blanching Celery with sawdust, both for exhibitions and for private use, and I never succeeded in keeping the Celery from rotting in such material;

therefore I differ from the remarks of your correspondent, Mr. Bartrum, in the Journal of the 10th ult.

I have used sawdust varying from six months to two years old, and I have found that as soon as it became saturated with rain the Celery began decaying.

I prefer sand to sawdust, for with me Celery keeps fresh much longer in the sand than I ever could have preserved it in the sawdust. Sand requires wooden boxes to keep it in its proper position, exactly in the same way as Mr. Bartrum describes.

I have also found peat earth an excellent material for blanching Celery. I believe peat blanches it whiter than either sawdust or sand, and the Celery in it keeps much longer.

In this neighbourhood (Blackburn), cottagers grow Celery to great perfection, and some of the leading growers among them use nothing but brown paper to blanch their exhibition specimens. The paper is put twice round the plant from the ground upwards as high as the Celery is to be blanched, and pasted up the side to exclude air. A handful of soil is put round the bottom, and the top of the paper is tied round. In this way they manage to grow and blanch Celery fit for either a nobleman's table or an exhibition.—L. BLACK, Blackburn.

WORK FOR THE WEEK.

KITCHEN GARDEN.

WE never believe that we are so near winter until we are actually in October. You may see crops seeding, ripening-off, or falling into the sere and yellow leaf all through the summer, and yet think no more about winter than if everything was fresh. Hand-glasses should now be in proper repair for protecting Cauliflowers, and frames cleared out ready to receive Endive and many other things. Temporary hotbeds must soon be in requisition for *Asparagus*. Those who still adhere to the old practice of giving all sorts of rich manure to *Asparagus* beds in winter and spring when the plants are dormant, and neglect doing so in summer when they require it, will now have the satisfaction to see the tops fit for the hook or scythe, and the beds may be cleared now whenever hands can be spared for the work; but those who neglect them altogether in winter, and feed them the whole summer through, cannot tell when the crop may be ready for the sickle, for their beds are yet green. *Carrots*, no one, I presume, will now leave the crop of *Carrots*, *Potatoes*, &c., long in the ground, if only for the sake of having the ground dug over before wet weather comes on. *Carrots*, *Parsnips*, and *Beetroot*, keep well packed in sand or ashes in a dry room or cellar. These crops when taken up during dry weather, and stored away in a dry state, not only keep much better, but the ground is not injured by the operation of lifting, which is the case when they are taken up in wet weather, especially in stiff clayey soils.

FRUIT GARDEN.

After the fruit is all gathered there will be much work in the fruit room for some weeks, in arranging, naming, and storing the late sorts after they are ascertained to be quite sound. Large currents of air should be admitted during this time, but after the work is finished the fruit room should be kept close, and as uniform in temperature as circumstances will allow. The best time to transplant fruit trees is the next six weeks; but where this is impracticable the fruit trees ought to be ordered without waiting till the ground is ready, as they are sure to be good thus early, whereas if the order be delayed until the spring, the stock is selected from by so many other customers, that you must be content with what you can obtain.

FLOWER GARDEN.

The *Heliotrope* is the first affected by frost; many of our stove plants stand more cold than this. It may seem strange to some to have flower beds matted over to save them from early frosts; but it has been a regular practice in some places to save the plants in flower by such means, particularly the beds near the house, till the beginning of December, for it frequently happens after a night or two of early frosts that we have fine weather for some time afterwards. The great requisite in the winter management of plants is to have them well hardened off before severe weather sets in, so as to have them in a perfectly dormant state—that is, without any sign of growth, and to keep them as dry as is consistent with their not suffering from the want of water.

GREENHOUSE AND CONSERVATORY.

The finest plant that can be placed in the conservatory for the next twelvemonth is the *Luculia gratissima*, the earliest of

which is now about opening its delightfully fragrant flowers. The standard temperature here in winter is 45°; it should never exceed that by fire heat, and for six weeks after Christmas it should be kept at about 40°, and little or no air given for three or four months. With this treatment most of the half-stove climbers flourish and bloom as well as could be wished. *Stephanotis floribunda*, *Echites suberecta*, *Ipomœa Horsfallii*, *Combretum purpureum*, and many others are thus treated. About this time it is advisable to remove the soil from the stems down to the main shoots, and to replace it with charcoal broken small; this protects them from damp. The surface of the borders should be kept porous by frequent stirring, and no water should be given until the leaves begin to droop from want of it, and then as much should be afforded at once as will reach the bottom of the border. In a day or two afterwards a little dry soil may be placed over the parts watered, to lessen evaporation. On this principle all plants in a dormant state in winter should be watered, whether they are in borders or in pots, provided these are well drained. We scarcely ever miss a slight frost or two from the middle to the end of October, and we have all seen at times that if our plants and flowers had escaped this early frost, they might have gone on safely enough for a month or six weeks. Except in the case of very young and softwooded plants, few greenhouse plants are much hurt by a slight frost late in autumn. Two or three rainy days do them much more harm, and it is really a very bad plan to house these plants early. Nurserymen never consider some of their finer Heaths safe out of doors after August, and they house almost all their plants from the middle of September to the middle of October, but theirs are all young, and many of them have been much forced for propagation, and have hardly yet recovered from the confinement of the propagating house, so that they require early protection.

STOVE.

When stove bulbs are about done growing, water is withheld from them by degrees, till at last the leaves turn yellow and die off. The pots are then turned on their sides and placed out of the way on shelves near the glass; but when room is scarce, and the bulbs are at rest during the winter, they are often shaken out of the soil and put by in drawers in the seed room, or in a dry cupboard in-doors. Now the whole tribe of Orchids which rest for the winter, and more especially those which cast their leaves, may be treated after the manner of stove bulbs, and to those who find any difficulty in wintering them in the usual way, this is the safest plan. The winter-growing kinds, on the other hand, require now to be put nearer the glass, and all shading is of course dispensed with after this time. *Lælia superbiens* throws up its flower stems at the rate of an inch a-day, and they are now upwards of 2 feet high, and promise to grow much longer yet. Mr. Skinner says that "the flower stems of this most magnificent plant grow from 9 to 12 feet long, and carry from eighteen to twenty flowers each," and that its "native place, Chantla, is very cold."

COLD PITS.

All the Roses that are to be forced before Christmas should be pruned forthwith, and placed in different pits for forcing and protection; at any rate, let no more rain touch them this season, it chills and soddens the soil about their roots. A good way to begin to force Roses is to stir up the surface of an old Melon bed after removing the soil, and, perhaps, to add a few fresh leaves or some tan to create a mild heat of 80°; to plunge the pots in this, not to cover the frame for the first week, and then to begin by drawing the lights only half over the frame for the next week, and to draw them closer by degrees, but still leaving large portions of air till the flower buds appear. Moss and Cabbage Roses worked on free stocks of China breeds, will thus flower three weeks or a month sooner than others on their own roots or on the Dog Rose.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

HOED among all advancing crops, filled up every foot of spare ground with winter and spring vegetables, examined all plantations of Cabbages, Broccoli, &c., to destroy grubs, which are troublesome this season: banked up Celery with litter where it would not have been advisable to use much earth, but for this see previous weeks' remarks. The heavy rains have rendered watering unnecessary; the chief point to be looked after is the saving of water for next season. If this is not done we must blame ourselves, and gardeners generally, and not the season.

Salsafy and *Scorzonera*, often thought little of, come in this season as helps in the kitchen. To have them good the ground should be well trenched as for Carrots, and any manure given should be placed at the bottom to entice the roots to go straight down. Salsafy is almost as sweet and crisp as a hazel nut when well grown and well cooked.

Jerusalem Artichokes make a nice dish at this season when other vegetables are scarce. They will stand for years in the same ground; but to have them in abundance and good in quality, they should be planted every year like Potatoes. We have frequently so treated them, and can recommend them to those who prefer a waxy to a flour-ball Potato.

Celery.—We have had letters from several correspondents, and we will answer the pith of their inquiries by saying that a 4 or 6-inch litter-covering blanches as well as earth, and presents no inconvenience in the way of earthing-up and damping.

FRUIT GARDEN.

We have still a considerable quantity of fruit ungathered. We have taken in the most of our Margil Apple, and as yet they are as sound and as hard as bullets, and we are told that in some gardens they are nearly over, so great is the difference in different soils, thin gravelly soils bringing fruit much earlier to maturity than clayey and deep loamy soils. For instance, after using Williams's Bou Chrétien, the Albertine, and Ambrosia Pears, we have had to bring in the Marie Louise and Louise Bonne of Jersey with some forcing, whilst some of our neighbors have used these, and have none left. One of our friends has told us that his Margil Apple and Marie Louise Pears are gone. With us, as stated above, we are forced to bring them on artificially. We have stated previously, and we would state again the fact, that we have one tree of Williams's Bon Chrétien Pear, and a beautiful fruit it is. If left to itself the fruit would scarcely meet our wants for a week, so soon does it become "sleepy" after gathering when nearly ripe; but from that tree we generally have a month's supply, and even more, simply by gathering the most forward fruit, wrapping them in paper, and giving them a little artificial heat near the chimney corner. When there is likely to be a break, we adopt the same system with other Pears, as Marie Louise and Louise Bonne of Jersey, &c., and thus keep up a regular succession of sweet succulent fruit. The chief point in thus forwarding fruit that would otherwise be much later, is not only to give additional heat to it, but to prevent the moisture evaporating. When we are particular we wrap each fruit separately in paper, place all in a large pot, and cover thickly with paper, when we set the pot in a rather warm place. We have seen Apples and Pears ripened for use fully exposed in a hothouse; but by such a method there is the liability to lose the juices of the fruit, which is not the case when treated as above stated. Of course it would not do to forward much of the same fruit artificially. When properly forwarded a few weeks before the usual time, many connoisseurs have formed no idea that what they partook of was forwarded artificially.

Planting.—Where much fruit-tree planting is to be done the sooner the ground is prepared for the trees, or at least stations made for them, the better they will thrive; and could we have our way we should like to plant by the third week in October, or sooner if the leaves and buds were tolerably ripe. Now is a good time to select the trees, and in all cases where numbers are wanted it would pay to give something more not to draw the trees, but take them up carefully, and puddle the roots before packing them. Some nurserymen put the roots in damp litter, which is next best to puddling, and others just send them as they are in dry litter. The success of autumn planting depends partly on saving all the fibres, that they may grow at once instead of having them all dried up, and the plant being obliged to make fresh ones before the roots are able to supply the expanding buds in the spring.

ORNAMENTAL DEPARTMENT.

The same remarks apply here as to planting, whether in pleasure grounds or for permanent wood plantations and covers. The press of work in most gardens renders it difficult to commence this work in time, but the sooner that preparations are made for it the better will the plants succeed. As a rule, trees and shrubs planted even in November have double the chance to succeed as compared with those planted in February or March. Spring planting often does well enough when there is a moist spring and summer; but in such a season as we have had, nothing but the water cart—and that is out of the question when planting has to be performed on a large scale—could keep the plants alive. The money that was wasted in labour and trees last spring ought to teach a lesson. Never

should be shaded from the midday sun, and the plant should be well supplied with moisture whilst growing in summer.

ECHVEVERIA METALLICA PROPAGATION (R. E. G.).—You will best succeed by dividing the plant, taking off a few leaves with a portion of root. The divisions should be potted, and the plants, if possible, placed in a house where there is a brisk heat, keeping them moist and shaded until they are growing freely. It will be all the better if the pots can be plunged in a bath of from 75° to 80°.

CLEMATIS JACKMANNI NAKED (A Subscriber, Ireland).—Your plant of this beautiful Clematis should be cut down to within a foot of the soil; and to induce the production of more shoots, those starting from near the ground may be stopped when they have grown a foot or 18 inches. Training them zigzag will also cause the production of more side shoots.

LILIUM LANCIIFOLIUM CULTURE (Idem).—It succeeds in an open border. Plant in November, cover the bulbs with about 3 inches of soil, and put a like depth of leaf mould over the place where they are planted.

TACSONIA VAN-VOLEMI FLOWER BUDS FALLING (A Lady Subscriber).—We can only account for the flower buds falling by the plant not being trained near enough to the glass, and a deficiency of light owing to the Passion-Flower, and we imagine the soil is not sufficiently moist. The soil should be well watered, but not so as to saturate it. Weak liquid manure may be given once a-week. For winter blooming do not prune, but thin out the shoots if too close, and train them about 6 inches apart, and from 6 to 9 inches from the glass. It ought to bloom well this autumn and winter. *Mandevilla suaveolens* is a fine climber. Train it near the glass, and keep it well watered. It is not a shy bloomer, all it requires is age and strength.

SEEDLING FUCHSIAS (G. T. M. Purris).—Your double flowers appear to be of great substance, with a smooth outline, but not differing from many other double varieties. The single flower with long sepals is too coarse to be of any use.

REMOVING AND POTTING CARNATION LAYERS (An Ignoramus).—Your plants, if of the choice sorts, will be best potted and wintered in a cold frame, and be planted out in spring. If well rooted, the layers may, when detached from the old plant, be now planted where they are to remain.

HOLLYHOCKS WINTERING (Idem).—The plants would be best taken up, potted, and wintered in a cold frame, the pots being plunged to the rim in coal ashes. Plant out in spring.

MANURING STRAWBERRIES WITH SEAWEED (Idem).—For plants in beds or rows, the seaweed may now be placed between the rows, and about the plants, in the same manner as manure. A dressing of this kind now, 1 or 2 inches thick, will be highly stimulating and enriching, and if a little fresh loam be placed on the seaweed, so as to cover it, all the better. Before applying the seaweed remove all weeds, runners, &c., and the space between the rows should be lightly stirred, merely scratching the surface. The seaweed ought not to be dug in.

PROPAGATING MAGNOLIAS (Cornubia).—Layering is the best mode of propagation. It may be done now or in spring. The layers take better when a slit is made about half way through the shoot, commencing the cut immediately below an eye or bud, and on the under side of the shoot. This part ought to be placed in the soil and securely pegged down. By next autumn the layers should be examined, if well rooted detached from the old plant, and planted out; but if not well rooted they should be left another year.

SHELTER FOR WISTARIA SINENSIS (Idem).—The *Wistaria* will not grow in the shade, nor will it succeed in the open ground. It requires a wall with a south or west aspect, and sheltered, and does best in soil dry rather than moist. It may, however, succeed if your wooden house faces the south.

QUINCE AND MEDLAR TREES (Idem).—In ordering, it is well to specify what kinds you require. Of Quinces, the best are the Apple-shaped and Pear-shaped; and of Medlars, the Dutch, but the Nottingham, though smaller, is better flavoured.

TROPEOLUM JARRATTI GRANDIFLORUM FOR A BAY WINDOW (E. Taylor).—It is a pretty climber, and will succeed trained near the glass in a bay window, if frost be excluded. Now is the time to procure and plant it in a pot well drained, using for soil a compost of sandy peat one-third, and two-thirds sandy turfy loam. It is well to pot in a rather small pot, and insert this in one of larger size, placing crocks at the bottom, so as to bring both rims level, and fill in between the pots with soil. The plant should be rather sparingly watered until it is growing freely, then water freely, but not so as to saturate the soil.

CUTTING OFF A VINE STEM (An Old Correspondent).—If from your two-stemmed Vine you cut off one stem, the roots would not perish, but would increase the vigour of the remaining portion, provided you prevented bleeding. This may be done by removing the stem and branches after the Vine has grown a few inches in spring, or by applying Thomson's Styptic to the wound if the stem be cut at the winter pruning.

CLEMATIS NOT FLOWERING (Poplar).—Your plant growing very vigorously, it would appear that the soil is rich, and this circumstance will account for the plant not flowering. It will not flower freely until its vigour be subdued; but we would not check growth by root-pruning if the plant has a large space to grow over; but if limited, we would lift it in autumn and replant. You may, however, by keeping the branches or shoots closely secured to the wall, and at equal distances apart, and thin rather than thick, effect the better ripening of the wood, which we think will give you flowers in a year or two.

INARCHING ON A SWEETWATER VINE (J. T. N.).—We would prefer inarching a white Grape on a Sweetwater, but the kind must depend on the heat you can afford the Vine, as Royal Muscadine for the open air or a cool house; Marchioness of Hastings for a vinery, if huge bunches are desirable; and a Muscat, as Eowood Muscat, where heat can be given freely; or Trebbiano where late-keeping is considered an object.

SEEDLING PANSY AND GOLDEN-LEAVED PELARGONIUM (C. McDougal).—Of the Rose, the whole of the petals had dropped and lost their colour. The Pansy, Katy Bell, is good of its kind, very circular, but rather thin in the petals. The Pelargonium leaves are nothing new. It is unsafe to judge of the plant by a single leaf. A plant should be sent to judge of the merits of its foliage.

VINES UNFRUITFUL (C. J.).—It will help your healthy but unfruitful

Vines, with roots deep in the soil, to make a deep drain in front of the border. Take away as much of the surface soil as you can without injuring the roots, put on a couple of inches in thickness of sweet fibrous loam and some old mortar, &c., to encourage the fibres to come up. Entice them still more by keeping the border dry and warm by covering with 12 or 15 inches of dry litter, and keep the house drier and hotter with fire heat for a time now, as long as the leaves continue green. If the wood is rank and unripened, you will have but little fruit. If these remedies do not prove effectual—and the heating should have commenced in September—then the best plan next year would be to take up the Vines carefully and replant nearer the surface, after draining, &c.; but the above will often be successful.

VINES NOT FLOWERING (R. H. B., Dorset).—With a concrete bottom, we should think your Vine roots have not gone down too deep. The yearly surfacing precludes the idea of scarcity of food being the cause. If the border is not drained in front of the bed of concrete, there may be too much moisture at the roots, and that would prevent the wood being well ripened. The drain may make all right. Again, as the Vines, though refusing to flower, seem to grow well, try what a little more air and dry heat will do for them this autumn. We presume that the yearly dressings have not buried the roots too deeply; but if so, they will be better if replanted nearer the surface. If the roots are only a fair distance from the surface, we would try hardening the wood with extra dry heat now.

PRESERVING SCARLET PELARGONIUMS IN WINTER (J. Beresford).—The best plan of keeping Scarlet Pelargoniums snug up in a cellar, is to shake all the earth from the roots, prune off all the soft parts of the plant, wrap the roots in moss slightly damp, and hang them up. They will do best in a dry cool cellar. They will need no attention until they begin to break all over the old stems in spring, when they must have light and air, and if put into small pots all the better. Of course some will die, but many may be expected to live. We think if the plants are pruned of all soft parts, all foliage removed, the roots also cut-in to a length of 6 inches or so, and these roots packed firmly in large pots or small wooden boxes, the Pelargoniums will keep better still. A 10 or 12-inch pot will thus hold a good number of stumped-in plants. Very little of the late summer's growth should be left, as it will be sure to decay. It is well to dip the top of the plant in dry lime or wood ashes, as it prevents the juices bleeding. A hay loft or garret, where a little light can be given in mild weather, is even better than a cellar.

CULTURE OF OET-DOOR VINES (A Reader).—Espinoe will suit you best for the open wall, and the Black Hamburg would do well in your warm sheltered position thirty miles south-west of London for a low wall, say 6 or 8 feet in height. We prefer the rod system of training, though spurring does well enough. For a high wall there may be several rods if that plan be adopted. The spurring mode will require less trouble in the management. Of the list of Grapes given, we would plant in your sheltered place only the Black Hamburg and the Esperance. You would be less likely to ripen the Barbarossa, &c. If you fancied a white Grape you might use Royal Muscadine or Buckland Sweetwater. We have ripened the Dutch Sweetwater very well in and near London.

TIGHTENING WIRES FOR CORNUS (Reader).—Common thumbscrews may be found in any ironmonger's shop. They are greatly used by bell-hangers. We recommended them as being the easiest to procure. A thumbscrew is like a common screw, with an eye at one end for fastening the wire to. Place this screw through your already fixed support, and then, with a nut on the thread, the wire may be tightened with the thumb and finger—hence the name. There are many ways, however, well known to every worker in iron. The French use some very neat little things for this work, called stretchers or tighteners. You may train your trees in any form you please; for diagonals, however, the wires should be closer together.

CLIMBING ROSE (Poplar).—The best hardy climbing Hybrid Perpetual Rose is *Duc de Cazes*. It flowers freely and continuously, early and late. We cannot tell from the leaves sent what your Rose is. The stronger a wall Rose grows the less should it be cut. Next spring merely take off the points of the strong shoots to a good eye on sound wood. However good a climbing Rose tree worked on a Briar may be, it should be cut to three or four eyes the first spring after planting. It will ultimately become more successful than if the whole plant were left untouched. Manetti Rose plants need not be cut down. Mr. Radclyffe never cuts down his Manetti Roses to the stump, unless there is a cause. Prince Camille de Rohan would make a fine dark wall Rose, but it is much given to mildew.

PHASEOLUS CARACALLA (A. M. G.).—This is called the Snail-flower and Caracol, in consequence of its hooded flowers, which are large and showy, in colour purple and yellow mixed. It is believed to be a native of Brazil, whence it was brought by the Portuguese, who gave it the name of Caracalla, which was also applied to a hooded dress worn by the ancient Gauls. The plant is often grown in southern Europe, South America, and India. It is easily cultivated in rich sandy loam in a cool stove, but, like all the tender Bean tribe, it is liable to red spider. In such a summer as this has been, we would expect the plant to do out of doors for a few months. Your *Ipomoea* seeds, from Buenos Ayres, are not likely to stand the winter out of doors.

VINE ROOTS DISEASED (A. A.).—The top spit from the pasture, and mortar rubbish, and a few boiled bones, would have been safer than peat-straw, leaf mould, and half-rotten dung. The soil should also be examined for spawn of fungi. We fear that the roots are attacked with fungi or mildew. We can hardly think that the roots can be suffering from wet, as the border is floored and drained, and this has been a peculiarly dry season. Of course, we conclude that the roots have not been dried with the drought. If the roots are injured by fungi you might work in about 4 lbs. of flowers of sulphur in the border, and six bushels of slaked quicklime, allowing it to go in for the depth of an inch or two. If that do no good, we fear you must remove the soil, and use what will be less likely to produce mildew.

SEEDLING APPLES (James Cuthbert).—No. 1, which is below medium size, is a pretty-looking fruit, with a hard and rather dry but sweetish flesh. It is not rich enough for dessert, and we do not think it would cook well. It will, no doubt, prove an excellent keeping sort. No. 2, seedling from Normanton Wonder (Dumelow's Seedling), has very much the appearance and character of its parent. The eye is close, and the fruit somewhat angular; these are its only distinctions. In our opinion it is inferior to Dumelow's Seedling.

NAMES OF FRUITS (W. G.).—Your Grape is the Black Hamburgh. (G. Y.).—We had to pay 10*d.* carriage for your parcel. (A Subscriber).—We had 6*d.* to pay for carriage to our office. If we receive the above amounts in postage stamps we will endeavour to name the fruits. (H. C., Kent).—Apple: Lemon Pippin. The Pear was quite decayed. (A. Y.).—Apple: Mancho's Pippin.

NAMES OF PLANTS (A Country Subscriber, Eastwood).—*Bryonia laciniosa* (*Disciplinus Miltneri*).—*Cratægus erus-galli*, var. *ovalifolia*. (A. C. W.).—*Cyclamen neapolitanum album*, *Valeradia plumbaginoides*, *Alchemilla alpina*, var. *conjuncta*. (An Old Subscriber, Cardiff).—*Aspidium lonchitis*. (S. Bryan, Audley End).—1, 2, *Athyrium Filix-foemina*; 3, *Lastrea dilatata*; 4, *Nephrolepis exaltata*; 5, *Adiantum tetraphyllum*; 6, *A. affine*; 7, *A. hispidulum*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending September 29th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 29	29.639	29.613	67	47	59	53	W.	.00	Clear and fine; overcast; cloudy, cold wind.
Thurs. 24	29.619	29.598	69	38	58	53	W.	.00	Hazy; clear and very fine; fine, but cold at night.
Fri. ... 25	29.471	29.339	63	41	58	67	N.E.	.28	Showery; heavy rain; fine; fine, very dark.
Sat. ... 26	29.155	29.155	67	47	56	57	S.	.42	Clear and fine; fine, showery; heavy rain.
Sun. ... 27	29.172	29.094	58	45	59	57	S.W.	.01	Heavy thunderstorm, showery; boisterous, showery; clear and fine.
Mon... 28	29.836	29.649	64	43	59	57	S.	.26	Fine, heavy showers; fine; boisterous and showery. [at night.
Tues. 29	29.221	29.155	63	43	58	57	S.W.	.18	Clear and fine; boisterous with rain; fine.
Mean	29.446	29.353	64.85	44.14	58.43	57.23	..	1.15	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

THE BIRMINGHAM SHOW PRIZES AND ITS JUDGES.

HAVING seen a prize list for the approaching Birmingham Show, I was gratified to observe that several alterations and additions in cups had been made, which will, no doubt, offer a stronger inducement to some persons than a mere money prize; and I anticipate that the results will prove the step to have been a judicious one. Poultry-exhibiting ought not, in my opinion, to be so much a matter of pecuniary profit as a useful recreation calculated to improve the respective breeds.

If I remember rightly, at the last Show the Committee, or the gentlemen deputed to appoint the judges, made an addition to the original judges, which in my opinion was quite a step in the right direction. I believe, however, that as a rule the majority of those who fill the office of judges at Birmingham seldom, if ever, exercise that function elsewhere—a course which I think is a mistaken one, as they cannot be supposed to be equally competent with those gentlemen who are constantly performing that duty. Among others I would mention Mr. Hewitt, who has filled that office in every part of the country; and considering that his appointment never fails to give additional confidence to exhibitors, I should very much regret to find his name omitted from the list on the occasion in question. I would also suggest, in addition, the name of Mr. Hutton. He has judged at several shows at which I have been present, and his decisions appear to have given very general satisfaction.

I would further recommend that, in the selection of judges, the choice should fall upon gentlemen whose position and life, and the character they have at stake, place them above temptation or suspicion. To appoint, as has lately been the case at some shows, persons who hold or have held the position of servants to, or are in any way dependant on parties in the habit of exhibiting, cannot fail to be unsatisfactory to the majority of exhibitors; for however impartial their awards may be, the same confidence will not be placed on them as on persons whose position and circumstances furnish a stronger guarantee for independent judgment and action.—COCHIN.

MANCHESTER POULTRY SHOW—ENTRY FEES.

I THINK your correspondent Mr. A. Heath, of Calne, has done good service by drawing attention to the early period for which the Manchester chicken Show is fixed. It is at least six weeks too early, as there are not many exhibitors who have convenience or opportunity for having many chickens (most early sittings do badly, this year's singularly so), hatched before April or May, and those hatched in these months will, of course, be unfit for exhibition, especially the larger varieties, for two months or so.

A uniform rate of entry per pen would lead to a much larger number of entries, as the present plan is only favourable for those who are able to keep several breeds—say 7*s.* or 7*s.* 6*d.* instead of 15*s.* for the first entry and 5*s.* afterwards, as many amateurs have only room for one variety, and perhaps are not

able to form more than a couple of good pens. I think the Middleton Show illustrates the advantage of this plan. There no difference is made on entering one or more pens, and the entry fee is regulated according to the prizes offered.—J. W. C., JUN.

I HAVE not yet seen the prize list of this Show, but read in "our Journal" the remarks made by Mr. Heath on the state in which birds must be at the date on which it is advertised to be held. I quite agree with Mr. Heath, and feel convinced that fanciers generally are of the same opinion.

My birds, with few exceptions, are now deep in moult. The few that are not will be so in eight or ten days; and the few young ones that are unable to do for themselves are being left by their parents, owing to the sickness which always prevails during the moulting season.

It was considered a matter of no small moment by the members of our Society (the North British Columbarian), to decide which was the best time for exhibiting Pigeons in perfect feather, and they came to the conclusion that December was the first month in which birds could be shown to advantage after moulting; but even then a few individuals are not perfect in the flight feathers, and until the feathers are not only fully developed but the quills hardened the Pigeon seldom recovers its wonted spirits.

If this question were fully considered by the members of Societies I think there would be fewer shows, if any at all, during the breeding and moulting seasons; and were the various shows to take place at the proper time—say from December to February inclusive—a greater number of entries would certainly be secured. Thus the numbers would be encouraged, and visitors be enabled to view the various breeds of Pigeons in all their beauty.

Manchester is a fine centre for a poultry and Pigeon show; and it is to be hoped that in future the show in that city will be held, as Mr. Heath suggests, "at least a month later." I venture to recommend two months later, as many delicate birds would by that time have a chance in the young classes.—JAMES HUIE.

POULTRY SHOW JUDGING.

To avoid partiality there should be two judges. A and B being provided with a pocket-book, A begins to judge at the first pen, and B at the last. They go on until they meet each other. The order is then reversed, B commences where A began, and *vice versa*. Having gone over each other's ground they compare their books; where they agree the prize is at once awarded, and where they differ it is either left to the decision of a third judge, or decided between themselves.—FAIR PLAY.

LONG SUTTON POULTRY SHOW.—We have just been favoured with a sight of the prize schedule of the Long Sutton Poultry Show, the entries for which close on the 3rd of October. Messrs. Hewitt, Teebay, and Tegetmeier are announced as the Judges. The prizes offered are liberal, and no less than four dozen classes are appointed. The prizes for every variety of Cochins, Brahmas, and Dorkings, for which there are separate classes, are £1 and 10*s.*, but two silver cups, each of the value of five guineas, are to be awarded to the best pen. In Spanish

these money prizes are doubled. Hamburgs, Game, and any other distinct variety have £1 and 10s. prizes in each class, and prizes of £2 and £1 are allotted to Ducks, Geese, Turkeys, the Selling class, and also to a new class for any description of ornamental or song birds. In short, any variety of birds is in this class eligible for competition. The prizes for Pigeons are £1 and 10s., and in the portion devoted to local competition there are £5 5s., £1, and 10s. prizes. In all, thirteen silver cups are to be awarded. The new breeds of French fowls have one of these cups expressly for their own class.

THE FYLDE DISTRICT AGRICULTURAL AND POULTRY SHOW.

(From a Correspondent.)

This was held at Blackpool on the 15th of September, in two fields near the Poulton Road. All the departments were well managed by a very able and attentive Committee, and great praise is due to the Secretary, Mr. Rae. This being only the second Show, and seeing the great success it attained, I feel that it will become one of the first shows in Lancashire.

The poultry shown were of any age, and, as might be expected at this season, the young birds showed to the best advantage. There were some very good pens of *Game*, although the entries were not very numerous. The *Hamburgs*, as a whole, were not so good as I expected to see at a Lancashire show, and many of the young birds were very rumpy. The *Game Bantams* were a good and numerous class (twenty-four entries), and the "Any variety" class contained about twenty good pens. The first prize went to *Polands*, the second to *Black Hamburgs*, and the third to *Brahmas*. I should like to hint to the Committee to give another year a separate class to *Brahmas*, one to *Black Hamburgs*, and one to *Polands*. Even if the prizes were reduced, such classes would be more in accordance with the wishes of exhibitors, and the extra entries would pay the Committee well.

The *Duck* classes were of average merit.

I was pleased to see a class for ornamental water fowl, and although there were only three entries, no doubt they will increase another year; a pen of *Ruddy Shell Ducks* was much admired.

Mr. James Dixon, of Bradford, acted as Judge.

LEIGH POULTRY SHOW.

FROM a very small affair at its first institution, about eight years ago, the Show at Leigh has gradually increased in public estimation, until it ranks very highly among the poultry shows of Lancashire. This success, no doubt, is attributable to the very excellent arrangements of the Committee, and the staunch manner in which it has always adhered to the rules. Every year brings with it an increase in the number of entries; and in the quality of most of the classes this season, there was an improvement, more especially as regards those breeds of poultry most adapted for table purposes. The weather was delightful, and the number of visitors far exceeded that at former exhibitions. There was a drawback to the general appearance of the Show, arising from most of the adult birds being in very bad feather, and as chickens and old birds competed together, this circumstance gave a decided advantage to the former. It is but very rarely four such good pens of *Spanish* fowls compete together as those at Leigh; both for quality and condition they were unexceptionable. *Brahmas* and *Cochins* were also remarkably well shown. *Hamburgs* were unusually good, and an extra prize was given to a large coop of twenty-four *Silver-spangled*, exhibited as extra stock. A very singular feature of this Meeting was, that the class for single *Game Bantam* cocks proved, without exception, so indifferent that no prize whatever could be awarded them. *Geese* and *Ducks* were well represented, and among the latter were to be seen the *Ruddy Shell Ducks*, the *Garganey*, and other choice varieties. A very handsomely-made cage, containing *Squirrels*, was exhibited, and musical bells were so arranged that the interesting little animals kept almost incessantly playing a variety of tunes, a feat we never before witnessed, the change of tune being entirely dependant on a change of rollers, hidden from observation, striking the bells. The prizes were as follow:—

GAME (Black-breasted Red).—First, L. Biney, Manchester. Second, F. J. Astbury, Encliffe.

GAME (Brown Red).—First, C. W. Brierley, Middleton. Second, A. Haslam, Hindley.

GAME (Any other variety).—First, W. Painter, Abram. Second, C. W. Brierley.

SPANISH (Black).—First and Second, N. Cook, Chowhert. Highly Commended, T. & E. Comber, Myddleton Hall, near Warrington.

COCHINA (Buff).—First, C. Sidgwick, Ryddlesden Hall, Keighley. Second and Highly Commended, W. A. Taylor, Manchester.

COCHINS (Any other colour).—First, E. Shaw, Plas Wilmot, Oswestry (Partridge). Second, J. A. Taylor (Partridge). Highly Commended, C. W. Brierley.

BRAHMA POOTRA.—First, J. Siebel, Timperley. Second, E. Leech, Rochdale. Commended, J. Siebel; C. W. Brierley.

DORKINGS.—First, S. Farrington, Chat Moss, near Manchester. Second, C. W. Brierley.

HAMBURGS (Golden-pencilled).—First and Second, W. Parr, Patricroft. Commended, T. Wrigley, jun., Tonge, Middleton.

HAMBURGS (Silver-pencilled).—First, T. & E. Comber. Second, T. Wrigley, Tonge. Commended, H. Pickles, jun., Earby, Skipton.

HAMBURGS (Golden-spangled).—First and Second, N. Marlow, Denton. Highly Commended, S. & R. Ashton, Mottram; W. Parr, Patricroft; J. Chadderton, Hollinwood.

HAMBURGS (Silver-spangled).—First, H. Piepjes, jun. Second, T. Wrigley. Highly Commended, W. Parr; J. Taylor, Withington Common. Commended, J. Wignall, Charnock Richard.

POLANDS (Any variety).—First and Second, P. Usworth, Lowton. Highly Commended, L. Biney; S. Farrington; P. Unsworth.

GAME BANTAMS.—First, J. Henshall, Salford. Second, R. Gerrard, Atherton. Commended, J. Wignall; W. Parr.

BANTAMS (Any other variety).—First, N. Marlow (Black). Second, S. & R. Ashton (White). Highly Commended, S. & R. Ashton (Black).

ANY OTHER DISTINCT OR CROSS-BREED.—First, J. Siebel (Crève-Cœur). Second, L. Biney (Houdans). Highly Commended, C. Sidgwick (Black Hamburgs); W. Parr (Black Hamburgs); N. Marlow (Black Hamburgs); N. Cook, Chowhert (Crève-Cœur); S. Farrington (Malay).

GAME COCK (Any variety).—First, P. Usworth. Second, L. Biney.

GAME COCKEREL (Any variety).—First, A. Smith, Westleigh. Second, A. Haslam.

GAME PULLET (Any variety).—First, A. Haslam. Second, L. Biney. Highly Commended, F. T. Astbury. Commended, C. W. Brierley.

SELLING CLASS.—First, J. Partington, Leigh (Silver-spangled *Polands*). Second, N. Cook (Houdans). Highly Commended, J. Taylor (Silver-spangled *Hamburgs*); S. Farrington (Black *Polands*); J. Morris, Bedford (Partridge *Cochins*).

EXTRA STOCK.—Extra Prize, J. Young, Astley (Silver-spangled *Hamburgs*). Highly Commended, W. Newell, Leigh (Rabbits).

DUCKS (Aylesbury).—First, E. Leech, Rochdale. Second, E. Shaw.

DUCKS (Rouen).—First, T. Wakefield, Golborne. Second, C. W. Brierley. Highly Commended, E. Leech. Commended, T. Barus, Abram.

DUCKS (Any other variety).—First and Second, C. W. Brierley (Garganeys and Ruddy Shell Ducks). Highly Commended, J. Kilshill (Wild Ducks).

GEESE OR GOSSLINGS (Any colour).—First, E. Leech. Second, H. Ratcliffe, Fearnhead Cross (Toulouse). Highly Commended, H. Nield, Worsley.

TURKEYS.—Prize, E. Leech.

The Judge was Edward Hewitt, Esq., Sparkbrook, Birmingham.

AYLESBURY POULTRY SHOW.

THIS Show was held September 22nd and 23rd, in the new market, certainly one of the best places we have met with for the purpose. As might be expected, the *Ducks* and *Geese* were in great force, and very remarkable as to quality. Mr. J. K. Fowler came out with great force in *Geese*, and well deserved the first prize which was awarded, and he was closely followed by Mr. Stott, and Mrs. Seamons. In *Aylesbury Ducks* Mrs. Seamons was first and second, and Mr. Fowler third.

The following is the list of awards:—

YOUNG BIRDS.

DORKINGS (Any variety).—First, J. Longland, Grendon, near Northampton. Second, J. S. Lowndes, Hartwell, Aylesbury (Silver-Grey). Third, J. Smith, Petworth. Highly Commended, D. C. Campbell, M.D. Brentwood (Coloured and White).

BRAHMAS (Any variety).—First, Mrs. Burrell, Stoke Park, Ipswich. Second, Lieut.-Col. Lane, Bracknell (Dark). Third, A. P. Hurt, Alderwasley, Derby. Commended, C. Layland, Morris Brook, near Warrington (Dark).

SPANISH.—First and Second, M. Farrand, Dalton, near Huddersfield. Third, W. R. Bull, Newport Pagnell.

COCHINS (Buff).—First, Hon. Mrs. Sugden, Wells. Second, J. N. Beasley, Northampton. Third, H. Logwood, Barking, Needham Market. Highly Commended, J. N. Beasley, Northampton; C. Sidgwick, Ryddlesden Hall, Keighley.

COCHINS (Partridge).—First and Third, B. S. Lowndes, Winslow. Second, J. K. Fowler, Aylesbury. Commended, Hon. Mrs. Sugden.

GAME (Black-breasted and other Reds).—First, H. Loe, Appuldramcombe, Isle of Wight. Second and Third, J. Fletcher, Stoneclough, near Manchester (Brown and Black Reds).

GAME (Any other colour).—First, J. Fletcher (Duckwings). Second and Third, S. Matthews, Stowmarket (Duckwings).

CREVE-CŒURS.—First, J. K. Fowler. Second, Col. Stuart Wortley, London. Third, Miss E. Williams, Henllys, Berwick.

FRENCH FOWLS (Any other variety).—First, F. B. Feald, Whicmoor, near Nottingham (Houdans). Second, J. K. Fowler (La Fleche). Third, H. M. Maynard, Holmewood, Isle of Wight (Houdans). Highly Commended, H. M. Maynard (Houdans); W. Barford, Aylesbury (Houdans).

HAMBURGS (Gold or Silver-pencilled).—First, S. Burn, Whitby (Gold). Second, H. Beldon, Goitstock. Third, F. Pittis, jun., Newport, Isle of Wight.

HAMBURGS (Gold or Silver-spangled).—First, H. Loe (Silver). Second, J. Laming, Cowhorn, Spalding (Gold). Third, T. Walker, jun. (Gold).

GAME BANTAMS.—First, Rev. G. Raynor, Toubridge (Black Red). Second, J. K. Fowler. Third, R. Swift, Southwell, Notts.

BANTAMS (Any other variety).—First, M. Leno, Dunstable (Laced). Second, H. Beldon. Third, U. Spary, Dunstable (Silver-laced). Commended, Miss Hales, Canterbury (White-footed); E. Terry, jun., Walton, Aylesbury; U. Spary (Gold-laced).

POLISH (Any variety).—First and Second, H. Beldon.

ANY OTHER DISTINCT VARIETY.—First, C. Sidgwick (Black Hamburgs). Second, T. Walker, jun. (Black Hamburgs). Third, J. K. Fowler (Japanese Silkie).

DUCKS.—First and Second, Mrs. Seamons, Aylesbury. Third, J. K. Fowler. Highly Commended, Mrs. Seamons; J. K. Fowler.

DUCKS (Rouen).—First, T. Hollis, Reading. Second, J. S. Lowndes.

Third, J. K. Fowler. Highly Commended, E. Leech, Rochdale; J. Stott, Rochdale. Commended, F. Parlett, Great Baddow, Chelmsford.

DUCKS (Any other variety).—First, C. N. Baker, London (Mandarin). Second, F. Pittis, jun (Black East Indian). Third, S. & R. Ashton, Mottram (Carolinias).

GEESE (Any variety).—First, J. K. Fowler. Second, J. Stott. Third, J. Denchfield, Bursdon, Aylesbury. Highly Commended, J. N. Beasley, Northampton (Curled Sebastool.)

TURKEYS (Any variety).—First, Lord Chesham, Latimers, Chesham. Second, E. Leech. Third, G. R. Pearson, Coltersworth (Cambridge).

PHEASANTS (Any variety).—First, J. K. Fowler (Kalego). Second, B. S. Lowndes (Gold). Third, M. Leno (Gold). Highly Commended, H. Jones, The Pheasantry, Dinton. Bucks (Chinese); J. K. Fowler (Silver). Commended, J. K. Fowler (Gold).

DUCKS (Aylesbury).—Special Prize, a Silver Cup, presented by Lady A. de Rothschild, G. Maycock, Duddershall. Highly Commended, W. Weston, Aylesbury; G. Maycock; W. Weston. Commended, J. Haynes, Walton, Aylesbury.

The Judges were Mr. W. B. Jeffries, Ipswich, and Mr. G. S. Sainsbury, Devizes.

WATERFORD FARMING SOCIETY'S POULTRY SHOW.

The following awards were made at this Show, held on the 17th of September.

SPANISH.—First, S. Mowbray. Second, Sir R. J. Paul.
 COCHIN-CHINAS.—First, Sir R. J. Paul. Second, C. Newport Bolton.
 DORINGS.—First, Sir R. J. Paul. Second, S. Mowbray.
 HAMBURGS.—First and Second, S. Mowbray.
 DUCKS (Aylesbury).—First, S. Mowbray. Second, C. Newport Bolton.
 DUCKS (Rouen).—First, C. Newport Bolton. Second, S. Mowbray.
 GEESE.—First, P. Anderson. Second, S. Mowbray.
 COLLECTION OF POULTRY.—Medal, S. Mowbray.
 FANCY CHICKENS.—First, W. Joyce. Second, Sir R. J. Paul.

CHESHIRE AGRICULTURAL SOCIETY'S POULTRY SHOW.

This was held at Crewe on the 23rd of September, when the following awards were made:—

DORINGS.—Prize, Earl Grosvenor, M.P., Calveley Hall.
 SPANISH (Black).—First, J. Siddons, Winsford. Second, W. Wolley, Bunbury. Highly Commended, J. Dean, Wharton, Winsford.
 GAME (Black-breasted Red).—First, R. Ashley, Nantwich. Second, J. Platt, Swaulow, Winsford.
 GAME (Any colour).—First, T. Whittingham, Batherton. Second, R. Ashley. Highly Commended, J. Platt; T. Whittingham.
 HAMBURGS (Gold or Silver-spangled).—Prize, Mrs. Flynn, Harding's Wood.
 HAMBURGS (Gold or Silver-pencilled).—Prize, W. Speakman, Doddington.
 COCHIN-CHINA (Cinnamon or Buff).—First, T. Green. Second, P. Johnson, Rushton.
 COCHIN-CHINA (Any colour).—First and Second, E. Tudman, Whitchurch.
 BRAHMA POOTRA.—First, C. Leyland, Grappenhall. Second, J. Little, Chester. Highly Commended, B. Etches, Woodhouses.
 DUCKLINGS (Aylesbury).—First, T. Rigby, Darnhall. Second, J. Platt.
 DUCKLINGS (Rouen).—First, J. Beckett, Prior's Heys, Tarvin. Second, S. Allen, Acton Station.
 TURKEYS.—First and Second, J. Bolt, Oulton.
 GEESE.—First, T. Rigby, Darnhall. Second, C. T. Dean. Highly Commended, W. Glassford, Lostock Gralam.
 JUDGES.—Mr. R. Teehay, Fulwood, and Mr. W. Wooley, Bunbury.

ALTRINCHAM POULTRY SHOW.

This was held on the 24th of September, and was well attended both by exhibitors and visitors. The following is a list of the awards:—

SPANISH (Black).—First, W. A. Taylor, Manchester. Second, T. & E. Comber, Warrington. *Chickens*.—First and Second, W. A. Taylor.
 GAME (Black or other Reds).—First, L. Bacey, Manchester. Second, R. Hardwick, Church Bank, Bowdon. *Chickens*.—First and Second, J. Platt, Swaulow, Winsford.
 GAME (Grey or other Blues).—Prize, P. Norbury, Bowdon. *Chickens*.—First, P. Norbury. Second, J. Davies, Washway, Sale.
 DORING (Any colour).—First, E. Shaw, Plas Wilnot, near Oswestry. Second, C. H. Brierley, Middleton. *Chickens*.—First, E. Shaw. Second, A. B. Bailey, Wilmslow.
 COCHIN-CHINA (Cinnamon or Buff).—First, W. A. Taylor. Second, J. Sichel, Timperley. *Chickens*.—First and Second, W. A. Taylor.
 COCHIN-CHINA (Partridge or White).—First, C. W. Brierley. Second, J. A. Turner. *Chickens*.—First, J. A. Taylor. Second, G. Smith, Millington, near Altrincham.
 BRAHMA POOTRA.—First, E. Leech, Rochdale. Second, J. Sichel. *Chickens*.—First and Extra, J. Sichel. Second, C. Leyland, Grappenhall.
 HAMBURGH (Golden or Silver-spangled).—First, J. A. Taylor. Second, A. Cowburn, Broom Edge, Lynton.
 HAMBURGH (Golden or Silver-pencilled).—First, T. Wrigley, jun., Tonge. Second, J. Parr, Barton-en-Irwell.
 GAME BANTAM (Black or other Reds).—First, H. Goulden, Bowdon. Second, J. T. Smith, Altrincham. *Chickens*.—First and Second, P. Norbury, Bowdon.
 GAME BANTAM (Grey or other Blues).—First, L. Biney. Second, P. Norbury. *Chickens*.—First, L. Biney. Second, H. Richardson, Altrincham.
 BANTAM (Any variety).—First, S. & R. Ashton, Mottram. Second, W. A. Taylor.
 ANY DISTINCT BREED NOT NAMED IN THE SCHEDULE.—First, T. & E. Comber, Warrington. Second, J. Sichel. Extra, N. Parr.
 GAME COCK.—Cup, P. Norbury.
 GAME BANTAM COCK.—Cup, J. Whitehead, Carrington, near Altrincham.
 TURKEYS.—First, E. Leech. Second, J. Sichel.

GEESE (White).—First, E. Leech. Second, S. H. Stott, Rochdale.
 GEESE (Grey).—First, E. Leech. Second, M. Newton, Oldfield, Altrincham.

DUCKS (Aylesbury).—First, E. Leech. Second, M. Hornby, Swanlow, Winsford.

DUCKS (Rouen).—First, E. Leech. Second, C. W. Brierley, Rhodes House, Middleton.

RANNETS.—First, C. Davis, Ashton-en-Mersey. Second, A. C. Sparkes, Oldfield, near Altrincham. *Short Ear*.—First, R. Buxton, Altrincham. Second, H. Schloss, Dunham Massey.

JUDGES.—Mr. R. Teehay, Fulwood; and Mr. T. Burgess, Burley Dam, Cheshire.

RAISING LIGURIAN BEES.

I HAVE a Ligurian queen sent from Switzerland this summer, but have only about one hundred Ligurian bees. I am very anxious to procure enough of the latter to form a hive which will be strong enough to live through the winter. Will any of your correspondents be so kind as to send me some Ligurian bees without a queen, so that I may join them to those I have? I will send a post-office order for the price of the bees.—I. M. W.

[Even if you are able to obtain Ligurian workers we doubt whether your chance of success with them will be much if at all greater than with common bees. The latter would, of course, be readily procurable at a time when so many are daily consigned to the brimstone-pit, and would answer every purpose, as an entire change in the population takes place in the spring. The most certain plan, however, would be to obtain a stock of black bees in a moveable-comb hive, and effect an exchange of queens in the manner and with the precautions described by Mr. Woodbury in No. 336 of our new series.]

AUTUMNAL UNIONS.

WHEN the most profitable way of managing bees is well and widely understood, the brimstone rag will be seldom used. The general use of it now indicates ignorance, not inhumanity. The great bulk of our English bee-keepers have yet to be informed as to the value of swarms in autumn—that is, the bees in the hives marked for honey. Hence their destruction by brimstone. If their value were better known, the art of uniting them to stock hives would be studied and practised.

A few words on the value of surplus bees in autumn. A stock hive of moderate size, weighing 30 lbs. or 40 lbs. in September, is worth 21s. If an extra swarm be united to it, say, 20,000 bees, its value would be 26s. at least. Thus stored with bees it is able to do heavy duty on the early blossoms of fruit trees, which yield honey of the finest quality in great abundance. Hives thus assisted with additional bees are, generally speaking, ready for swarming three weeks earlier than they would be without such assistance in ordinary seasons. Of course, some summers are more favourable for breeding bees, and less destructive to their lives than others. In such seasons extra swarms in autumn are less valuable, but I have no hesitation in saying that it is a stroke of good policy to unite them to stock hives in September. I have taken all the honey from twenty hives this month, the bees of which I have united to twenty-eight others kept for stock. If I had twenty more spare swarms I would unite them to the same twenty-eight hives. Hives in this part of the country are unusually weak in numbers, and, doubtless, many of them will, if they survive the winter, be comparatively weak and worthless next spring.

The art of uniting swarms is a very simple but important affair. It is easily taught and much more easily performed. Given a swarm in an empty hive, and a stock hive to receive it, both standing together:—About sunset blow some smoke from old fustian or corduroy rags into the stock hive, then turn it up and place its crown on the board, or ground. Pour some syrup—that is, sugar and water highly flavoured with mint, over the combs and bees. Then turn up the hive containing the swarm, give it a violent blow with both hands to make all the bees lose their foothold and roll in a helpless mass into the crown of the hive, and then in a moment tumble the whole swarm into the stock hive (on the top of its bees and combs), put it on its board, and the work is done. All this can be done in less than a minute, and if done as described above there will be no fighting and no failure. A thousand swarms may be so united without the destruction of a single bee. Bees know each other by smell, they know and attack strange bees by smell. When two swarms are brought together and married by minted sugar, the peculiar smell of each swarm and bee is lost or swamped, and a friendship lasting as life is cemented.

Sunset is the time recommended for the uniting of swarms for many reasons, the best being that other bees are at home, and, therefore, not attracted by the smell of the syrup.

In winter or very cold weather the work of uniting bees is best done by candlelight in a room or barn. The chilling of some to death is thus avoided. In this communication my business is not to tell people how to drive swarms into empty hives; but, a gentleman came to me this week to say, that he had been severely tasked for half a day to drive a swarm; the bees would not run, and it was a terrible job. I said if he had poured half a pound of sugar and water over the bees fifteen minutes before he began to drive them, they would all have run up in twenty minutes. He said, "That is another wrinkle," and he was thankful for it.—A. PETTIGREW, *Rusholme, near Manchester.*

HONEY HARVEST IN HAMPSHIRE.

WE have had a very fair honey harvest in our neighbourhood this season, as you will see by the annexed statement. You will observe the early part of the summer was very much more productive of honey than the latter.

From one of my hives I took 52 lbs., from another, 26 lbs., and a swarm which yielded 17 lbs. Both these hives, and the next two, described as A and D, belonging to my brother, Mr. F. Crowley, are Gale's hives.

A			D		
	No. of drawers.	Net honey.		No. of Drawers.	Net Weight.
June 11.	2	7 lbs.	June 1.	1	4 lbs.
" 15.	2	7½ "	" 3.	1	5½ "
" 23.	1	4 "	" 4.	1	3½ "
" 24.	1	4 "	" 8.	2	7 "
July 21.	1	4 "	" 11.	1	4½ "
" 23.	1	4 "	" 12.	1	3½ "
" 25.	1	3 "	" 15.	3	12 "
Aug. 25.	2	7 "	" 20.	1	4 "
" 29.	2	1½ "	" 24.	1	4 "
			" 29.	1	3½ "
			July 13.	1	3½ "
			" 17.	1	3½ "
			" 25.	1	3½ "
			Aug. 29.	3	5 "
	Total....	41		Total....	64½ "

From another, a this-year's swarm, 14½ lbs., and plenty left for the stock.

Mr. Alfred Crowley, of Croydon, also took from one of Gale's hives over 40 lbs.—PHILIP CROWLEY, *Culverton House, Alton.*

FEEDING BEES.

EARLY in the spring I purchased a stock of Ligurian bees, but they have not swarmed; and as they killed off all the drones some time since, I quite expect there will be no attempt at swarming until next year. Fearing that the bees had not a sufficient quantity of honey laid up for winter consumption, I endeavoured to feed them with syrup made from white lump sugar, from the top of the hive (a moveable bar-frame one), by means of an inverted wide-mouthed bottle; but as it appeared to me that only a very few bees at a time could gain access to the syrup, I had made a zinc tray with a circular opening through the centre to correspond with that in the top of the hive, through which the bees might pass from the latter on to the tray. Into the tray I poured syrup, and on the syrup I placed a thin deal board (perforated with small holes, which were made with a red hot wire), so that the bees might walk over the board and feed without smearing themselves with the syrup. The tray of syrup when placed on the hive I covered with an empty hive. After doing all this I found they fed freely, and in large numbers, but unfortunately, on subsequently examining them, I found them between the sides of the tray and the covering hive, dead in hundreds. Can you inform me where I am at fault?—TYRO.

[There is no bee-feeder at all equal to the inverted bottle when properly managed, and yours must have been greatly mis-managed if only a few bees at a time could gain access to the syrup in a wide-mouthed bottle. We find the great stumbling-block in the way of the efficient use of the bottle to be a very prevalent but utterly mistaken idea, that it is necessary to take extraordinary precautions in order to prevent the food from flowing into the hive. Acting under this delusion the syrup is often boiled to too thick a consistence, but more often the bottle-mouth is covered either with muslin, or even calico of so close a texture that its pores become clogged with food,

and it thereupon speedily assumes a concave shape, which, when a piece of perforated zinc is interposed, withdraws almost its entire surface quite beyond the reach of the craving little tongues, the owners of which may be supposed to experience some of the unenviable sensations of Tantalus, as they protrude through the zinc, stretching and straining themselves in the vain attempt to appropriate the coveted food. It should be remembered that as a covering for the mouth of a feeding-bottle no fabric should be employed the meshes of which are less than a sixteenth of an inch in diameter, and if it be doubted whether under such circumstances food may not flow down into the hive, let the experiment be made with pure water in the open air, when it will be found that after the first rush caused by the bottle's inversion even water will remain perfectly suspended.

The mortality which followed the use of your float-feeder was not owing either to the zinc or the carbonised wood, but probably arose from the sinking of the float, an accident of no unfrequent occurrence.]

OUR LETTER BOX.

COST OF FEEDING POULTRY (A Beginner).—Your old stock—your breeding birds—appear to be seventeen in number. They should cost at the outside 4s. 3d. per week to keep. If they have any advantage of food or run they should cost less. When for an adult you allow 3d. per head per week, you have allowed a sum that is reached only by Cochins. They are large eaters. Your present stock of poultry amounts to 92. The expenses for two months are 96s.—4s. only over the average of 1s. per head for eight weeks—three-halfpence per week. At this rate each fowl will cost 6s. 6d. annually—that is, each breeding bird. You have not chickens enough for the number of hens you keep. Your eggs should return 1d. each. It is throwing away money to keep Spanish fowls to lay large eggs to be sold sixteen for a shilling. Ducks are more expensive than chickens, and they are wasters. Your eggs at 1d. should make 27 15s. This would make the produce £16 10s., and would, even against your expenses, show a profit. Try furly the diminution of the food, or bring the fowls to the allowance we have named.

FOWLS PLUCKING EACH OTHER (P. Q.).—Are your fowls in confinement? We should imagine they are. What is their breed? We fancy they are Spanish. We have some that are in the state of nudity you describe, especially the cocks. They remain quite contentedly while the hens eat their feathers. We can only prevent it by giving them their liberty. The only treatment is cooling food. If they are watched narrowly it will generally be found it is one bird only that takes to the habit. He or she should be removed directly. The birds should be plentifully supplied with fresh earth, and growing grass if they have it not. They eat the feathers because they are in a diseased state of body, and feathers approach nearer than anything else to that which they crave for. It is consequently wisdom to make the greatest change possible in their food and treatment.

MARKINGS OF BRAHMA POOTRAS (J. G. P.).—Light pencilling is, as a rule, preferred, provided it be regular and free from white and yellow. The cocks should have either black or black and white-spotted breasts, light hackle and saddle, and black tails.

POINTS OF CRÈVE-CŒURS (N. E. R.).—We believe Judges are agreed as to the points of Crève-Cœurs. They should be top-knotted, bearded, short-legged, square-bodied, and as black as possible. Weight and size are very important. Pullets seldom have white feathers in the top-knots, hens often do. Light and yellow feathers in cockerels do not disqualify. Red ones do. The Black birds will always be preferred.

SPANISH COCK (B. R.).—The loss of one eye from the incurable swelled face to which Spanish fowls are subject, does not render him in the least less servicable for breeding purposes.

NORTHALLERTON POULTRY SHOW.—Mr. John White, of Warlahy, informs us that both first and second prizes for Dorkings were awarded to himself, and not to Mr. O. A. Young.

WOLVERHAMPTON POULTRY SHOW.—The date for closing the entries at this Show has been altered to Monday, October 5th.

POULTRY HOUSE (A Subscriber, Quedgeley).—If you enclose seven postage stamps with your address, and order "Poultry-keeping for the Many," it will be sent to you post free from our office. It contains a plan and description of the house you need.

CAPONISING TURKEYS (An Irish Subscriber).—We never heard of the barbarous and totally needless practice being applied to Turkeys, and we cannot give any information on the subject.

DEAD PIGEON (L. W.).—We cannot undertake to dissect Pigeons; but from the general appearance of the bird we think it died of roup, on which so much was published by us in our last volume. You will find a recipe for its cure in No. 356.

A PAIR OF PIGEONS (A Fancier).—Beyond any doubt by "a pair" is intended a cock and hen, and whoever wins a prize with two cocks or two hens has committed a fraud. We have a letter on the subject from Mr. Fulton detailing the times he has been thus defeated; but we cannot publish his letter.

BEES IN A WALL—MOVING HIVES TO A SHED (W. E.).—Part of the wall should be cut away, so as to get at the combs, which, with the bees, should be put into a frame hive in the manner indicated in reply to D. Williams, in page 218. We do not consider it advisable to remove bees from their stands in order to place them in a shed during winter.

TAYLOR'S AMATEUR'S BAR HIVE (Northampton).—Write to any of the advertisers of hives in our Journal, Messrs. Sutton, of Reading, and Messrs. Lawson & Son, of 23, Budge Row, Cannon Street, London, sell the *Mellotus leucantha* seed.

AQUARIUM TROUBLES (T. O. J.).—We never knew gold fish eat the *Valisneria spiralis*. If they do, the only remedy is to place the plants at one end with a wire net before them. The film on the fish is often caused by the water being too cold. Drift sand should cover the bottom of the aquarium. We never employed snails as scavengers.

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 8-14, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
8	TH		61.8	42.4	52.1	21	15 af 6	19 af 5	55 af 9	23	12 34	282	
9	F		60.8	42.6	51.7	23	17 6	17 5	58 10	54 af 1	(	12 50	283
10	S	Royal Horticultural Society, Promenade.	61.7	44.0	52.9	24	13 6	15 5	morn.	49 2	24	13 5	284
11	SUN	18 SUNDAY AFTER TRINITY.	61.9	42.7	52.3	21	20 6	13 5	9 0	19 3	25	13 21	285
12	M		59.2	41.7	50.4	22	21 6	10 5	25 1	53 3	26	13 35	286
13	TU		60.8	42.0	51.4	21	23 6	8 5	45 2	23 4	27	13 49	287
14	W	Meeting of Royal Microscopical Society.	60.0	40.6	50.3	19	25 6	6 5	4 4	53 4	23	14 3	288

From observations taken near London during the last forty-one years, the average day temperature of the week is 60.7°; and its night temperature 42.3°. The greatest heat was 80°, on the 14th, 1861; and the lowest cold 25°, on the 11th, 1860. The greatest fall of rain was 1.00 inch.

THE POTATO CROP—SAVING SEED.



At this time of the year, in ordinary seasons, the Potato crop, in the districts where it is largely cultivated, is naturally matured and ready for lifting and storing; this season, on the contrary, we find the crop in the full luxuriance of growth usual in the months of June and July. These remarks are applicable to the north-eastern counties, especially Lincolnshire, where the soil is suitable for producing Potatoes celebrated for their high quality. This extraordinary and unusual luxuriance is traceable to the long-continued drought during May, June, July, and the greater part of August. The crop was deprived of the essentials to its natural growth and increase. Its energies in this respect were arrested, and the ripening of the tubers already formed was accelerated, and in a great measure completed prematurely. The size of the tubers at this stage varied with varieties; none, however, except the earliest section, gave anything but a miserable yield. There was, therefore, no alternative but to leave them to linger on, and wait for the rain to carry them forward.

Towards the end of August the rain came, and vegetation at once burst forth with a vigour unprecedented in our temperate climate. The withered tops of the Potatoes raised their heads, and entered on the race as if to recover the time they had lost. It was too late, the Potatoes being already partially matured. Their next effort was to perpetuate their kind, and this brings them to the extraordinary state in which we now find them—extraordinary only inasmuch as the time and manner of their increase is unusual.

Different kinds of Potatoes present different aspects. I will divide the crop into three types, selecting them from kinds which are most extensively cultivated—namely, the Regent, the Irish or Rocks, and the Fluke. Of the many varieties grown most have something in common with those named, and they will thus afford sufficient data.

Fine cliff land in Lincolnshire, within sound of "Great Tom," was the principal place of examination.

The Regents being the earliest of the three, their tubers were larger than those of the other varieties when overtaken by the drought. They had swelled well after the rain, and on examination were found to be comparatively fair though by no means a full crop; the second crop, or supertubers which had sprung from these, were numerous, the largest being nearly of the size of Walnuts, and they were in rapid growth. What is to be done with the crop? Verdict: Take it up at once to secure quality, which will more than compensate for the increase in bulk produced by the swelling of the supertubers, and just in proportion to the length of time these are allowed to remain attached, just so will the crop proper deteriorate in quality. "But they must be stored in quantity, and their skins are not fast, will they not heat?" To avoid this contingency, adopt the plan of the Hon. A. Leslie Melville, a gentleman who for many years has given much attention to the Potato. His plan is this—For many days previous

to taking up his crops, if the skins are not fast he cuts off the tops. This simply stops growth, and the skins immediately begin to become firm. In ten days, or even less, they are in good condition for storing, and they must not remain much longer than this time, or they will commence growing again. Mr. Melville has adopted the plan this year with much success.

The Irish, or Rocks, are, perhaps, more extensively cultivated in Lincolnshire and the adjacent counties than any other variety. They were considerably smaller than the Regents when overtaken by the drought. Immediately after the rain they commenced the rapid production of supertubers. The first crop of tubers has materially increased in bulk, but not in the same ratio as its progeny. The two crops are now about equal in bulk. In this case I think it would be wise to make quality subservient to quantity of produce; therefore, instead of cutting off the tops or taking them up, I would leave them in the ground until the last moment of the growing season to increase bulk. The gross weight will increase much in a fortnight or three weeks, as they are now swelling more rapidly than at any previous period of their growth. Neither will the sacrifice of quality be great, for at their present size, even if properly matured, the sample would be very inferior.

The above remarks will apply also to Flukes, the second crop, or supertubers, of these being much larger in bulk than the first, or crop proper. On every account, then, it is advisable to let them remain in the ground to increase in size and weight. In quality for cooking purposes they must be inferior, but the second crop will be fine seed for next season's planting. The crop proper of this variety in many pieces which I have seen I pronounced worthless as seed; the energies of the tubers are already exhausted.

The question of seed generally is worthy of consideration. I have carefully examined many specimens from the crop proper. In many instances every eye had sprung, and produced one or several subtubers; in others, the finest and the best eyes only had sprung. Now, what more natural than that quantities of the crop proper should be put aside for seed as heretofore, and what more natural than the result of such seed should be disappointing? I have no doubt but that some of the tubers which have sprung their eyes will push forth collateral tubers, but the growth of these will be weak, and totally inadequate to insure a good yield. Some, indeed, will produce no top at all if planted, but will form a cluster of progeny which will merely subsist for a time on the scanty juices of the parent tuber. These results I have proved by actual experiment. It is, therefore, necessary that the tubers of the crop proper which are saved from seed should be carefully examined as to whether their eyes have not already pushed, and are thus in a partially exhausted state. I foresee a certain danger in this respect, and yet it is not a danger of necessity. Safety and certainty consist in selecting Potatoes from the supertubers, or second crop. These, where large enough, will, if ordinary care is exercised in storing, make fine seed.

There is an idea which is very general—namely, that

the second crop of tubers from which the skins slip when handled, will not keep and answer the purpose of seed, and it is consigned to the pigs accordingly. Nothing can be more fallacious than this notion. I have proved year by year for ten years consecutively, that Potatoes taken up in an unripe state to the extent of their skins slipping off with the slightest touch will, if carefully managed, produce crops in all respects fully equal—indeed, I am quite safe in going a step further and saying slightly superior, to the crops produced by seed which had been left in the ground to fully ripen before being taken up. On this point I am glad to see the experience of “UPWARDS ANN ONWARDS” so entirely in consonance with my own.—J. W.

CAUSE OF FLAVOUR IN FRUIT.

A VERY short article in your number of September 24th, on the cause of colour and flavour in fruit, is so interesting that I wish to be allowed to make a few remarks on the subject, especially as it is in reference to a letter of mine upon “the orchard-house railway” in the previous week’s number.

Your correspondent “G. S.” attributes the superior flavour of fruit having the advantage of being placed quite in the open air, under favourable circumstances, to the non-permeability of glass to certain rays of the sun. It has been demonstrated that the sun emits three distinct rays—the actinic (or chemical, as “G. S.” clearly explains them), the luminous, and the calorific or heating rays. All these are employed during the whole growth of a plant in bringing it to perfection; though it is generally supposed that the actinic ray is most active in spring and upon the early-developed plant, the luminous in summer, during its period of growth, and the heating ray in the autumn, at the ripening period. Thus Nature economises her forces, and brings them to bear at the period they are most needed to perfect the works of her hand. It would be very interesting if “G. S.” would give us further information on this subject; for the time has come when we cannot long hope to carry out our schemes (in fruit-growing more than in other matters) by guesswork, but that they must be able to stand the test of science, and a clear reason be given for the *pros* and the *contras* of our operations.

I have no doubt whatever but that the intervention of glass does affect the actinic rays. Dr. Brewster, in the “Philosophical Transactions,” so long ago as 1816 (page 106), goes so far as to say that bodies will not radiate their heat through glass, and ascribes all the effects which are supposed to have been thus obtained to a secondary radiation from the glass, which becomes heated by the reception of the rays issuing from the primary source; at all events, it is not improbable that glass checks radiation as much as an opaque substance of equal thickness with the glass. This brings me to the question I wish more particularly to lay before your readers. Hitherto I have done little more than reiterate what has been stated by “G. S.”

The question of radiation at night and its influence on the growth and development of fruit, is not sufficiently recognised. The gardener goes to bed at night under the full impression (and he is right to a certain extent), that his plants are at rest also, or ought to be, and so dismisses them from his mind until the morning. But nothing is ever perfectly still in nature; a constant reaction is going on between day and night. In the day the luminous rays of the sun aid the leaves to decompose the carbonic acid gas in the air, which is absorbed by the trees, and takes the place of the oxygen gas they evolve; at night oxygen is absorbed, and carbonic acid to a certain extent given out. The radiation which takes place where trees have the full benefit of the open air at night, but not otherwise, greatly facilitates these natural operations, and tends to keep the trees in a healthy state. In the animal economy, which is only a higher development of the vegetable, we fully recognise the necessity of rest undisturbed, and of offering no check to the excretions, forming as they do as important an element of health as the secretions. We cannot, therefore, interfere with this radiation without materially affecting the natural functions of the tree. Experience, independently of science, tells us what a subtle agent it is in the growth of plants. A narrow coping, for instance, on the top of a wall is sometimes quite sufficient protection to save the early blossoms on our trees by arresting the radiation. Is it not fair to infer that the same coping will influence the ripening of the fruit in summer from the same cause? How much more the covering of a whole roof?

It may be said that the latter remarks involve a contradic-

tion in stating the valuable services rendered to the trees by night air and radiation, and in the next sentence recognising the necessity of interfering with them; but we must not lose sight of the fact that our subject has reference to Peach trees, &c., which are in an abnormal state in our climate. The object, therefore, should be to meet this difficulty by protection in spring and increased heat in summer when required, and at the same time to interfere as little as possible with the natural functions of the tree. As may be supposed, we find by experience that the more carefully this is attended to the finer will be the fruit in size and flavour, and the more luxuriant the foliage of the trees. Now, I venture to say that the “orchard-house railway,” as an assistant to the orchard house itself, is by far the best means to this end that has yet been brought forward. The labour it involves is so slight that every change of atmosphere, whether for retarding or advancing the growth of the fruit, may be taken advantage of all through the year without the slightest inconvenience; and under the guidance of a clever gardener such results may be produced as will fully satisfy him. The advantage of removing lights overhead have long been recognised by our best gardeners; but the advantages it offers are very inferior to the railway system, for these reasons—it interferences with the Grapes, which can now be grown in the orchard house without injury to the trees, but which require less ventilation and more heat than fruit trees; a roof fitted with moveable sashes would cost more money than the railway; the trouble of moving them would be infinitely greater; and when done the effect upon the trees would by no means be equal to the advantages of the free circulation of the air all round.

I have already trespassed too much upon your space, but hope to be allowed on a future occasion to give the result of some experiments I am making upon radiation, as immediately connected with the roots of fruit trees.—J. F., *Southacre Rectory, Brandon.*

THE IMPROVERS OF THE HOLLYHOCK.

MUCH has been written in your pages in reference to the improvement of the Hollyhock. England seems to take all the credit to herself, forgetting to introduce her canny neighbour, the Scot.

Better Hollyhocks were to be found in Scotland before either Mr. Chater or Mr. Paul were known as growers of that flower.

I hope some of our old Scotch growers, such as Mr. Foulis, of Fordel, Mr. Porr, and Mr. Foulis, of Woodhouselee, who exhibited and competed for prizes more than thirty years ago, will favour the readers of your paper with the history of their earliest productions.—D. G. M.

DARKENING THE COLOURS OF FLOWERS.

E. KING, *Spitalfields*, wishes for information upon “darkening flowers, the most suitable soil for Dahlias, also the best seed of Dahlias for producing a blue or black variety.” This vision of a blue Dahlia is one that has haunted a certain class of florists for a very long time. Such a flower would most certainly be a great acquisition, and the wish to possess one of that colour is rendered all the stronger by the almost utter improbability of its ever being gratified.

The colours of flowers have been divided by De Candolle into two great classes, those having for their type yellow, which passes into red and white, but never into blue, and those having for their type blue, which passes also into red and white, but never into yellow. This first series he calls xanthic, the last cyanic, and of these Lindley has given the following analysis:—

Cyanic.	{	Greenish blue	}	Yellowish green	Xanthic.
		Blue		Yellow	
		Violet blue		Orange yellow	
		Violet		Orange	
		Violet red		Orange red	
		Red			

Of this classification a certain writer says, “It is found that a yellow flower may assume the colours of the xanthic series, but never become blue, and *vice versa*; and this rule applies to many genera. It is not, however, universal, as genera are occasionally found having both yellow and blue flowers, as *Tropeolum* and *Hyacinthus*.” The Dahlia belongs to the yellow division, and it is very doubtful if ever it will prove another exception to this all but general rule.

With regard to a black variety, that is a colour which, with two or three dubious exceptions, is all but unknown among flowers, nor would it be appreciated in a Dahlia otherwise than

as a curiosity, and some of the varieties we have are of a purple closely verging upon black.

If "E. K." wishes to raise new dark varieties from seed, it should be saved from the best dark sorts producing seed, which not one really good bloom out of twenty ever does. Sow the seed in heat about the end of March, and when the seedlings have two leaves place them singly in small pots, shifting into larger as required, and plant out in May in a border not very heavily manured, where they will flower during August and September. It is, however, only the grower of hundreds of seedlings who has the shadow of a chance of obtaining improved varieties, so that "E. King" would do well not to expect any very great success, unless he be prepared to make the attempt upon a somewhat large scale. For information as to the crossing, propagation, and general culture of the Dahlia see Vol. 1. of Johnson's "Gardener," and for lists of new sorts the catalogues of the leading florists.—*AYRSHIRE GARDENER.*

SOME ORCHARD-HOUSE TREES.

In a short article on growing Peaches and Nectarines in pots, I last year recommended the system of removing the trees out of doors during the winter, and incurred the censures of both Mr. Rivers and Mr. Pearson for so doing. The trees were wintered out of doors last year, at least they remained outside until the last week in January, and I cannot observe any difference either in their health or free-bearing qualities, and the fruit has been finer than I ever had it before.

My principal reason for removing the trees is that the orchard house may be kept gay with flowering plants, chiefly Chrysanthemums, during October, November, and December. The trees are all repotted or top-dressed now, and will be turned out of doors directly. The fruit ripened fully three weeks earlier this year than it has ever yet done at this place, and it has been larger. The different varieties of Orange Nectarines were especially fine, and Murrey Nectarine, which is not generally of large size, was 8½ inches in circumference. The earliest Nectarine is still Hunt's Tawny, which ripened on the 5th of August; fruit of Balgovan was gathered on the same day. This is an early variety, in every respect excellent, and worthy of extensive cultivation. Bowden a large variety, but which seldom colour well, and unless they do so Nectarines are not attractive, ripened on the 10th. Pine Apple and Elruge were ripe on the 11th; Violette Hâtive and Hardwicke Seedling came in on the 13th. The last to ripen, about the end of August, were Rivers's Victoria and Prince of Wales; both have a tendency to crack with me. I have a plant of the last-named variety in a 13-inch pot which carried three dozen fruits, and fully two thirds of them were cracked, some of them very badly. I do not grow the Stanwick, but I am unwilling to discard Prince of Wales, as it is of excellent flavour and very productive. I have been advised to withhold syringing after the fruit is stoned as a preventive.

A few weeks ago I saw a system pursued to prevent the Stanwick from cracking, which seemed to be very successful. Being on a visit at Balbirnie Gardens, near Markinch, in Fife, I observed a very fine crop just on the point of ripening. I inquired of Mr. Temple, the gardener at that place, the means which he employed to obtain such fine fruit, when he drew my attention to a notch cut under each of the fruit about half through the wood. By this method the flow of sap is arrested, and the fruit ripens perfectly without cracking. Mr. Temple also informed me that he prevents the cracking of the fruit in Chasselas Musqué Grape by the same simple method.

As to Peaches, the earliest to ripen this year was Early Beatrice, which ripened on the 2nd of July. The plant I received from Mr. Rivers was very small, but ripened perfectly two fruit, which were of good flavour. Early Rivers did not bear any fruit, but I hope to prove both sorts fully next year. Early York was the next to ripen, on the 16th; this sort is always to be depended upon, the fruit is excellent, and it always bears a good crop. Early Grosse Mignonne has been very fine, one would therefore suppose that it requires a considerable amount of sun to ripen it well; this ripened on the 25th of July. Dr. Hogg came in on the 2nd of August, and promises well; Royal George came in on the 5th, Bellegarde on the 13th, Violette Hâtive on the 17th. At the same time ripened Golden Rathripe, beautiful in colour, but worthless as regards flavour. Exquisite ripened on the 25th, a large, yellow-fleshed variety of excellent flavour. It was closely succeeded by Prince of Wales, of which I have not yet formed a very favourable opinion. Princess of

Wales and Walburton Admirable ripened on the 31st of August; both are excellent. The first two fruits of the last-named weighed together 19 ozs. After an interval of four weeks Salway ripens. Can no one recommend good Peaches to fill up the gap?—*J. DOUGLAS.*

MR. YATES'S NURSERIES, SALE MOOR, MANCHESTER.

AMONGST the sights I saw worth recording during my late visit to Manchester were the magnificent *Calanthes*, the large masses of *Cœlogyne cristata*, and the *Eucharis amazonica*. No such plants in equal health and quantity can be found in any other establishment in the country. Whilst looking at the above plants in such luxuriant growth, one might almost imagine that, after walking with considerable difficulty through an East Indian jungle, he had suddenly stopped to admire large masses of bright green foliage growing out of what he might for the moment suppose to be heaps or clusters of large goose eggs, so large and bright are the pseudo-bulbs. Leaving this magnificent display of *Calanthe vestita*, we might fancy ourselves transported to the banks of the Amazon, where large masses of white flowers invite inspection, and on approaching them we find they are those of the beautiful *Eucharis amazonica*. A slight stretch of fancy takes us to Nepal, where we see masses of clear white flowers, with yellow or orange centres, resting gracefully on carpets of vernal green; these are the beautiful *Cœlogyne cristata*. The above and a thousand other gems shine out conspicuously, surrounded as they are by natural objects in their wildest state of luxuriance, for there is no pretension to any elaborate system of horticulture. Here all the plants are grown as naturally as possible, and for the sake of the flowers they produce.

On the evening of the 28th of August, after a busy morning's work at the Manchester Exhibition, I found myself at Sale Moor, in company with several eminent horticulturists, who had been, like myself, invited by Mr. R. S. Yates to see his establishment. The evening, however, was fast closing in when we arrived, so that there was only time to note mentally a few of the objects; and I must say I was almost selfish enough to wish my friends, though I respect them very highly, were enjoying a treat somewhere else, so anxious was I to be alone, note-book in hand, with the view of furnishing the readers of THE JOURNAL OF HORTICULTURE with the mode of cultivating many of the plants so skilfully grown by Mr. Yates and his clever gardener, Mr. Plant. I was, however, enabled to gather the following from Mr. Plant respecting his mode of treating *Calanthe vestita* and *Cœlogyne cristata*. This may be taken as a safe and reliable way of cultivating these beautiful plants, for on visiting Mr. Yates on one or two occasions while at Oulton Park, I was furnished not only with the mode of treating them, but also with a fine stock of plants.

The *Calanthe* is usually grown in pots well drained, in a mixture of peat, charcoal, and cow dung in lumps. This compost, Mr. Plant finds, does not suit them so well as a good, strong, rich loam and well-dried cow dung mixed. We will commence their treatment in April, after the plants have had their season of rest and are ready for the next year's growth. The first proceeding is to procure the soil for them. This should be in a nice healthy state, not too wet nor too dry, and should be frequently turned over in an open airy shed, so that it may be well sweetened before using; and none of the soil should be rubbed through a sieve, but should be carefully broken or pulled to pieces with the hand. The pots to be used should also be perfectly clean and porous, and after placing about 2 inches of drainage in the bottom they may be filled up nearly to the level of the rim with the soil, which should be pressed into them moderately firmly. The pseudo-bulbs may then be placed on the soil, secured by means of small pieces of stick pushed down into the soil by the side of each, and a small piece of matting placed round the neck of the pseudo-bulb and fastened to the stick. This will keep the bulbs from moving till they have struck roots into the soil, which they will soon do if placed in a temperature of 70°, and frequently moistened with a slight dewing from a syringe having a very fine nozzle or rose, but care must be taken not to wet the soil too much before the roots have taken possession of it. The bulbs should be kept as near the glass as possible. Three moderate-sized bulbs should be placed in a 32-sized pot—these will make a handsome mass.

About the first week in May, if all has gone well with them,

they will have well filled the pot with roots, when they may be repotted in a larger pot, in a compost similar to that in which they were first potted. Water should be used sparingly until they have filled the second pot with roots. If the atmosphere is kept moist, little or no water will be required until the pots are well filled with roots; after this the plants will bear water pretty freely, and as soon as the pots are thoroughly filled with roots the plants may be well supplied with moderately strong manure water three or four times a-week, or oftener than this if they are growing freely. This treatment may be continued till the end of September, taking care to give them on all favourable occasions abundance of air.

About the end of August, or early in September, the flower spikes will make their appearance, breaking out from the side of the bulb at the base.

At the time of my visit, Mr. Yates's plants were pushing out flower shoots, more like good strong heads of Asparagus than anything else. They were the most extraordinary lot of plants I ever saw, and there is no doubt they will throw up spikes more than 4 feet high, clothed with their pretty white and crimson flowers. Care must now be taken not to keep the plants too thickly together. They should be set sufficiently far apart to allow the air to circulate freely amongst them, and to give sufficient light to the young flower spikes, for if these are kept too much shaded before they grow above the foliage, they become very much weakened, and frequently damp-off. The finest plants at Sale were set on inverted pots on a flue near the glass. They had leaves, I should think, from 18 inches to 2 feet 6 inches long, and 3 or 4 inches broad at the widest part of the leaf.

About the end of September the plants are placed in a temperature a little cooler than that they have been grown in during the previous four months; and in order to preserve them in flower for the longest possible time, the atmosphere should be kept as dry as possible. I have known them to last in great beauty in a drawing room for more than two months.

During the winter, after the blooming is over, the pots should be turned on their sides, and the plants kept without water till it is time to start them into growth again.

No plant is more useful for winter decoration than the *Calanthe*, and no plant more easily grown if the above directions are properly attended to. Altogether, I should think I saw nearly two hundred pots of this lovely plant in the most luxuriant health.

Of the beautiful *Celogync cristata* Mr. Yates has as many plants as would fill a good-sized cart. All one side of a large house was occupied with plants of it, many of which were 3 feet across, and they are covered with large white flowers early in spring. The soil they are grown in is a good fibrous peat; the pots and pans must be half filled with drainage, and the lumps of peat well elevated above the rim. The peat should be pressed moderately closely into the pans, and squeezed as firmly together as possible above the rim. As the plant extends its growth, fresh roots are emitted at the junction with the old and the new pseudo-bulb. After the plants have done flowering they are placed in a high temperature, kept well supplied with water, and frequent waterings with moderately strong manure water are afforded. The *Celogync*, like the *Calanthe*, will bear a high and very humid temperature during the growing season; but as soon as the former has matured its growth it must have all the air and sunshine that can be given it, in order to ripen its pseudo-bulbs thoroughly, and during this time only sufficient water must be afforded to prevent the plants from suffering injury. From the end of August up to the beginning of March a temperature of 65° will be the most suitable. About this time the plant will commence pushing out its flower spikes, and the flowers will preserve their beauty a long time if placed in a cool dry temperature, similar to that recommended for the *Calanthe*.

Of the *Eucharis amazonica*, Mr. Yates also holds a very large stock and manages to have a supply of flowers all the year round. The plants are grown in a very warm humid atmosphere, and, treated in this way, are very useful and ornamental.

Mr. Yates's houses also contain numerous other kinds of plants, and the two or three houses set apart for the cultivation of Orchids are crammed with the most choice species and varieties of that most interesting order in the most luxuriant state of health. Much care is also bestowed on the cultivation of the *Camellia*, of which there is a very large stock of remarkably fine plants of the best varieties. These are also grown for furnishing cut flowers. One or two very lofty houses

are planted with winter-flowering *Acacias*, *Chorozemas*, and various other New Holland plants. Beneath one of the *Acacias* we spent a very pleasant and instructive evening, and Mr. Yates very humorously described the origin of his Orchid fancy, and the failures and successes he had met with during a long series of years. There are besides two large Rose houses, several Fern houses, and in the open air many acres of ground are covered with the choicest specimens of Conifers, Hollies, *Rhododendrons*, &c. To do full justice to the fine stock of plants in this old-established place would take a long series of articles, and several busy days with pencil and note-book, but when I visit it again I hope to have more time to devote to its contents.

Leaving Manchester next morning for London, I broke my journey at Sheffield. This horribly dusty and smoke-begrimed place is the last in the world near which one would expect to see plants grown; yet at a very little distance from this region of smoke and dust Messrs. Fisher, Holmes, & Co. have a very fine and extensive nursery filled with a very choice collection of trees, shrubs, fruits, &c. I had but time to take a hasty glance of it. In running through a portion of the grounds I came upon a long row of the Lawton Blackberry. This was covered with fruit, had a very pleasing effect, and will, no doubt, become a useful addition to our fruit garden. In the glass houses there was a very fine collection of all the popular plants in cultivation; but in one house I was much struck with the beauty of a plant of *Lapageria rosea*, completely covered with flowers. There could not be less than two hundred fully expanded flowers on it, and Mr. Fisher told me the plant had been covered just in the same way all through the season. Two other houses which I entered were filled with Tricoloured and double-flowered *Pelargoniums*. They certainly formed one of the finest sights I have seen for a very long time. The Tricolours were splendid in colour, and the double varieties were the finest I have ever seen, showing what a valuable race of plants these are for conservatory decoration. There was to be seen the beautiful *Madame Lemoine*, far outstripping all the other varieties that were grown beside it, fine though they were.

I thought on leaving this nursery, if such great results as these can be obtained in such a region of sulphur, dust, and smoke, surely we in London ought not to complain, seeing that the climate of London is much more favourable to the growth of plants generally than that of Yorkshire.

I will state in conclusion, that the Manchester Botanical Gardens were looking well, and there had evidently been a very fine display of bedding plants. The contents of Mr. Findlay's plant houses were in fine health; and in the *Victoria regia* house I saw the finest plant I have ever seen of that most beautiful Lily. The leaves were very large and of great substance.—J. WILLS.

MR. STANDISH'S LAST NEW GRAPE,

This is the Early Ascot Frontignan, an amber-coloured Grape, with a fine Muscat flavour, the berry and bunch, as regards size and shape, resembling the Royal Muscadine. It is a free setter, very hardy and vigorous, and the earliest Grape I have grown, if we except the *Chasselas Vibert*.

This valuable variety came into my possession as follows:—Mr. Standish, having heard of my introducing a new kind of glass structure for the protection and the earlier ripening of various fruits, kindly sent me on the 20th of August, 1867, a few cuttings of this new Grape, thinking it might answer well in these structures. These cuttings were sent to me under a promise that I would part with no plant without his permission, and this I intend strictly to adhere to. The cuttings, about the size of a small goose-quill, were grafted immediately on Black Hamburg stocks. One on a stock of its own size has grown a rod of 12 feet in length, but it is the one grafted on a spur of an established Hamburg I wish to call attention to. This had two eyes, very small indeed, and no one would have imagined that each eye could have produced a vigorous shoot and a bunch of Grapes. One shoot was stopped, but the other grew 15 feet in length, when it was accidentally broken off early in the season to 9 feet; it would otherwise have extended to 20 feet at least. The girth of this shoot is 1½ inch; the wood is ripe, short-jointed, and the eyes very prominent. Three weeks since the Grapes were dead ripe, whereas those of the Hamburg, on which it was grafted, are not yet fully coloured.

I consider this a most valuable variety as far as I have yet had experience of it. With the protection of the upright hexagonal and octagonal glass cases, in which I intend cultivating

it, we shall have no difficulty in growing Grapes in the open air. I was so interested in this Grape that I went a long distance (to Ascot), to see Mr. Standish and learn his experience in its growth. I am happy to say that it is the same as my own.—
OBSERVER.

SPRING FLOWERS AT THE ANTIPODES.

I SEND you a few hasty notes made this day (July 24th), in my garden, being what I may term "a spring day" for the first time this season. Our winter season seems to be fast passing away: however, I must not rely too much upon it, for past experience tells me there is no certainty of the weather here. My thermometer indicated out of doors to-day in the shade at noon 65°; the day being warm and cloudy as well, seemed to give my garden quite a cheerful aspect. I must state to you first, before I begin writing about flowers, that we have had up to the present time for our gardens a very severe and troublesome winter; very severe frosts with alternate days of rain, snow and hail, and loud thunder occasionally. We have had weather of all sorts when we little expect such, and generally very late spring frosts annually, to our great mortification when vegetation of all kinds is far advanced.

The following are my random notes of plants in and out of flower:—*Jasminum nudiflorum*, trained against my house, with some hundreds of yellow flowers opening and fully expanded. *Berberis aquifolium*, flowers nearly open. *Viburnum tinus* and *V. tinus lucidum*, going out of flower, had been in flower all winter. Snowdrops opened their flowers for the first time to-day; yellow Crocuses the same; Hyacinths, nibs just showing colour. Upright and spreading Cypress, Virginian Cedar, and *Arbor-Vitæ*, new male and female flowers nearly expanded, most of them shedding seeds out of the old cones. Botany Bay Myrtle (*Veronica*), with its beautiful azure blue spikes in flower all winter, in sheltered parts of the garden. *Buddlea salviifolia*, going out of flower, having been in flower all through the winter. *Amaryllis helladonna*, and *A. belladonna minor*, now growing vigorously after flowering profusely late last autumn; *Sternbergia lutea* and *S. Clusiana* doing the same. *Nerine sarnicensis*, now producing very healthy leaves after resting all winter. Yellow Primrose in flower all winter in a warm sheltered place. *Spiræa prunifolia flore-pleno*, little white flowers, nearly expanded, flowers profusely in this part of the world. Rosemary bushes very full of flower. *Pyrus japonica*, white and red, now in full flower. Common Box tree in flower beautifully. Flower buds of Fortune's Double White Peach, Almonds, and garden Peach beginning to swell.

Peach trees look very promising for a good crop again; I hardly ever knew them to fail here. *Dielytra spectabilis*, strong buds just protruding through the ground, promises to flower freely this spring. Double red and white Daisy had a few casual flowers all winter; a great number of fresh flowers now open. Double white Primrose. Oh! this is lovely, now profusely in bloom; single and double Wallflowers the same. Jonquils will be much better in flower in a few days. *Forsythia viridissima* now profusely in flower, like the nude-flowered *Jasmine*. *Ligustrum japonicum* has just gone out of flower, after having remained in flower all winter. Heartsease nearly all in flower, more or less. Alder, Birch, and Nuts now covered with catkins, but not shedding pollen yet. *Viburnum tinus lucidum* flowering again a second time; young berries on the old flower stalks. *Alaternus*, flowers not quite out. *Polyanthus*, one plant in flower. *Daphne pontica* and *D. mezereum*, the former in full flower and grows well here, but the latter is very shy with us from some cause; it flowers freely, but makes no growth. *Juniperus prostrata*, very full of berries. Double and single sweet Violets, flowers just expanding. Double red Anemones just the same. *Gilia tricolor*, in flower. Hardy annuals stand the winter well here. *Pyracantha*, fruit dead ripe on the plants, and the same with *Cotoneaster*. *Camellias* planted out in the open border have stood the winter well, and look very healthy. Bear's-ears, new leaves just unrolling. Cowslips, a few now open. We raise a great variety of them here from seed, self-sown on many occasions. This will end my list.

Fortune's *Cryptomeria*, his Cypress, and his *Weigela* thrive well here. Besides these three, I may add his double Bindweed, *Calystegia pubescens*, and the rest of his plants from China which I have enumerated. I had the pleasure of seeing all Mr. Fortune's plants which I have written about, his *Montanæ* *Pæonies* as well, unpacked on their arrival at Chiswick from China. I little thought at that time I should grow and flower

some of them in New Zealand as well, on property held in my own perpetual right.

Many of the plants enumerated may be considered by your readers old and stale; but I can assure you in a new country like this they are most lovely, and produce in my mind many, very many recollections of the past, some pleasant, and some painful, particularly those about "the reign of terror" to subordinates at Chiswick garden. I see by reading your *Journal* every mail those days are past; the Society seems now to have the right man in the right place in Lieut.-Col. Scott.

What I have written of my doings here is the result of immigration to New Zealand. I was sorry to read such bad accounts in the *Journal* about emigration to America. Emigrants to any colony must not be afraid of hard work. I say to them, Persevere, and you will conquer in the end as I have done. I work very hard at the present time with the spade; my hands are calloused, which is a pleasure to me when I look at them, and know that myself, wife, and family are to reap the benefit, which I consider much better than toiling in a gentleman's or nobleman's situation at home. Independence is sweet in any country. People say first impressions of any place are generally lasting. Mine were of this place these; "There's a living to be got here for my wife and family if I persevere and work hard." This proved quite correct in my case. I have been, and am being rewarded for my perseverance and industry.

Having worked very hard for what I possess, I have learnt a lesson as a working man how to take care of it. Living at ease here for a working man is quite out of the question at the present day. I have seen many instances here of working men getting into the lawyer's clutches in the shape of borrowing money on their homesteads, &c.; their troubles then generally begin.

Bees very busy to-day, carrying pollen for the first time. I can perceive to-day that winter crops of vegetables are just beginning to "cheer up." Cabbages and Coleworts, Broccoli, and Winter Spinach are all on the move after a long winter's rest. The weather during the present and past winter has been the most severe I have known in Canterbury. Our census states Canterbury has 2,800 acres in orchard or gardens.—WILLIAM SWALE, *Avonside Botanic Garden, Christchurch, Canterbury, New Zealand.*

A NEW ROSE.

MADAME ALICE DUREAU, which I before said was a promising Rose, is now (September 30th), blooming a second time. It is worthy of adoption. Its present bloom is coloured at the edges of the petals like Louise Peryonny. I see, by Mr. Turner's list just arrived, that it won a gold medal. It is thus described, "Bright rosy pink, very large, full, globular form; superb. Gold medal, Orleans, 1866." The description is just.—W. F. RADCLIFFE.

ESCALLONIA MACRANTHA.

In the pleasure grounds here there are several plants of the various kinds of *Escallonia*. Of these *Escallonia macrantha* has grown very freely. There are some plants of it in a clump surrounded by grass, and almost directly in the way of persons crossing from one side of the grounds to the other, and I do not remember noticing in former years any unpleasant odour from the plants; but ever since those welcome and refreshing rains which fell in the middle of August, I found, on passing the clump, that it emitted a very unusual and rather unpleasant smell. It is observed most in a calm dewy morning, when the air is still. I will not positively say that it is given off by the *Escallonia*, but the only occupants of the bed besides it are a few well-known plants from which I have never noticed any such odour. They consist of a few plants of *Lycesteria formosa* and *Fuchsia Riccartoni*, surrounded by a band of *Perilla nankinensis*, with a broad band of *Verbenas* all round, in panels and contrasting colours.

From which of the plants does this singular smell proceed? I know of nothing which it resembles so much as that of a heap of crushed or ground bones, such as farmers mix up with some earthy material before putting it upon their land. To-day, the air being damp and calm, while I was passing in front of another border, I detected a similar smell, and looking amongst the shrubs I saw a plant of the *Escallonia* growing there, which still more induced me to think that the smell must proceed from the *Escallonias*. I write not so much with the view of affirming such to be the case as to inquire if any of

your readers have observed an offensive odour where Escallonias are growing. When I drew them slightly through my hand I could not detect it. Does it only accumulate sufficiently to be perceptible to the senses when the air is damp and calm, and in a sheltered position where it remains almost stagnant close to the earth? The plants here occupy a sheltered position, where dews remain almost undisturbed in very calm weather.

I shall be glad to learn if anything similar has been observed by others. From what part of the plant can the odour be emitted? Does it proceed from the flowers?—G. Dawson.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 6TH.

FRUIT COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. Messrs. Stuart & Mein, of Kelso, sent two plants of Curled Parsley, which the Committee did not consider any improvement on the existing variety in general cultivation. They also sent a Celery for garnishing, which the Committee considered too coarse for that purpose. Mr. Todman, of Aldershot, sent a basket of thirty-two Onions, weighing in the aggregate 35 lbs. They were remarkably fine specimens. Mr. Todman intimated that these were obtained by him by crossing the White Spanish with the Tripoli, and he named the variety Ne Plus Ultra; but in the opinion of the Committee it did not differ from the White Spanish. Among them there were some specimens of the Yellow Onion of Holland. The Committee commended the exhibition on account of the culture, but not as a new variety. Mr. Colbourn, gardener to J. Blyth, Esq., Woolhampton, Berks, sent very fine specimens of Salway Peach, which were so much admired by the Committee that they awarded it a special certificate. Mr. G. Ward, gardener to T. N. Miller, Esq., Bishop Stortford, sent a splendid fruit of Smooth Cayenne Pine, weighing 10 lbs., to which the Committee awarded a special certificate. Messrs. J. & E. Small, of Colnbrook, sent a dish of fine large Walnuts, which were excellent in flavour. Mr. Drewett, gardener to Mrs. Cubitt, The Denbies, sent specimens of Meredith's Scarlet-flesh and Wills's Green Gem Melons, but it was evidently too late for Melons, as the flavour was indifferent, and it was remarked that Meredith's Scarlet-flesh was the same as Turner's Gem. A new hybrid Melon came from Mr. Rideout, gardener to W. S. Brown, Esq., Reigate, but the same observation is applicable to this as to the others.

Mr. Beach, Kingswood Warren, Epsom, sent fruit of a Green-fleshed Melon, very sweet, but with no flavour. Mr. Stewart, of Nuneham Park, sent a fine large fruit of Dr. Hogg, but the flavour was inferior. All of these Melons had evident good qualities, but the late period of the season is against the production of flavour.

Messrs. James Veitch & Sons exhibited a seedling dessert Apple, called Cloke's Seedling, raised at Cheltenham. It is of a roundish ovate shape, even and regular in its outline, of a rich yellow colour on the shaded side, and streaked and mottled with crimson. The eye is small and open, with segments reflexed at the tips, and placed in an even saucer-like basin. Stalk half an inch long. Flesh very tender, very juicy, sweet, and with a fine flavour. It was awarded a first-class certificate. Messrs. Small, of Colnbrook, sent a large Apple, strongly resembling Golden Noble, large and handsome, and of good flavour. It was named Queen Victoria, but the Committee were of opinion that it was not sufficiently distinct from Golden Noble. Messrs. Harrison, of Leicester, sent a fine large seedling Apple, with a brisk, crisp flesh, called Annie Elizabeth, which received a first-class certificate as a kitchen Apple. Mr. Sampson, of Yeovil, sent a large seedling kitchen Apple, called Benedictine, of pale colour, and a fine brisk acidity. It was said to keep till January, and Mr. Sampson was requested to send it again in January. Mr. W. Plester, gardener, Elsenham Hall, Bishop's Stortford, sent a seedling dessert Apple from the old Summer Golden Pippin, but it had no merit to recommend it.

Mr. Stewart, of Nuneham, sent a splendid dish of Seckle Pears. They were beautiful in appearance and delicious in flavour. Mr. Whiting, of The Deepdene, produced fruit of Gansel's Seckle, to be tasted in contrast with Seckle. This is a fine Pear, and has not so much musk in its flavour as Seckle. Mr. Whiting also sent Bauré Superfin, which this season is rather acid and bitter. Althorp Crasanne was dry and mealy, Marie Louise from a wall was very delicately flavoured and rich, and those from a pyramid were more russety and with a stronger and more pronounced flavour. Kingessing is a large and handsome American Pear, but the flavour was not good. A special certificate was awarded to Mr. Whiting for this collection.

Mr. Rideout, gardener to W. S. Brown, Esq., Reigate, sent fruit of Granadilla, and jam made from it. The jam was rather sweet, but on the whole was approved by the Committee. The Committee awarded a special certificate. Mr. Wells sent some excellent examples of Vines, laden with fruit, grown in ground vinerias.

Mr. Charles Lee, of the Vineyard, Hammersmith, sent a bunch of Black Hamburgh Grape, perfectly ripened against his house.

Mr. Robert Collins, gardener to Major Trevor Clarke, sent a very nice collection of dessert Apples, which received a special certificate. The Rev. Lister Lister, Moulton, Charnworth, likewise contributed a collection of Apples and Pears grown in his district.

FLORAL COMMITTEE.—Several collections of plants made this meeting very attractive, and the additional interest caused by the competition of the edible and poisonous Fungi brought a goodly attendance of Fellows. The awards made by the Committee were as follows:—Mr. R. J. Gray, of Newlands, Alphington, received a first-class certificate for *Polystichum angulare Grayii*, each frond being branched. Messrs. Veitch received first-class certificates for *Vanda insignis*, true. They exhibited two flowers of varieties that have been sent out as insignis, one buff, the other purplish white, differing in many respects from the true *Vanda insignis*; *Araucaria elegans*, a beautiful Conifer; and *Adiantum densum*, a very distinct Fern. A special certificate was awarded for their collection of Orchids, also for their miscellaneous collection of plants.

Mr. B. Williams, Holloway, sent *Cattleya maxima superba*, *Miltonia Moreliana*, and *Odontoglossum bictonense splendens*. A special certificate was awarded for his collection of plants. Mr. Warren, Salisbury, sent a collection of seedling Zonal Pelargoniums. A hybrid Begonia raised by Major Trevor Clarke, B. weltonensis, was awarded a first-class certificate. The plant was covered with bright rose-coloured flowers, and has been in bloom since April. This variety is in the hands of Mr. A. Henderson, who exhibited it in February, 1864, as *B. ornata*, when it received a second-class certificate. The specimens exhibited were grown at Chiswick. A beautiful seedling *Coleus* came from Chiswick gardens, and received a first-class certificate. It was named Queen Victoria. This is a very distinct and beautiful variety, the leaf having a dark maroon centre with a bright golden margin. Many other seedlings were sent, which are to be examined again. Several handsome yellow-leaved *Caladiums* came from the gardens, and a beautiful yellow-foliaged *Enclisia*, very distinct and good. By some mischance this plant was not brought before the Committee.

Mr. Coomber, gardener to Col. Wilkinson, brought a silver-edged Zonal Pelargonium, having a bright red zone, and named Mrs. Col. Wilkinson. It was exhibited at the last September meeting, and received a second-class certificate; but it had improved so much that on the present occasion it was awarded a first-class certificate. Mr. Bull sent seedling *Coleus Victor*, a good variety, but too much like some others; *Coleus refulgens*, and *Coleus Masterpiece*; *Abies japonica*, an *Arcaea*, *Veronica Celestial*, *Cupressus Balfouriana*, *Phytelephas macrocarpa*, *Ptychosperma elegans*, requested to be seen again, and *Nothochlæna candida*, a Fern exhibited in 1866 as *N. cretica*, and which received a first-class certificate in that year. Mr. Bull was awarded a first-class certificate for a beautiful *Anæctochilus*—*Dawsonianus*, also for *Calamus Lavisianus*, a second-class certificate for *Gymnogramma Lauchæana* var. Mr. Wright sent seedling Dahlias; Mr. Rawlings the same, and received a first-class certificate for Emperor, a fine dark purple flower. Mr. Bragge received a first-class certificate for seedling *Dahlia Commodore*, a bright buff flower. Mr. Groom, Ipswich, sent three seedling Zonal Pelargoniums—namely, John Hopper, light scarlet. Mrs. Sach, white, and Climax, salmon rose. These flowers were of some merit, but as exhibited not first-rate.

Mr. Drewett, gardener to Mrs. Cubitt, Denbies, sent some flowers of a seedling pink *Tasconia*; and Mr. Chambers, Beddingham, a seedling *Lobelia alba*, white. Mr. Green, gardener to W. W. Saunders, Esq., Reigate, received a first-class certificate for an *Oncidium*. He also sent a new *Bilbergia*, named *Saundersii*, from Bahia. Mr. Church, Plumstead, sent a seedling Zonal Pelargonium, hardly free of the guard leaf; and Mr. Ferguson, a variegated form of the common Musk plant. An *Odontoglossum grande*, from the Society's garden, Kensington, with six flowers in great perfection, received a special certificate. Mr. Tanton, Epsom, again brought his *Allamanda Wardleana*, which has been decidedly proved to be *A. Hendersoni*. Major Trevor Clarke brought four very beautiful varieties of the Autumnal *Crocus*, *C. byzantinus* or *nudiflorus*, *C. longiflorus*, *C. pyrenæus* or *nudiflorus*, and *C. speciosus*; the delicate shades of blue or grey were very beautiful. Major Clarke also brought a branch of the scarlet-fruited Egg Plant, which was very handsome; likewise another *Solanum*, producing scarlet fruit, the plant having very prickly foliage.

GENERAL MEETING.—J. Russell Reeves, Esq., F.R.S., in the chair. Four new Fellows were elected. In announcing the awards of the Floral Committee, the Rev. Joshua Dix directed attention to an Onion plant raised from one found in a plaster cast several years old, which had been broken up in the studio of Mr. Noble, the eminent sculptor, and suggested as the vitality of the Onion had been preserved so well in the plaster of Paris, the circumstance might afford a hint as to the preservation of other bulbs imported from abroad. G. F. Wilson, Esq., F.R.S., reported the awards of the Fruit Committee, and added that the first and second prizes, of the respective values of £3 3s. and £2 2s., given for edible Fungi by Lady Dorothy Nevill, and Mrs. Lloyd Wynne, had been awarded to Dr. Bull, of Hereford, and Mr. Worthington G. Smith, of North Grove West, Mildmay Park.

Major R. Trevor Clarke then expressed his regret that on an occasion when Fungi had been brought forward in number, that great mycologist the Rev. Mr. Berkeley, owing to an indisposition, had been unable to remain at the meeting, and make remarks on the Fungi exhibited. Fortunately, however, the two exhibitors who had gained the prizes, were also mycologists, and had consented to offer some observations on the subject; but before calling upon them to do so, he would direct attention to the four species of beautiful autumnal *Crocuses*

which he himself had brought. These were the *C. pyrenensis* of Herbert, or *C. nudiflorus* of Hooker, which is naturalised in Lancashire, and also to be found in meadows in Warwickshire; *C. byzantium*, otherwise *C. iridiflorus*, an extremely beautiful Crocus which simulates the Flag or Iris, the corolla standing up, while the sepals fall downwards; *C. longiflorus*, and *C. speciosus*, also of very great beauty. These four Crocuses follow each other in succession, beginning to flower in September and ending in midwinter. They were published by Dean Horbert in his "Crocorum Synopsis," and the specimens exhibited were raised from seed given to him (Major Clarke) by the Dean's brother, Mr. Algernon Herbert. Major Clarke then pointed out a Solanum raised from seed sent home by Dr. Jamieson from the Peruvian Andes, and remarkable for the beauty of its orange fruit, which was used as an ornament for the hair by the ladies of the country.

Mr. Liggins said that the plant was a common weed in Moutserat, covering many acres of ground. There were two kinds, one of which had fruit three or four times the size of that on the plant exhibited, and when seen in the sunshine the effect was very striking. Another was known as the Prickly Apple.

Major Clarke remarked that there were many species of Solanum with ornamental fruit, and instanced one with scarlet fruit, which had been raised from seed sent to him as that of the true Scarlet Egg Plant or Brinjal. *Begonia weltonensis*, noticed in our Floral Committee report, was then referred to, and Major Clarke said his reason for doing so was that the plant had been attributed to him, instead of which it was the property of Mr. Arthur Henderson, to whom he had given the seeds. At the close of his remarks, Major Clarke exhibited a flower raised from seeds sent to him as those of *Dahlia imperialis*, a miserable specimen of a common small-flowered Dahlia.

Dr. Bull, in rising to make some observations on the Fungi exhibited, said that he laboured under the great disadvantage that he had not expected to be called upon to undertake such a task. One of the main objects of his attending the meeting had been to hear Mr. Berkeley, therefore those who were present could not be more disappointed than he was himself at Mr. Berkeley's being under the necessity of going away. A prejudice existed with regard to Fungi, which caused difficulties in approaching the subject, but it was extraordinary, though the ground was teeming with food in the shape of Fungi, that these should be wasted. The first species to which he would direct attention was *Fistulina hepatica*, "the Vegetable Beefsteak." This, as stated on the label attached to it, is the best possible addition to a beefsteak, and a beefsteak in itself if properly cooked. If prepared by a good cook along with ordinary gravy, anyone would believe it to be a beefsteak. Another Fungus, very different in its character, was the Puffball, *Lycoperdon giganteum*, of which the Chairman exhibited specimens. Three weeks ago he had seen one 3½ feet in circumference, and weighing 6 lbs. Sliced and frittered, or in whatever way cooked, it acts as a vegetable egg. His belief was that all Puffballs in a young state are really edible, but their growth being so rapid, there is a corresponding rapidity of decay, and when that commences they are unwholesome, though they would not be so if taken young enough. Certainly some inconvenience from eating *Scleroderma vulgare* had been lately recorded, but the specimens, no doubt, were rather old. Although all Fungi were not fit for food, it would be a very unusual occurrence for him not to be able to go out in the autumn months and bring home some Fungus good to eat, though he did not mean to affirm that every one would be equal to the common Mushroom. Still there were some, *Agaricus procerus* (the Parasol Agaric), for instance, which he thought superior to the ordinary Mushroom; and in different species there was a considerable diversity of flavour. The Chairman had brought the finest specimen of *A. procerus* in the room, as far as size was concerned, but it would not be so for flavour, for when so large this Agaric was only fit for catsup. It should be small, and then it was lighter and more digestible than the ordinary Mushroom. It might be cooked in any way, and was excellent in all. It was distinguished by a loose ring and the snake scales on the stem. In the prize collections it was to be seen in all its characters. *A. (Lepiota) nancinus* next came under notice, and Dr. Bull related that he and some friends had partaken of it, and very much enjoyed it, thinking that it was *A. procerus*, but finding the flavour not quite that of *A. procerus*, they examined the specimens and found them to be *A. nancinus*, and this he stated to be a delicate Agaric, which may be cooked in all the ordinary ways. Next he came to the Mosaic Agaric, *Coprinus comatus*, about which there could be no possible mistake. It might be found during four or five months in the year by the sides of byeways, and in waste places; its abundance was extraordinary. As the label stated, it has a delicate flavour, and when boiled in the ordinary way and served on toast is thought by many connoisseurs equal to any Agaric grown. It requires to be eaten in a young state.

The Horse Mushroom, *Agaricus arvensis*, was next referred to, and Dr. Bull stated that, on passing through Covent Garden, for the one or two dishes of the common Mushroom (*A. campestris*), which he saw, there were dozens of the Horse Mushroom, which, however, was perfectly harmless, and might be cooked in every way like the Common Mushroom, and by many was thought equally delicious. It requires, however, rather more time. The Fairy Ring Champignon, *Marasmius oreades* was also exceedingly good when cooked as follows:—Put the Agaric on toast; salt, pepper and butter (or add a little celeriac or

salted cream), put a clove on the toast, cover with a glass, and bake or broil before the fire for twenty minutes. Serve up without removing the cover. *Agaricus prunulus*, called by some Vegetable Sweetbread, which also grows in fairy rings, was called by Badham "the dainty Oreella." It was a delicate kind requiring light cooking. A friend of his (Dr. Bull's) said that every Fungus found growing in fairy rings was wholesome, but there were some which if so were not good.

Passing from edible to poisonous Fungi, Dr. Bull remarked that the proportion which the latter bear to the former is not greater than that of poisons to wholesome plants. Poisonous plants were known and avoided, and it was just that knowledge which was required with regard to Fungi. Just as people did not go and pick up every plant for use, so one ought not to gather the first Fungus he might meet with. The knowledge was easily acquired, and through the aid of Mr. Smith's excellent plates "fungophagy" was spreading very fast. Still he (Dr. Bull), thought the Royal Horticultural Society had done exceedingly well to encourage an exhibition of Fungi, for though figures and descriptions in books were very useful, they were not equal to the actual specimens.

Noticing a few more edible Fungi, Dr. Bull held up a specimen of the *Cantharellus cibarius*, the true Chanterelle, and said that if one gave an entertainment the French cook would ask for the Chanterelle, and guineas would probably have to be paid for that which should only cost shillings, as the Chanterelle grows abundantly near London. As stated on the label, it is excellent in every way. By itself, sliced and stewed with butter, pepper, and salt, it makes an excellent dish with a Mushroom flavour. An allied Fungus bearing considerable resemblance to the preceding, was then exhibited; but though it might be mistaken for the Chanterelle, no harm, it was said, would result.

Several poisonous Fungi were then briefly noticed, and among them *Boletus luridus*. The next was one startling for its beauty—namely, *Agaricus muscarius*, than which Dr. Bull said he did not know anything more beautiful in nature, especially the specimens sent by Mr. Reeves. It was one of the most poisonous Fungi known. Dr. Badham had sent it to some ladies to be sketched, intending to call on them and speak to them about it, but was prevented from carrying out his intention by an urgent case. The ladies, thinking that what came from Dr. Badham was sure to be good, after sketching it had it cooked, partook of it, and when Dr. Badham came they had been carried to bed intoxicated by its action. In fact, this Agaric was used in Russia for the purpose of producing intoxication. If cooked at all, however, it lost a portion of its poison. In connection with this fact, he would mention that there was once a doctor in Paris who undertook to eat any Fungus brought to him, but before cooking them they were soaked in vinegar and water, and he then ate them with impunity. Other poisonous species were *A. fascicularis*, which is commonly met with; *A. sulphureus*, rare; *A. squarrosus* extremely beautiful; and three very interesting Fungi were *Cyathus vermicosus*, *C. striatus*, and *Sphaerobolus stellatus*. Among species gay in colour, there were the scarlet *Peziza* and *Russula rubra*. *Bulgaria inquinans*, which is found on the bark of trees, was also exhibited to the meeting.

Dr. Bull concluded a long and very interesting discourse by observing that unless the educated classes could be induced to eat Fungi, the poor would never be brought to do so. In his own neighbourhood the Field Naturalists' Society had taken up the subject, in consequence of the action taken by the Royal Horticultural Society. Example was better than precept.

Mr. W. G. Smith said he would make a few remarks on the seeds or spores of Fungi, as Dr. Bull had not touched on that subject. Nearly all the Fungi with white seeds were edible, and in form such seeds were generally roundish, or roundish oval, whilst the poisonous Fungi generally assumed forms of angular outline, and one of those exhibited had spores which seemed as if covered all over with spikes. The colour of the seeds of Mushrooms was generally that of the gills, and all pink seeds generally were angular in their form. With regard to *Agaricus muscarius*, he would add that he had never found it anywhere but under Birch trees.

Mr. Blenkins moved a vote of thanks to Dr. Bull and Mr. Smith, which was seconded by Major Trevor Clarke, the latter remarking that the meeting had been one of the most interesting *seances* at which he had been present. The motion having been unanimously carried, Major Clarke called attention to a process by which the curious frail Agarics are preserved in the greatest possible perfection, and which it was stated was devised by Mr. English, of Epping, who exhibited examples of several species.

In addition to the species of Fungi noticed above Dr. Bull had *Hydnum repandum*, of which Mr. Berkeley has stated that there is not a more excellent Fungus when steeped in hot water, drained in a cloth, and cooked in the ordinary way; *Laetarius deliciosus*, the Orange Milk Agaric, stated by Badham to be tender as lambs' kidneys, and for cooking which Soyer has given directions; *Agaricus rachodes*; *Gomphidius viscidus*, a mucilaginous species; and *Agaricus melleus*, which should be steeped in vinegar and water for half an hour, then peeled, and fried with butter, pepper, and salt, with the addition of a little Hervey sauce and a clove or two.

Mr. Smith's collection comprised a large number of species, both edible and poisonous; and J. C. Reeves, Esq., Hantsland, Worth, Sussex, and J. R. Reeves, Esq., sent several fine specimens, some of which have been referred to above.

HORTICULTURE IN THE HOSPITAL—A HAPPY THOUGHT.

IN the report of the proceedings of the meeting of the governors of the Hospital of Incurables, we find chronicled what appears to us to be a charming gardening episode, and a beautiful illustration of the sympathies and kind-heartedness of a noble lady, the members of whose house have ever been amongst horticulture's foremost and most distinguished patrons. We are told that on the occasion a letter was read from Mr. G. Smith, head gardener at the Viceregal Lodge, saying that he had forwarded a number of plants which he had been directed specially to prepare for the institution by her Grace the Duchess of Abercorn. Her Grace was not mistaken in the gift. Gardening ministers largely, indeed, to our material and everyday wants, as well as to the elegance and luxuries of life; but it is yet more blessed in its resources for relieving the tedium and *enmi* of the sick-room, or, mayhap, giving a filip to the sinking frame, which has often been the turning point to recovery. There are few physicians who are not familiar with instances where a bunch of forced Grapes or delicate vegetable strengthened their hands when hope was almost gone, and was found more potent for good than all the medicines in the Pharmacopœia. So, too, in the room of the confirmed invalid, a Fern stand or a few pot plants become as friends, and a recently gathered flower is a joy which brightens up, albeit though only for a moment, the lustreless eye of hopeless suffering.

It has been truly said that the love of plants and flowers is—

"An ingredient in the compound man,
Infused at the creation of the kind."

In truth it was a kindly, and a thoughtful as kindly, act, when her Grace instructed Mr. Smith to prepare these specimens to present to the incurables. The institution has more than once been visited by her Grace, and we have heard a distinguished physician, who takes an especial interest in it, frequently speak with enthusiasm of the Duchess's prolonged visits, and the time she spent by the bedsides of the patients.—(*Irish Farmer's Gazette.*)

PEAS.

DICKSON'S FIRST AND BEST.—I consider this Pea a most valuable kind. I have at present a splendid crop from seed saved from the first sowing literally covered with pods and flowers. Not so with some other early kinds sown at the same time, and afforded the same treatment.

THE PRINCE (Stuart & Mein), is another valuable kind to which I wish to call attention. It was sown with some other old and well-tried kinds in spring, but was much superior in every way, branching out from the axil of every leaf, and bearing most profusely. This, in my opinion, is distinct from all the other dwarf Marrow varieties.—E. WELSH, *Palace Gardens, Armagh, Ireland.*

NOTES AND GLEANINGS.

On the 29th of September died Mr. HENRY BAILEY, one of the best of our English horticulturists. He had been head gardener to Earl Spencer, at Althorp, and to the late Mr. George Harcourt, at Nuneham. When the gentleman last-named died, he bequeathed Mr. Bailey an annuity of £100 for life, and this induced him to retire from garden service. He resided at Amersham, and was in his 65th year at the time of his death.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

PUYA WHYTEI (Whyte's Chilean Puya). *Nat. ord.*, Bromeliaceæ. *Linn.*, Hexandria Monogynia.—"A superb rock-plant," introduced by Messrs. Veitch, from Chili. Flowers dull blue.—(*Bot. Mag.*, t. 5732.)

LINARIA ORIGANIFOLIA var. CRASSIFOLIA (Thick-leaved-Marjoram-leaved Toad Flax). *Nat. ord.*, Scrophulariaceæ. *Linn.*, Didymia Angiosperma.—A hardy rock plant. Native of South of France, Spain, and Portugal. Flowers purple and lilac.—(*Ibid.*, t. 5733.)

BLANDFORDIA CUNNINGHAMII (Allan Cunningham's Blandfordia). *Nat. ord.*, Liliaceæ. *Linn.*, Hexandria Monogynia.—Native of the Blue Mountains, New South Wales. Introduced

by Messrs. E. G. Henderson & Sons, Wellington Nurseries. Flowers orange scarlet, tipped with yellow outside; inside all yellow.—(*Ibid.*, t. 5734.)

ARECA BAUERI (Bauer's, or Norfolk Island Betel Palm). *Nat. ord.*, Palmæ. *Linn.*, Monœcia Hexandria.—This Norfolk Island Palm flowers annually freely in the Kew Palm House, and less well in the temperate houses.—(*Ibid.*, t. 5735.)

ODONTOGLOSSUM CONSTRICTUM (Narrow-petalled Odontoglot). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—It is a native of Caraccas. Flowers yellow, blotched with brown.—(*Ibid.*, t. 5736.)

GOLDEN CHAMPION GRAPE.—"It is not only a decided novelty, but a novelty of the very highest excellence. Free and robust in growth, hardy and prolific in habit, magnificent both in berry and in cluster, and exquisite in flavour, what more can be desired? In truth, its merits are of so high an order, that they leave little to be wished for.

"The bunch of the Golden Champion is moderately large, compactly-shouldered, and somewhat tapered, with a stout fleshy stalk. The berries are very large, with stout warted footstalks, some 2 inches long, and 3½ inches in circumference; they are generally of an ovate shape, but occasionally somewhat roundish, and they have a thin, pale yellowish green skin, which acquires a rich golden amber tinge with a slight bloom when they are fully ripe. The flesh is tolerably firm, but tender, with few seeds, very rich and juicy, with a flavour which, though compared with that of the Black Hamburg, is, to our taste, much more saccharine and luscious than that variety, even when grown on the same stock.

"This new Grape supplies, so far as can at present be judged of it, a long-felt desideratum—namely, a high-class free-growing white Grape, of hardy constitution, suitable for general cultivation as a companion to that best of all Grapes for general purposes, the Black Hamburg. It was raised by Mr. W. Thomson, of Dalkeith, some five years since, from a seed taken from a Grape that was itself a cross between the Champion Hamburg and the Bowood Muscat, and has been freely exhibited during the present year, when, among other awards, it has received a first-class certificate from the Fruit Committee at South Kensington. The foliage is very slightly lobed, and deeply and sharply serrated."—(*Florist and Pomologist*, n.s., i. 217.)

MASTERS' TROUBLES.

"WELL! I do not know what to say about this new gardener. I am afraid he will not do. I do not care for half-work; if a man digs I like him to do it well, send his spade deep in as far as it can go, and put the top soil to the bottom, and bring up the dark, heavy, long-hidden lumps of mould with all their grubs and centipedes to the surface. A man knowing what he is about gives these lumps a blow with the spade, so that the fresh air may pulverise it, and the ever-lazy birds begin their share of the labour." So grumbled Squire Butler as he sat under the shade of an old Thorn tree one warm morning in September.

"I think you are too particular," replied his wife, panning in her occupation of cutting away the dead Asters; "he appears to be working hard whenever I chance to see him."

"Yes, I dare say, trying to catch the lost hours; yet I do not mean to say that the man is idle, but he is not skilful, he gives two knocks to a nail when one would do, and he might just as well have the strength and time employed for the second knock in doing something else. I obtain my money to pay this man by hard work, and I feel rather sore about so spending it, unless I get back something like value for value."

"Then, Frank, I am afraid your feelings will always be wounded, for gardeners never do return a money equivalent; you have plenty of beautiful flowers."

"But my wife cannot boil these for Cabbages, or turn them into Cucumbers, so it does not alter the case, or cause me to put faith in a man who cannot bend his back, and whose shoes are so bright that he can see his face in them, and who must blow away the dust from a stone wall before he can put down his jacket."

"Well, I admired the man, he was so clean and tidy."

"Yes, even to his hands. He is too much so for me. What would you say to your cook if she sent up your Potatoes unscrapped on the score they dirtied her fingers? And a gardener may be too clean to be worth much."

"You must acknowledge, at least, that he is very respectful."

"I dare say he is, Clara. You women are always taken by that, plenty of touching his cap, and 'Good morning, Ma'am.'

I am afraid he pays all his respect away, and is earning none for himself. And then, too, his heart is not in his work, and I never yet met with a man who succeeded well in doing things he did not like. Did you ever notice with what a slow, uncaring-what-time-he-gets-here walk, he comes in a morning, and the joyful, springing, telegraph speed with which he takes his departure in the evening? I assure you a workman does not care much for his employment when he is over-anxious to leave it—when he is all day counting the minutes until it shall cease, and relief come. And during the last half hour this new man of ours must have been at least half a dozen times to look at the stable clock. I suppose he has a wife at home, a harder master than the one he has here, so he is dreadfully uneasy lest he should be late. I should not wonder if he has not all his tools put away, everything ready for leaving a minute before the time, even the key turned in the lock."

"What is the matter? Frank, you do not know what it is to work all day in a garden, or you could understand why a man should be ready to go home at night. And if they have rules laid down, so many hours for so much, I do not see you have any right to expect they should stay longer."

"Certainly not, nor should they stay less. So many hours' labour for so many shillings. But what for the lost five minutes here and there, the idle chattering with pretty housemaids at kitchen doors, the packing-up of vegetables for home consumption? All this unnecessarily, I think, in the paid-for time. So much a-month for service not rendered. In my father's time a man worked two hours longer for 3s. than he does now for 4s.; but then a garden was thought a luxury, now we call it a necessity. Why the fact is, it is becoming every year more and more of a luxury. This little place costs us 8s. a-week and four glasses of ale—a large slice out of our weekly pudding. I begin to think it is beyond our means. This sum would go a long way in the purchase of flowers and fruit. I would not care if we could meet with a gardener with a bit of conscience about him, one who could look at both sides of the question, and ask himself now and then how he would like to pay a man wages for doing an indifferent amount of work in an indifferent manner."

"We have had ill-luck with our gardeners, Frank, but others may have met with men more suited to their requirements."

"Then they have been favoured; yet I know scores of masters who feel just the same as I do, and yet they cannot, or dare not speak out. They are afraid of the very men they employ, or, at least, they are afraid that the gardener should all at once take his departure, and they be left in a fix, the fires go out, the fruit spoil, and everything be wrong. So they put up with little evils, not seeing the end in the beginning, and, perhaps, hoping that everything will come right at last."

"Then," replied Mrs. Butler, "I think masters are greatly to blame; they should speak out fully and clearly what they mean. If it is too much trouble to do so, or they are afraid, no wonder affairs go wrong. I suppose if a gardener left as early as he could after being spoken to, and you know he could not without notice, it would be quite possible to get another."

"Yes, but clever gardeners are scarce. I often think that half the men who set up for that trade know little about their work; they are like Sedgely, who when a lady asked him in what sort of soil she must replot her Vallota purpurea, replied, 'Oh! give it a bit of every kind you have. I always do.' There are plenty of men who can plant Cabbages, and earth-up Potatoes, but few you could wisely send to give water in your conservatory, or work in your flower garden. Our neighbour Grant was ill last winter; he does his own gardening, it is pleasure to do so. His wife, fearing it would grieve him to see the untidy state of his borders, engaged a man to do up the place. Not knowing where to apply to she walked through the village, and chose one who had a large sign over the door—So-and-so 'Landscape Gardener, jobbing work promptly attended to.' When poor Grant was able to go about again in April, and looked round his garden, he found his Roses, for which he had paid no small sum, cut down within a few inches of the soil; bud and graft had been nothing to the landscape gardener. I suppose he never heard of such a thing, at any rate Grant has no Roses to send up to the church this thanksgiving season."

"I wonder Mrs. Grant did not look after him, seeing he was a strange man."

"She would consider that he knew what he was doing. And you know our Peas came up in a strange manner, long dead blanks in the rows, then small patches with the Peas crushing and crowding each other. I counted forty-seven in one patch that Nelly's cap would cover. And your brother Wilson

assures me that he has this season paid £9 17s. 6d. to a man for attending to a vegetable garden he had the folly to rent last autumn, and all its yield has been a few Radishes, one dish of dark green tough Lettuce, one dish of Peas not worth much, for they dropped upon the plate like pellets; a few Cauliflowers, among whose snowy arches the Lepidoptera had lodged ample surety that its species should not soon become extinct; and Potatoes, rather under than over the size of a walnut. He thinks the market the best garden; not without cause."

"But did he say how many Vegetable Marrows they had?"

"He never eats Vegetable Marrows."

"But his wife and children do, and he would be wise to cultivate a taste for them, they are as wholesome as any vegetable grown, and not costly, at least to the grower."

"I greatly dislike them, never could eat them."

"As a rule, gentlemen do. I think it is because they are so easy to prepare, and almost any gardener may manage to grow them."

"We never had a man who could or would grow them, or if he did he found a better market than his master's table. That reminds me of something which took place before I was married. Coming home late, or rather early in the morning, I met a man striding through the wood with a basket on his arm. Fancying it might be game, I stopped the man roughly, and would know what his basket contained. 'Only Strawberries, Master,' was his quiet reply, as though he had guessed my thoughts. And then he lifted up the cover, and some folds of soft white paper, and displayed the tempting fruit. Dear me! how fragrant it was, and how beautiful its appearance in the white moonlight of that cold March morning. 'Are they for sale?' I asked. 'No, they are sold.' 'All right, my good fellow,' I said, and hurried on home. Before going to bed I took the keys of the houses and went round. My father was very proud of his Vines, the earliest and latest and best of Grapes were ever to be found on his table—at least, he spared no expense to gain this end, it was his hobby; he was very fond, too, of forced Strawberries. I climbed the ladder and flashed the light of the lamp upon the long shelf in the forcing house on which the Strawberry-pots stood, no need to do it twice, the best and ripest were gone."

"What did you do, Frank?"

"Put away the ladder, locked all up, and held my peace, as they say. But that is not all. Next morning my father told me he was greatly disappointed our Strawberries were not ripe, as it was his birthday, but he had just received some from Walker, a fruiterer in the market. A little bill of £5 came along with the fruit. There was not a doubt they were my father's Strawberries I had met walking through the wood to come back again next morning. So he bought his own over again at a dear rate, as many a master may do, and know it not, for I cannot fancy this an isolated case."

"I should hope it is, or nearly so. Is your list of grievances at an end? I shall despair of ever meeting with a gardener to your satisfaction."

"Get one who knows his work, and can do it, and be proud of it. One who is not always blaming the seasons for every failure, who begins his work as a pleasant duty, and would rather stay half an hour longer than allow his own credit or his master's interest to suffer. I am sure his own interest would be secured by so doing. No one willingly parts with a gardener who reaches even half way up to the requirements of his position."

"Then we will try ours a little longer, as he more than half meets our desires."

I will next detail "Gardeners' Troubles."—MAUD.

GESNERA EXONIENSIS.

You could not have said better respecting the Gesnera than you have done, except your mentioning that the foliage is dark green; it really is brilliant plush. We send you by this post a leaf, as the drawing on which your notice was founded is calculated to mislead in that respect. In it neither the flowers nor foliage, as represented, are anything like so brilliant as the plants, which are now really splendid. They fairly light up the whole of our conservatory, and every visitor that calls pauses to admire them, and not one person out of a hundred that see it, and having the means to grow this Gesnera, but orders the plant.—LUCOMBE, PINCE, & CO.

[Messrs. Lucombe, Pince, & Co. do not exaggerate in their

statement relative to the foliage of this *Geanera*. The leaf they sent is most beautiful, and seems formed of thick crimson purple Genoa velvet.—Eds.]

PHYTOLACCA DECANDRA OUT OF DOORS.

A PLANT of *Phytolacca decandra* has grown here (Usk, Monmouthshire), unsheltered, for several years. It regularly bears its grape-like spikes, has luxuriant foliage, and attains a height of 7 or 8 feet. Having lost one plant through the heavy rains of winter causing it to rot, a little long litter was last year placed over the crown when the stems died. The *Phytolacca* is admired by all who see it. A plant sent to a friend at Hampstead, has done well there. It has survived two winters.—H. W. E.

PEACH CULTIVATION.—No. 3.

TRAINING.—The best method of training the Peach tree is in the fan form, but it requires care and knowledge, for without these all the vigour of the tree will be expended on the upper part, and the bottom will necessarily be weak. The growth, too, is often very irregular from the branches being badly disposed, and the means taken to promote an equal distribution of the sap; but notwithstanding these disadvantages, I consider fan-training by far the best—indeed, the only eligible mode of training Peach trees against walls. Seymour's mode of training is by some preferred. I shall, therefore, treat of both methods.

Fan-training.—Having a maiden plant with a single shoot, it should be cut to two buds, as close to each other as possible, but not nearer the ground than 9 inches, nor farther from it than 10 inches. The buds ought not to be on the front or at the back of the shoot, but on opposite sides. This pruning ought not to be performed later than February, and not when the shoot is frozen. Any buds below the point of heading-over need not be rubbed off until the two buds have pushed shoots a few inches long; then remove all buds and shoots except the two referred to.

The shoots, as they grow, should be brought down nearly to a horizontal position, but with a slight incline upwards to the length of 12 inches, and then taken in a curve upwards, in

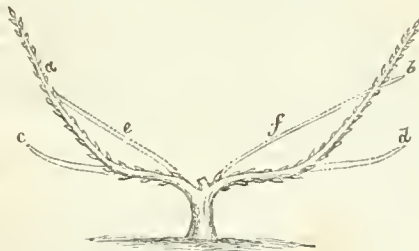


Fig. 1.

order to encourage growth as much as possible, so that by the end of summer the tree will have two vigorous shoots, as shown in *fig. 1*, *a, b*. In autumn, or by February, these should be cut back if strong to one-third of their length, if moderately vigorous to one-half, and if weak to two-thirds of their length. Bring them down nearer the horizontal line, but let the extremities still curve upwards, as shown by the dots *c, d*, *fig. 1*.

In spring a number of shoots will push from the shoots (or branches we must now term them), *c, d*. Four of these are to be retained as principal shoots—namely, one from the end of each of the branches, *c, d*, and one on each of those branches, as shown by the dotted lines, *e, f*, springing from the base of the branches *c, d*. On the upper part of the branches *c, d*, at every 9 inches a shoot is to be left, and not shortened until it has grown 10 inches, then take out the points of such shoots, but all others are to have the point pinched out at the second leaf if they grow more than 1 inch; but if they only produce a bunch of closely set leaves, leave them entire. If any laterals appear on the shoots on the branches *c, d*, stop them at the first joint, and this repeatedly throughout the season.

The intermediate shoots, stopped in the first instance at the second joint, must, if they again push, have their points pinched out when they have grown one joint beyond the point where they were stopped, and afterwards keep them closely pinched-in to one joint or leaf.

In autumn the tree will have the appearance of *fig. 2*, *g, g*, being the shoots left at 9 inches distance on the branches *c, d*, *fig. 1*; and on the under side of the branches, also between the shoots on the upper surface, there will be short stubby shoots, caused either by stopping or naturally produced, both calculated to afford fruit the following season. The disposition of the principal shoots is shown by *h, h*, and *i, i*, *fig. 2*; the lowest, *h, h*, being trained with their points curving upwards, so as to cause a more vigorous growth than if they were trained horizontally. The shoots *i, i*, ought to be trained straight, and if they grow more vigorously than the shoots *h, h*, either they must be depressed, or *h, h* be trained more upright, so that the latter may have, if anything, greater strength than *i, i*. The present year's growth must be shortened according to strength, one-third if strong, one-half if moderately vigorous, and two-thirds if weak. The bearing shoots, *g, g*, must not be pruned at all, unless the laterals on them are of greater length than 2 inches, then shorten them to the last joint, or that next the shoot; and the short stubby shoots between the shoots *g, g*, and



Fig. 2.

on the under side of the branches, are not to be pruned or shortened unless they are longer than 2 inches, then cut them back to the joint next the branch whence they arise.

The branches and shoots are, after pruning, to be trained as shown in *fig. 3*. The lowest branches are to be brought down to the horizontal line, so far along it as the bar and figure 2, which is at the end of the second cutting-back, and the shoot (now headed and a branch), above it ought to be exactly 1 foot from the lowest branch—that is, at the point where the figures 2 and 3 are situated. The distance from the stem of the tree to 2 should be 2 feet 6 inches, and the same length at 3. That may seem a great length to compass in two seasons, but with vigorous trees it often occurs. It is, however, immaterial whether this length be made in one or two years, if the branches originate at the proper place, and the bearing shoots along them at the proper distances apart.

In the third season shoots must be originated at all the points on the main branches, whence the dotted lines (*fig. 3*) proceed; but their treatment not differing from that of those of the preceding year, it is unnecessary to repeat it. I may, however, explain that the dotted lines show shoots originated the third season—namely, *j, j*, the third series of main branches; *k, k*,



Fig. 3.

the continuation of the second series; *l, l*, the continuation of the first series; and *m, m*, sub-branches on the first series of branches, there being 2 feet 6 inches from their origin to the stem, and 12 inches between the first and second series of branches where these sub-branches, *m, m*, are produced. The short dotted lines are the bearing wood.

The future years' training will be easily understood from

fig. 4. Every year two new branches are originated, and these may be termed principals; such are *n, o, p, q, r,* and upon or from these sub-branches are originated at every 2 feet 6 inches and trained straight so that there will be an interval of 1 foot

between the sub-branch and the principal branch at the point where the next sub-branch originates. Once formed, the principal and sub-branches are to be trained straight, which will be understood by fig. 4.

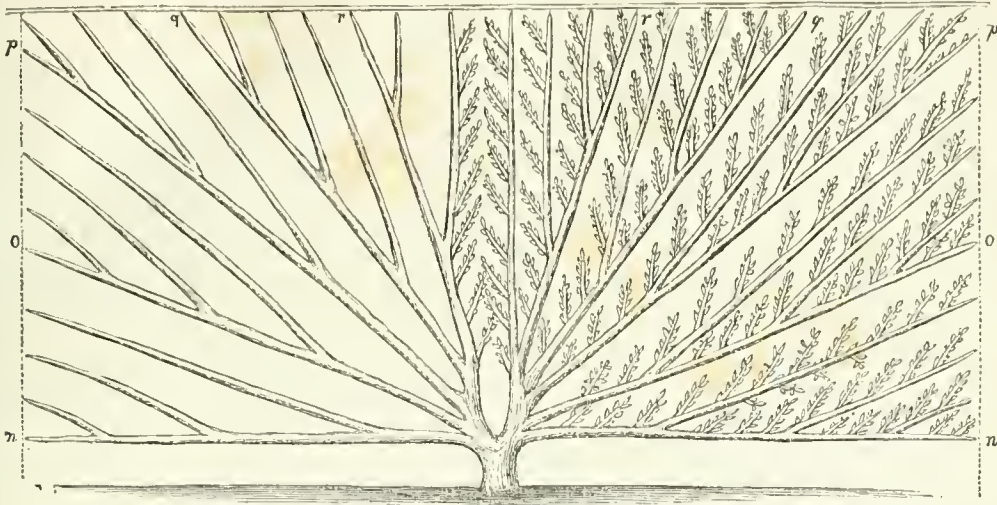


Fig. 4.

This mode of training is not in general practice, and for anything that I know to the contrary is original. It has for its object the furnishing of the lower part of the wall before the centre is filled with branches, to get the lower branches strong before the upper ones became strong, and the easily replacing

any branch when it has become worn out. No bearing wood is allowed on the under sides of the branches, except shoots kept closely pinched-in; and no disbudding is practised, as all shoots are pinched.—G. ABBEY.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Broccoli, if your autumn sort and *Cauliflowers* come into use too fast, take up some and lay them in in the shade, where you can protect them with a mat or other covering if frost set in before they are required for use. After the first frost or so is over, there is not so much danger for some time about young or succulent plants. *Endive*, see that the wet or frost does not injure your plants. *Lettuce*, all the plants that are to stand the winter out of doors should now or very soon be in the ground. *Onions*, see also that the winter Onions are not eaten up by slugs or snails, and have some soot kept dry in one of the sheds to dust over young plants in or out of frames. *Spinach* should be thinned out a little more; the late rains made it fill up the rows more than usual. Pits for *Asparagus*, *Sea-kale*, and *Rhubarb* will now be in use where these vegetables are wanted early, but any dark place will do for the *Rhubarb* and *Sea-kale*, and this is generally considered the best way to force *Sea-kale* until after Christmas; the saving of dung and labour will meet the cost of rearing plants for that purpose, besides, the *Sea-kale* is so much sweeter and easier to manage in the dead of winter.

FRUIT GARDEN.

Every Pear tree that has thrown out strong breastwood for the last year or two, with plenty of blossoms and little fruit, may now or soon be carefully taken up, but on no account is the foundation of the border to be disturbed to trace down roots. If you cannot pull them up—a bad practice, however—cut them off at once and reduce one or two of the weakest, and the strongest branches of the head to correspond; train out the remaining roots at full length, and throw 6 or 9 inches of good earth over them, and if the trees look stunted next summer, water them well. Again, if your tree is a stunted, half-starved one, take it up also, and if the roots are sound give them fresh soil and reduce the head two-thirds, otherwise throw it away. You will judge for yourself of all the intermediate degrees, but let there be no wavering about the extreme points. All other fruit trees are to be dealt with after the same manner, and not only once in a lifetime, but as often as the symptoms appear. Then come the trenching and making of new borders. It is always a good plan to have a few young trees of all the best sorts of fruit in reserve ready to fill up vacancies. However promising a stock of trees may be, there is no saying how

soon failures may happen, and a few young trees will not take up much room, especially if you transplant every second or third year, and if they bear a few fruit so much the better, as you will then be sure what they are before you remove them to their final situations. Young Peach and Apricot trees should be thus nursed, before they are planted against the walls, after receiving them from the nurseryman, and this having been a good season for ripening the wood of fruit trees, no one who is not already provided should neglect the opportunity of buying in a few young trees to be nursed under his own care a year or two before they are wanted on the walls.

FLOWER GARDEN.

All showy beds near the windows, and half-hardy plants against walls, &c., ought to be protected from frost as long as possible. It is too soon as yet to disturb the flower garden by removing large shrubs, but high time to plant all the early Tulips, Narcissuses, and all such bulbs for flowering early next spring, also any herbaceous plants for the same purpose. Wall-flowers, double Rockets, Polyanthus, double Primroses, Hapaticas, and other spring-flowering plants that have been growing in nursery beds through the summer, may now be removed to their blooming quarters in the flower borders, and if surrounded with fresh compost they will repay the trouble in the spring. Auriculas should soon be put in their quarters for the winter. Nine-tenths of the collections grown in the country are wintered in glazed frames or sheltered by boards hinged to a wall; the great point, however, is to keep them from drenching rains when the plant is in a dormant state. Polyanthus may still be planted; the sooner the better. All offsets, seedlings, or unhealthy bulbs should now be in the ground, and as the main bed ought to be planted between the second week in October and the first week in November, everything must now be in readiness and the first favourable opportunity taken of putting them in the ground. In consequence of the late fine weather the beds ought to be in a good state for planting, and it would be a wise precaution to cover them with mats during the night, or on the appearance of rain, as it is advisable not to plant when the bed is too much saturated with moisture. Beds for Ranunculuses should now be prepared, and all compost heaps turned and sweetened. Vegetable refuse should be collected and put in heaps to decay. Draw-up the soil round the stems of Dahlias in a small hillock to prevent the

crowns of the roots being injured by frosts, which we may soon expect.

GREENHOUSE AND CONSERVATORY.

Let all greenhouse plants be cleaned, pots and all, before they are set on the new-cleaned shelves, and let the lights be down all day, and half down during the night, unless rain or frosts occur. If the Orange trees or any plants kept permanently in the conservatory have not been looked over of late, no time should now be lost in getting every leaf and pot as clean as may be, likewise the surface of the borders. As this house will now be kept more close, nothing inside can be too clean and sweet. *Beaumontia grandiflora* will grow freely in a well-managed conservatory, but will not flower without more heat at the roots, and as it is of the same natural order as the *Allamanda* and *Echites*, there is no reason why these should not be inarched on it as soon as it is long enough to reach near the top of the house. From this time till late in the spring some climbers in this house will require pruning and thinning-out, the whole of them will require a little dressing now and then, especially where they obstruct the light. One great advantage of climbers is, that most of them flower on the current year's growth like the Vine; all such ought to be very closely pruned at the final dressing.

STOVE.

From October to May the principal watering in the stove should be done before noon, and to the middle or end of January the house should be kept as dry as possible, a slight syringing, however, will be useful to keep the foliage free from dust, &c. A sunny morning is the best time to water overhead, and once in ten days will be often enough. All plants that require pruning or thinning-out before the next growing season, should be dressed at once to give more room for the rest. *Clerodendrons*, *Vincas*, and other fast-growing plants which require large pots in summer, should never be wintered in these large pots; turn them out and shake all the soil from the roots, and place them in as small pots as you can cram their roots into, but do not prune the roots much at this time. If the plants are free from insects, the walls whitewashed, and the flues or heating apparatus in good order, all may be considered in good condition to face the winter.

PITS AND FRAMES.

A multitude of greenhouse plants would do better in cold pits for the next two months than in the greenhouse. Even turf pits with boarded frames and asphalt coverings to put on in rainy or frosty weather, are far better for these sorts of plants as long as the thermometer shows no more than 6° or 7° of frost. All plants should be put in order for the winter as soon as possible; those that are well-established may be placed in their winter quarters at once, giving the most valuable ones the best places; but those not well rooted may be kept in heat a few weeks longer, for though theory may say, Keep them as quiet as possible, practice, which is a much better guide says, Keep them growing until they are thoroughly established, unless you wish to consign them prematurely to the rubbish heap.—
W. KEANE.

DOINGS OF THE LAST WEEK.

NEARLY a week's rain has made us independent as respects water supply for a long time.

KITCHEN GARDEN.

Most of the crops have required no attention when let alone by intruders and vermin; and most of those planted during the summer and lately have grown very well. Where not a single patch of weeds could be seen a fortnight ago the ground is becoming green with them in their early stages; but a dry day and a scuffle with the Dutch hoe will soon put them out of sight again.

Celery.—During a dry afternoon earthed up a piece more *Celery*. As yet we have had neither a run nor bad head. Our only fear is, that we commenced using it rather early. The heavy rains have given a good soaking to the beds that had the heads merely cleaned and tied up. We are glad to see what Mr. Black says about sawdust for earthing-up, as it confirms our own experience and observation. The hint about papering is good for early *Celery* where paper is plentiful, but merely tying the heads just lightly enough to let the heart rise and swell, will often blanch the centres of good-sized heads so as to render them fit for table. We have known *Celery* that was merely tied take a prize in September instead of that which had been earthed-up with great care, and where the judges did their

work so well, and the competition was so close, that they had to cut open every head. In a wet season when the ground was soaked, we once had fine blanched *Celery* in August by running eight straw bands round the plants, and of these we happened then to have plenty. Much good *Celery* is spoiled by over-earthing. Protection is needed in winter, and a little long litter is better than too much earth.

Potatoes.—We hear that there is a good breadth, and not late kinds, still in the ground. In districts where the drought was prevalent it was sound policy to take up the *Potatoes* before the heavy rains came, as these promoted at once a second growth. Many that are now sold from late taking-up are deceptive. We saw lately what seemed a good dish of *Potatoes*, but they were unfit for use, all their best properties having gone to a host of waxy progeny, and such only good to look at in the case of those who delight in a sound mealy *Potato*. Those which have remained long enough in the ground to produce a second crop, may be known by being harder and drier to the touch and look than sound unsprouted *Potatoes*. This matter was fully alluded to in July and August, and several now admit that it was their own fault that the bulk of their best-looking *Potatoes* are now uneatable.

Cucumbers.—As we have now plenty again in a heated pit, we have done away with those in frames, as we wanted the room for other purposes, and we could not have kept them on without a considerable waste of material in the shape of linings, &c. We are well aware that if we allow these young *Cucumber* plants to bear freely now, they will exhaust themselves by Christmas or before it. Unless where there is a proper *Cucumber* house, where fruit is wanted from Christmas and onwards, very little should be taken from the plants until the shortest day is past. In these dull days with rain falling heavily, a little fire heat, with air at top and bottom to give a gentle draught through, will harden the plants, and enable them to stand the sun better when it comes, as we may yet have fine sunny days in October.

Mushrooms.—Finished earthing up the last piece in the shed, and spawed one bed in the *Mushroom* house. Perhaps about one-third of these shallow beds consisted of droppings and two-thirds of straw and turfy loam. Such beds never become too close, but sometimes they become rather dry, so that though there is plenty of spawn in them, the *Mushrooms* do not come up freely enough. In such a case the best plan is to make holes with a pointed stick or iron at every 4 inches or so over the bed, and to water with dung water at about 140°, as that will not be too much for filling all the holes, and from them it will percolate through the dryish manure. Of two evils it is always better to have a bed rather dry than too wet. A few *Mushrooms* have appeared in the pastures of late, but after so much wet they are poor compared with those grown at home.

Mixed together grass and litter in a heap, as hot material, however rough, will soon be very useful in bringing on crops, and however rank the main body of the heap may be, it is always easy to secure the heat, and keep the rankness out of the atmosphere in which the plants are growing. In the wettest days a much-needed opportunity was given for cleaning sheds, whitewashing, scrubbing pots, making tallies, and preparing for potting freely, washing glass under cover, &c., as, after this season, we shall want nearly all the light the glass can give.

FRUIT DEPARTMENT.

Pruned and cleaned the first *vine*, and in a few days will have it filled with flowering plants. As we have now only *Plums* left in our late orchard house, and as a few plants will do them no harm from watering, we have taken lots of *Primulas*, &c., into it, as being more safe than being out of doors, or even under frames. Covered with old sashes, and litter beneath them, the late *vine* border, and this before the heavy rains came. The *Grapes* keep all the better when the roots are not over-wet. Put some litter over the earlier *Vine* borders, and would have covered them with glass, boards, or tarpaulin, to protect them from the rain, if we could. The litter would throw off much, and help to keep the autumn heat in. When we can do so, we prefer putting on a light layer of litter early, in preference to a mound of fermenting material later. In the last plan there may be, and often is danger. In the first there can be none.

Figs in our little *Fig-house* will not do much more good, except with such an amount of heat as we do not feel disposed to give them. Besides, when we have kept the plants bearing in the end of October, and a good portion of November, we always come off with a scantier first crop in spring than we liked.

Hardy Out-door Fruit.—In two dry sunny afternoons we gathered a good portion, as the winds were throwing down some of our best Apples and Pears, even from low trees, and all that fall run the risk of decaying, even before they are fully ripe. In such a season as this our cold clayey loam stands us in good stead. We have gently forwarded Ribston Pippin and Margil Apples, and Marie Louise, Louise Bonne of Jersey, and Berré de Capiaumont Pears, and these seemed considerably in request; but the bulk of these and some later kinds we gathered the other day fresh and green, and the fruit, but for the blemishing in falling, would have been none the worse of a week or two more on the trees. Some of our neighbours have not had a Marie Louise Pear, and other fruits in proportion, left for weeks, all being naturally ripened and gone. We expect to hear that Apples and Pears on light sandy soils will be ripe much earlier than usual this season. We hear that in several places so circumstanced, even late fruit comes in much earlier than usual, so much so as to threaten a scarcity in winter and spring. Some soft kinds of Apples, as Codlins, Hawthorndens, &c., would not keep any length of time with us, but we see no signs, or at least not much, of such early maturity in the case of the late and hard kinds. Could we depend on sunny weather we would leave some a week or two longer, and would not have gathered so many, only the winds and heavy rains dashed some of the best to the ground; and though several, from falling on Strawberries, had a soft bed, it was grievous to see a bruise on huge Berré Bosc Pears and on large Apples, which are much in demand for fritters, &c. In gathering, we left many for a day or two in hampers, to be placed thinly ere long, as the dry days seemed so uncertain and far between. We expected a fine day on the 3rd of October, but it scarcely ceased raining all day, and out-door work had to be left for in-door work. It would be interesting to know how the ripening of fruit has been affected by the singular summer. At one time we thought that our Apples and Pears would be very small, but after the first rains they swelled very much, and now many are rather above than below the usual average as respects size.

ORNAMENTAL DEPARTMENT.

Took every opportunity when dry of running the hand machine over the lawn, as the scythe, when it must be resorted to, takes up so much more time, not merely in the cutting but in the sweeping; for there is the cause of the delay. Rolled walks at all rough when wet, and even half-covered with water, as then there is no danger of the roller becoming claggy, and all rough stones are pressed out of sight. Some of our walks are rather smooth, and need no rolling, except to give them a shining surface at times. Salting now should never be resorted to where there is much traffic, as the gravel will remain moist so long afterwards. Where there are numerous weeds, and the walks are rough with pebbles, the salt will do no greater harm than cracking the pebbles and making them smaller. We often think that a somewhat rough-surfaced walk is a kind of luxury in winter, as, though not so pleasant to walk on as a smooth walk for those who have thin-soled boots and tender feet, there is no danger of the fine gravel sticking to the boots. The great evil of using salt late for smooth walks is that it will make them soft and adhesive in winter, when of all times they ought to be hard, and exhibit no footmarks.

For a week past there has been desolation in the flower beds, except those chiefly marked by their foliage, as Colens, Iresine, Amaranthus, Golden Feverfew, Perilla, variegated Chrysanthemum, Cineraria maritima, Centaurea ragusina, and variegated Pelargoniums, all of which seemed the better of the rain. The flowers of other plants could not withstand the continued rains. There has, however, been such good growth, and even on Scarlet Pelargoniums such abundance of flower trusses, that if we had a few weeks of sunny weather we would have a second grand display in the flower garden. Such is our hope of this being the case, that we will break in upon none of our beds and borders by lifting until we see the signs of a frost that would injure the plants, and then a number of these can be taken up in a few hours, and placed under protection.

Pelargoniums that had been pruned-in and broken well afresh, we put in a shed under cover, to shelter them from the rain, until we have time to shake most of the earth from them, shorten roots if necessary, and repot in light sandy loam, in smaller pots, and add to the richness of the compost as we repot.

Cuttings.—Our chief work, as far as other matters would permit, has been making cuttings. Although we know it is late, we have put in many cuttings of the white-leaved Centaurea,

but then they are strong pieces, with good hard bottoms, and, therefore, not liable to go off. We shall take up a good portion of the old plants and repot, and from them obtain numbers of cuttings in spring, and these are always the best for forming fine outside edgings, whilst the older plants and cuttings struck in summer do best for the centre of the beds. This plant is valuable for forming contrasts with scarlet, purple, &c., and we should not like to be without it, but for artistic effect we do not consider it equal to the fine cut leaves of the Cineraria maritima, and that always looks better in a band, as round a circle, than in a straight line.

We recently detailed how we took off our Verbena cuttings late, and they could scarcely do better than they are doing in a cold pit. What we are taking off now, chiefly bedding Pelargoniums, are inserted thickly in pots, and placed in frames, where there is a little bottom heat, and a risk from rank steam besides. Our old gardeners when propagating under such circumstances, would have found the heat no benefit, as the damp would have taken off their cuttings wholesale. This is easily prevented by the knowledge of a little secret which we could not keep, but let out for the general benefit years ago, and that is, to give air, to prevent all accumulation of vapour, and yet prevent the cuttings unduly exhausting themselves by free evaporation. Our Verbenas, without heat, and put in late, have had air from 5 P.M. to 9 A.M., and then the air was cut off if the day was sunny, if dull and moist the air was left on. This is more necessary when bottom heat is given, as in the case of these late cuttings; and when such heat is not originally very sweet, though the materials are covered with what is sweet and more decayed. Shut up the cuttings under such circumstances night and day, and we shall expect to find damping and rotteness. Give fresh air all night, and in dull days shut down, or shade merely in bright sun, and you need not lose a single cutting. The close, confined, moist atmosphere is necessary to prevent the cutting exhausting itself, by transpiring its juices; but the confined atmosphere is the reverse of necessary, when the cutting would absorb rather than perspire, and from an ever-changing atmosphere it has access to fresh supplies of oxygen with which to excite and develop its vital powers. In looking at beds of cuttings we can generally tell whether they have had air at night or not.—R. F.

TRADE CATALOGUES RECEIVED.

Barr & Sugden, 12, King Street, Covent Garden, London, W.C.—*Autumnal Descriptive Catalogue of Bulbs and Plants.*
William Paul, Waltham Cross, London, N.—*Rose Catalogue, 1868-69.*

COVENT GARDEN MARKET.—OCTOBER 7.

The deliveries of home-grown produce have somewhat fallen off in consequence of the wet weather prevailing during the past week, and foreign goods are scarcely so plentiful at sales as they were, but prices have not advanced. Potato trade steady; first qualities at last week's quotation.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	1	6	2	0	Melons..... each	2	0	5	0
Apricots doz.	0	0	0	0	Nectarine doz.	0	0	0	0
Cherries lb.	0	0	0	0	Oranges 100	8	0	12	0
Chestnuts bush.	0	0	0	0	Peaches.....doz.	10	0	15	0
Currants ½ sieve	0	0	0	0	Pears (dessert) .. doz.	2	0	4	0
Black do.	0	0	0	0	Pine Apples .. lb.	4	0	7	0
Figs doz.	0	0	0	0	Plums ½ sieve	4	0	6	0
Filberts lb.	0	9	1	0	Quinces doz.	1	6	2	0
Cobs lb.	0	9	1	0	Raspberries .. lb.	0	0	0	0
Gooseberries .. quart	0	0	0	0	Strawberries.. per lb.	0	0	0	0
Grapes, Hothouse.. lb.	2	0	5	0	Walnuts..... bush.	10	0	16	0
Lemons 100	10	0	16	0	do. per 100	1	0	2	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	3	0	6	0	Leeks bunch	0	4	0	6
Asparagus 100	0	0	0	0	Lettuce per score	2	0	4	0
Beans, Kidney ½ sieve	3	0	4	0	Mushrooms ... pottle	3	0	4	0
Beet, Red doz.	2	0	3	0	Must.& Cress, punnet	0	2	0	0
Broccoli bundle	1	0	2	0	Parsley per sieve	3	0	4	0
Brus. Sprouts ½ sieve	2	0	0	0	Parsnips doz.	0	9	1	0
Cabbage doz.	1	0	2	0	Peas per quart	0	0	0	0
Capsicums 100	3	0	0	0	Potatoes bushel	4	6	6	0
Carrots bunch	0	4	0	8	do. do.	4	0	7	0
Cauliflower doz.	0	0	0	0	Radishes doz. bunches	1	6	0	0
Celery bundle	1	6	2	0	Rhubarb bundle	0	0	0	0
Cucumbers each	0	4	1	0	Sea-kale basket	0	0	0	0
Endive doz.	2	0	0	0	Shallots lb.	0	8	0	0
Fennel bunch	0	3	0	0	Spinach bushel	4	0	0	0
Garlic lb.	0	8	0	0	Tomatoes per doz.	1	0	2	0
Herbs bunch	0	3	0	0	Turnips bunch	0	6	0	0
Horseradish .. bundle	3	0	5	0					

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

ORANGEFIELD TOMATO (*G. Nunn*).—The berries you sent are not the Orangefield Tomato, nor anything like it, but are the Cherry-form of the Tomato. In foliage, shape and colour of fruit, the Orangefield much resembles the old Common Red in general cultivation; but is not so coarse-growing, and the fruit is not so large, nevertheless it is a very useful size. Mr. Record has gathered an average-sized fruit of the Orangefield, and weighed it against one of the Common Red; the former weighed 3½ ozs., and the latter 5½ ozs. The Orangefield tied to a stake in the open ground, and only 1½ feet high, had fifteen other fruits fit to gather; the other, planted and trained against a wall, is 7 feet high. Mr. Record has gathered dozens of the common sort weighing ¾ of a lb. each.

JUSTICIA SPECIOSA (*M. H.*).—It is much mildewed. Dust the whole plant thoroughly with flowers of sulphur, after remaining on two or three days syringe the plant. If the mildew is not quite removed repeat the treatment.

SHOOTS OF THE MANETTI ROSE (*J. R.*).—When they first appear they have many thorns, but as the age of the plant increases the thorns disappear wholly, or nearly so.

NAME OF MANETTI ROSE (*Rosarian*).—It was raised from seed in the Botanic Gardens at Monza, near Milan in Italy, by Signor Manetti, and commemorates him.

NOTES ON SOME ROSES (*Q. Q.*).—"As you confess yourself to be a 'pupil' of mine, I will this once attend to your request, but, in future, such requests must come through the Editors. With regard to your culture I have no fault to find with it. It has been a very trying summer, yet a very fine one for fruits and flowers in the hands of able and diligent cultivators. The experience of England and Ireland could hardly be in all points the same. You say 'I have nearly got mildew under now, but the Roses on the north slope look very far from healthy; they are making very little blooming wood, and such blossoms as are on them are poor and stunted. Does Mr. Radclyffe think that this arises from the aspect being not sufficiently warm for them, or does he think that it would be well to dig them up, and enrich the beds?' The above miseries may have arisen from a combination of causes, as extreme drought, root-sickness, poor cultivation, fungus, and extreme changes of temperature. Unless I saw the plants, and knew the sorts, and also knew the whole circumstances attending them, I could not determine the cause, or causes. I think it would be well to dig the plants up and deeply stir the ground under them. This will cause them to make new roots, and contribute towards their health for another year. Manetti Roses are none the worse of being moved annually, or biennially. Removal, however, unless carefully performed, interferes with their making roots independent of those of the Manetti. A few words about the Roses named—these are very good Roses, *Maréchal Niel*, *Charles Lefebvre*, *Maréchal Vaillant*, *Scour des Anzès*, *Alfred Colomb*, *Exposition de Brie*, *Prince de Portia*, *Prince Camille de Rohan*, *Duchesse de Caylus*, *François Lacharme*, *Charles Verdier*, *Madame Charles Wood*, *Souvenir de Comte Cavour* (not quite full), *Souvenir de William Wood*, *Dr. Jamin*, *Pierre Notting*, *John Hepper*. The following are good:—*George Prince*, *Dr. Andry*, *Jean Rosenkrantz*, *Lord Clyde*, *Charles Rouillard*, much given to mildew, and not a late bloomer, *Beauty of Waltham*, and *François Arago*. Of the remaining Roses I may say that *Rushton Radclyffe* does well on a Briar, but not well on *Manetti*. It is a first-rate foreer. You cannot have *Charles Wood tree*. It is a shy opener, of dark red colour nearly black. It is a good grower; but does not freely open. *Louis XIV.* grows well on its own roots, but miserably on a Briar or *Manetti*. *Mlle. Bonnaire* is beautiful, but a wretched grower on *Manetti*. It grows better on a Briar. Substitute for it *Marguerite de St. Amant*; and *Charles Verdier*, *Leopold Premier*, and I may add, beautiful *Julie Daran* require shade on the southern side, and then they will bloom freely, and the last will retain its brilliant vermilion colour. *Camille Bernardin* has not grown well here, nor signalled itself yet. *Madame Vidot*, *Madame Rivers*, and *Comtesse Cecile de Chabillant* are types of shape, and much given to mildew and orange fungus. The first two are delicate, require strong loam, a good summer and winter care. I have no doubt a hot south wall would be a good place for them. I have to-day potted seven sick plants of *Madame Vidot*, and one of *Madame Rivers*, and put them into my vinery to restrike their *Manetti* roots. I shall water them there, and plant them out in spring. Professor Koch I have just rejected; it is not full, is a shy opener, and has never given me one good bloom for the last five years.—*W. F. RADCLYFFE.*"

MANURING ROSES (*W. D. Scott*).—"I have never used either goose or sheep dung, dissolved in water, as a manure for Roses or plants generally. I should think they were both excellent manures, and that any quantity might be used in a diluted form without any deleterious effect.—*W. F. RADCLYFFE.*"

PEAR TREES IN ORCHARD HOUSE (*Pears*).—The leaves are severely mildewed. Dust them thoroughly with flowers of sulphur; strew the sulphur also over the surface of the border, and paint the stems with a creamy mixture of the same as you mention for your Vines. Repeat the same treatment in the spring and as often as you see symptoms of the mildew.

PROPAGATING EVERGREENS (*T. R.*).—Hollies and Yews are poor from cuttings; indeed, the plants are of little value; besides, it is a tedious mode of propagation, and one in which there are many failures. They are best increased by seeds, and the varieties by grafting on the common sorts. *Acucba* cuttings strike well. They would best succeed by your second mode—namely, under a hand-glass.

BUDDING MANETTI ROSE STOCKS (*Idem*).—The mode of budding *Manetti* Rose stocks does not differ from budding on the Briar, only the bud should be inserted below the surface, the stocks being earthed-up for that purpose. In budding, the soil should be removed, so that the bud may be inserted a little lower than you seem to have placed it—that is, on the part that has been covered with soil, which by keeping the stock from the atmosphere causes the bark to separate readily from the wood. We have not known "blacklocks" on Strawberries, and do not think a dressing of lime and soot would prevent them doing so; but the latter is a most excellent manure for Strawberries. Your only plan would be to poison them—Chase's Beetle Poison is good for the purpose.

GLOIRE DE DIJON ROSE FROM CUTTINGS (*G. M.*).—The best mode of striking the cuttings is in pots in a hotbed, but it is now too late for that. You may still put in cuttings of such shoots as have formed their terminal bud, or lately bloomed. The cuttings may have two joints or three according to their length, and should be inserted in a warm situation, in sandy soil enriched with a little leaf-mould, and the surface covered with an inch in depth of sharp sand. Place a hand-glass on the sand, and gently press it down so as to mark the place it will cover, put in the cuttings about 3 inches from the outline of the hand-glass, and 2 inches apart. Give a gentle watering, cover the cuttings with the hand-glass and keep them close and shaded from bright sun. In a month admit air by degrees, and rather freely during mild weather, and to dispel damp in winter. A mat or other covering should be placed over the hand-glass in severe weather. In April the cuttings should be thoroughly hardened-off, and by the end of the month they will be fit for potting and should be potted-off singly into small pots.

ORANGE-TREE CULTURE (*Idem*).—Your Orange tree will succeed admirably in a greenhouse. It should be potted in March in rich turfy loam, with the addition of one-fourth very decayed manure or cow dung, and one-sixth sharp sand. Good drainage ought to be provided. In potting do not disturb the roots more than necessary, but pick away the old soil from about them. Do not give a large shift, but only use a pot large enough to contain the roots without cramping them, and add a little fresh soil. Be careful not to over-water, but keep the soil moist, and encourage growth by affording a moist atmosphere and syringing the foliage morning and evening. A temperature of from 50° to 55° at night would assist in promoting free growth. When the plant is growing freely keep it well watered, but do not give any water until the plant is in need of it, and then enough to show itself at the drainage. A few good spongings of the leaves with water in which soft-soap has been dissolved at the rate of 2 ozs. to the gallop will tend to keep the foliage clean and be very beneficial. A light and airy situation should be given it, though for a time after potting a rather shady situation, and a warm close atmosphere would be desirable, whilst at other times it will do well in an ordinary greenhouse.

EARTH CLOSETS—DISSOLVING BONES (*W. T.*).—To give plans, &c. would not be suitable to our pages. There are several pamphlets published on the subject, we believe. Any of the agricultural implement makers could supply you with a bone-crushing machine. To dissolve the crushed bones they must be put into a tub and frequently stirred in a mixture of sulphuric acid and water. The proportions are 12 ozs. acid, 12 ozs. water, 16 ozs. bones.

TWELVE FUCHSIAS FOR EXHIBITION (*Idem*).—*Lizzie* Hexham, *Lord Elcho*, *King of the Doubles*, *Consolation*, *Harry George Henderson*, *Father Ignatius*, *Consolation*, *Catherine Parr*, *Minnie Banks*, *Conspicua*, *Mrs. Gladstone*, and *Rose of Denmark*.

RIGHT TO REMOVE TREES (*Morpeth*).—You have no right to remove the trees, bushes, &c., unless you are a nurseryman. You should have taken a lease before you improved the land, or had an agreement that the trees, &c., should be valued at your outgoing. A landlord is always entitled to an improved rental.

CYLINDER VINERIE (*T. S.*).—If you write to Messrs. Rivers, Nurseries, Sawbridgeworth, they will give you information on all the subjects you inquire about.

AMATEUR FLORIST (*G. O. P.*).—An amateur florist is one who cultivates flowers for pleasure and not for profit. If any one cultivates flowers for the purpose of selling them, he is a tradesman—a florist. Merely selling a few surplus flowers would not render him a tradesman.

STORING WALNUTS (*F. M.*).—The nuts should have the husks removed, from which they will separate easily when ripe. Clean the nuts well if they are dirty, which they sometimes are, owing to the husk decaying on the nut, by rubbing them between cloths until dry and clean; then store them in earthenware jars, and place in a cellar, and in a somewhat damp place. In a dry place the kernels are liable to shrivel, and in a wet one they are apt to become of bad flavour from mouldiness.

ERECTING A FERNEY (*L. J. P.*).—A north aspect will answer very well for a fernery. We presume you have a wall, which would serve as the back of the lean-to, and in that case the cost of a lean-to would not be more than two-thirds that of a span-roofed house. It is not necessary to have front lights, and the eads need not be more glass than straight across to the back wall from the lowest point of the roof. The stove you name is not suitable. It would not injure the Ferns in the way you seem to think; but from its drying the atmosphere, those in proximity to it would not thrive. We advise a small saddle boiler, and a flow and return 4-inch hot-water pipe along the front and one end, which will be sufficient to keep out frost.

ROCHEA FALCATA NOT FLOWERING (*H. W.*).—We think you have "starved" your plant too well. You should have encouraged growth by a moist atmosphere and plentiful supply of water, pinching back all irregular growth, so as to form a compact plant. This treatment should be continued up to June, and when a good growth has been made the plant should have no more water than enough to keep it from flagging, and have full exposure, or a light and airy situation in a greenhouse or pit. This will secure the proper maturation of the growth on which the flowering depends. The soil should be a sandy turfy loam, and pieces of pots, charcoal, and sandstone may be mixed with it to keep it open. The

drainage should be good. Keep the plant dry when it is not growing. The Vine eyes should be entirely covered with soil to the depth named in our reply.

SOWING LILIUM AURATUM SEED (J. M.).—The seed should be sown in pots well drained and filled to within half an inch of the rim with a compost of two-thirds light fibrous loam, and one-third sandy peat. Make the surface smooth, scatter the seeds rather thinly, and cover with fine soil, but not to a greater depth than the diameter of the seeds. Give a gentle watering, and plunge the pot in a hotbed of about 70° or it may be placed in a house where there is a temperature of from 60° to 65°. In this it should be kept until the seedlings are fairly above the surface, then gradually harden them off, and remove them to a light and airy situation in a greenhouse. The seed should be sown in February or the beginning of March, or it may be sown now, the pots being kept in a greenhouse until the time named, then placed in heat and watered. We did not note how long the seeds were in coming up; but by autumn they had formed little bulbs, which should be potted off singly, without injury to the roots.

SOWING PHLX SEED (Idem).—The seed of herbaceous Phloxes should be sown in pans well drained, and filled to within a little of the rim with a compost of two-thirds loam and one-third leaf mould. The surface should be made level, and the seeds covered lightly with fine soil, a gentle watering given, and the pans placed in a mild hotbed. The plants will soon be up, and to keep them strong give air and place them near the glass. When they are large enough to handle prick them off in pans about an inch apart, return them to the frame, and encourage their growth; they will in May be fine plants, fit to plant out where they are to remain. The best time to sow is in the beginning of March.

CULTURE OF BOEGAINVILLEA GLABRA AND SPECIOSA (J. A.).—Your treatment is correct. They are both the better of being kept pot-bound, or of their roots being confined. *B. glabra* usually flowers at the end of summer; *B. speciosa* in the spring and summer, sometimes in winter, and on the well-ripened wood of the past year, as you say, whilst *B. glabra* flowers on the shoots of the current year. The pruning must therefore be altered to suit. *B. glabra* should have whatever pruning is required in spring, before new growths are made, and that pruning may consist in cutting back the shoots that have flowered to within a few eyes of their base, and in thinning-out and shortening the others. Every encouragement must then be given, and, if necessary, the plants should be potted, taking care not to use larger pots than the roots will fill well by the time the growth is complete. When a good growth is made the plant should have full exposure to light, and have but little water—no more than sufficient to keep it from flagging. *B. speciosa* should have the shoots thinned after flowering, be pruned back to encourage new shoots if wanted, and should be encouraged in the same way as *B. glabra*, keeping it dry in winter; indeed, after a good growth has been made, these plants should not have more water than is sufficient to keep the foliage from flagging. That, and full exposure, with a dry atmosphere, are essential to success. The temperature from fire heat need at no time exceed 60°, whilst in winter 45° will be ample. They are propagated by cuttings, taking off the short stubby shoots when half ripe, or when their bases become rather firm. A hotbed is necessary and shade from bright sun, taking care not to over-water. They succeed best when covered with a bell-glass.

PLANT FAILURES (One in a Fir).—We think your success in growing Ferns should encourage you to persevere. Perfection is not yet attained by the most skilled, and we see no reason for your desponding of success. Persevere, and you will be successful and gain experience. We do not perceive in what way we can help you at present, but we think you have not provided sufficient ventilation for your greenhouse. Instead of one you should have at least three such openings as you name for ventilation, and the temperature you have kept up is much too high for greenhouse plants; 45° at night is quite sufficient at any time from fire heat. "Florist's Flowers for the Many" would suit you, which you can have free by post for five stamps from our office. "The principles of gardening you may obtain from the "Science and Practice of Gardening," to be had post free from our office for 3s. 4d.

HEATING PITS (Evesham).—Your proposed flue, No. 1, would be sufficient to keep out frost. No. 3 is what we would prefer, as then the pit would be more generally useful when not wanted for bedding plants. The small flue would do, but except taking up more room there would be no objection to a flue 9 inches wide, inside measure. The best way to use such a pit would be to have a movable stage above the height of the flue, and then when required the chamber could be turned into a hot-air chamber.

CUCUMBER HOUSE (A. Harris).—You will have plenty of light for Cucumbers from your roof and front glass, although the ends are wooden, but without any artificial heat it would be of little use planting out before June. As to a trellis that would be advisable, and it should be not close to, but at least 15 inches from the glass. You may syringe freely in hot weather, and the more the water plays on the under sides of the leaves the better. Flower seeds of all kinds could be raised in such a house. Hardy annuals, &c., in February and March; half-hardy in April and May; and tender or tropical kinds after the middle of June. If we had such a house we would have simple means for keeping frost out.

GROUND VINERY PLANTING (W. J. B.).—Mr. Lane's grand orchard-house vinery had the Vines planted in the common soil, or rather in a few barrows of loam laid on the surface. In your case we would make a border for your barless vinery. We think one Vine at each end would be enough. By planting now strong fruiting canes you may take a light crop next season, but if you take much the Vines will be injured. But for the pleasure of having fruit the first season, we would advise canes not so large, and to be cut back after planting to a couple of feet or so in length, so as to secure strong canes with good established roots the second season. We do not consider the Trentham Black superior to the Hamburg for this purpose, but we cannot speak from our own experience.

FLOWER GARDEN PLANTING (D. R. C.).—We like the proposed planting for 1869 best. If you have plenty of Cineraria use it as proposed for the centre of No. 1; if not, use Variegated Pelargoniums, as we would prefer to use the Cineraria in No. 9; others in No. 1, as proposed. If Variegated Pelargonium be used in No. 1, a different one should be used in 3, and the Perilla be stumped low. 7, Perilla will be too strong an edging for Cloth of Gold, and this latter rarely does well when fully exposed to the

sun. We would rather have Perilla or Amaranthus for the centre, and Cloth of Gold round, which would also come in well, and better with No. 8, Mrs. Pollock, with Lobelia and Cerastium. No. 9, we would surround Coleus with Cineraria maritima.

CLIMBERS FOR A CONSERVATORY (Bandon).—As to the house we are not sure of the position of the pillars, arches, &c., on the back wall. Habrothamnus and Tacsonia would do as proposed, but we would greatly prefer Camellias, which would look well at all times and require but little labour. For pillars and arches in front of the house we would recommend Jasminum gracile, Kennedya Marryattae, Solya heterophylla, and Kennedya dilatata. For the trellis at the path we would have Passifloras cerulea and racemosa cerulea. For your six pilasters on the west wall we would advise Roses, Marchal Niel, Gloire de Dijon, Climbing Devoniansis, Céline Forestier, Solfaterre, and Cloth of Gold or Lamarque.

SHRUBS FOR A TOWN GARDEN (C. E. R. 1').—The part of your town garden having little sun we would devote to shrubs. The wall itself may be covered with Jasminum nudiflorum, which from its gay yellow flowers, produced abundantly at midwinter, is very interesting. The old Aucuba will do well, and a few plants of the Gold and Silver-edged Hollies would give you colour, and be enlivening to the dark green of the Rhododendron, which we would make the principal shrub. The Kalmia latifolia and glauca, Ledum latifolium, and Andromeda feribunda are very pretty, and delight in shade. Ribes sanguineum var. v. may be planted if you can give them sun, also the tree Peonies, whilst for bordering to the shady border Vinca elegantissima is very neat and effective.

ANNUALS FOR SPRING BLOOMING (Idem).—The following will be in good time, but ought to have been sown at the end of September or early in October:—Sweet Alyssum, Calandrinia umbellata, Candytuft, crineum, white, and purple; Clarkia pulchella and the white variety, Collisiosa bicolor, Erysimum Peroffskianum, Eschscholtzia californica, E. crocea and alba, Eucharidium grandiflorum, Eutocia viscidia, Gilia tricolor, G. tricolor rosea splendens, Godetia roseo-alba, Leptosiphon densiflorum, Lupinus nanus, Nemophila maculata and insignis, Silene pendula, S. rubella alba, and Virginia Stock, red and white. They will not be off by bedding-out time.

TOMATO CULTURE (Idem).—These will succeed against a south wall, the plants being raised and forwarded in heat and well hardened off before planting out. They may be watered in dry weather with liquid manure; guano at the rate of 1 oz. to the gallon of water is a good liquid manure. Chamber slops diluted with five times their volume of water will be a good manure, only give it to plants in active growth, and not too frequently, and when applying it give a thorough soaking.

PLANTS FOR CONSERVATORY WITH VINES (T. H. Jenkins).—Your house will be suitable for Ferns, at all seasons interesting, and the different kinds of foliage and variegated plants as Agapanthus umbellatus variegatus Cordylina indivisa, Draena australis, Hydrangea japonica variegata, Phormium tenax variegatum, Yucca aloifolia variegata, and Y. filamentosa variegata. These, with the Ferns, will have a good effect even without flowering plants, and especially at a time when the flowering plants, on account of the Vines, will not be well longer retained in the house. To the above you may add of Orchids—Cypripedium venustum and insigne, Cymbidium aloifolium, Arpophyllum giganteum, Epidendrum vitellium majus, Lycaste Skinneri, Oncidium flexuosum, crip-pium, and leucociliatum, Odontoglossum bicolorense splendens, O. pulchellum, and O. grande. Camellias and Azaleas you will depend on for winter and spring, and Epacrises are fine for winter. All may be grown well by your keeping them in the house until July when they may, as matter of necessity, be moved out, and returned to the house in September or October. A few others that may be treated in the same way are Asclepias armata, longiflora magnifica, and oleifolia elegans; Chorozema cordatum splendens, Coronilla glauca, Correae Brilliant and speciosa major, Cyclamen persicum vars., Cytisus racemosus, Indigofera decora, Linum trigynum, Monochætum ensiferum, Nerium rubrum pleatum, Polygala Dalmaisiana, Rhododendron jasminiflorum, and R. Princess Royal, Witsenia corymbosa, and Valloia purpurea. You must not omit Primulas, Cinerarias, Calceolarias, and Pelargoniums, and for early spring bulbs, Crocus, Tulips, Hyacinths, and Narcissus are desirable. Three of the best Vines for such a house are Black Hamburg, Foster's White Seeding, and Trentham Black.

AMERICAN GARDENERS (R. S.).—We know of no publication containing a list of American gardeners and their employers.

PEARS FOR WALL (H. W. B.).—For the west aspect, Alexander Lambré, Beurré de Capiaumont, Colmar d'Été, Thompson's, and Vicar of Winkfield. No Pear succeeds well on a north aspect, you had better plant these Morello Cherries.

NAMES OF FRUITS (A Subscriber, Surrey).—1, Vicar of Winkfield 2, Hacon's Incomparable; 3, Beurré de Rance; 4, No Plus Meuris (H. E. W.).—1, Autumn Pearmain; 2, Royal Knisset; 3, Dumelow's Seedling; 4, Golden Knob; 5, Christie's Pippin. You cannot have better than Marie Louise Pear for your south-west wall. (Philokepos).—3, Manks Codlin; 6, Russet Nonpareil; 9, Wyken Pippin. These are all we can name of the very nice collection you sent. The others are varieties with which we have no acquaintance, and we should very much like to know something about them. (J. L. D.).—Apples: No. 1 Seedling, is a very handsome Apple; 2, also a seedling, is worthless; 4, Beauty of Kent; 5, Pomme de Neige. Pears: 1, Lewes; 2, Vicar of Winkfield; 3, Duchesse d'Angoulême. The Plum appears to be Jefferson. (H. W.).—Pears: 1 and 2, Quite decayed; 3, Chaumontel; 4, Passe Colmar; 5, Easter Beurré; 6, Glou Morceau; 7, Beurré de Rance; 8, Marie Louise; 9, Urbainste; 10, Chaumontel. Apples: 11, Decayed; 12, Blenheim Orange; 13, Herefordshire Pearmain. (T. W. Horne).—Pear: Beurré Diel. (T. G. R.).—Your Pear is Napoléon. (Henry & Son).—Your Grape is Royal Muscadine, the Chasselas de Fontainebleau of the French. (H. J. C.).—Pears: 1, Passe Colmar; 2, Glou Morceau; 3, Passe Colmar; 4, Bezi Væet; 5, Beurré Diel; 6, Passe Colmar; 7, Forelle; 8, Beurré Bosc; 9, Beurré de Rance; 10, Unknown; 11, Urbaniste; 12, Beurré de Rance. (Sutton, Wiltshire).—Apples: 1, Herefordshire Pearmain; 2, Scarlet Nonpareil; 4, Shepherd's Newington; 5, Oliver's; 6, Glory of Wilts; 7, Waltham Abbey Seedling; 8, Cat's Head; 9, Old Nonpareil; 11, Manks Codlin; 12, Dumelow's Seedling; 13, Ditto; 14, Rymor. Pears: 16, Uvedale's St. Germain; 17, Decayed. The others unknown. (John Ingle, jun.).—Apples: —1, Royal Russet; 2, Sam Young; 3, Ross Nonpareil; 6, Reinette du Canada; 8, Winter Strawberry; 9, Rymor; 10 and 11, Quite decayed; 12, Emperor Alexander; 14, Grange's Pearmain 15, Hawthorned.

17, Waltham Abbey Seedling. The others we do not recognise at present. (*Centurion*).—Your Apples and Pears are a curious mixed lot, many of them are, no doubt, purely local sorts, which are to be found nowhere else. There are many such in this country which have no names. We certify what we can. A, This name is correct; B, Ditto; C, Too much decayed for us to name with certainty. It is, however, not Napoleon. D, Urbaniste; F, Yes. The true old Golden Pippin. I, Most probably a long form of White Doyenné; L, Is not Reibette du Canada. It is, however, unknown. It might be Reibette Grise dorée. (*H. Hare*).—Yours are by far the finest lot of Pears we have had sent to us this season. They are so exceedingly well grown that many of them are scarcely recognisable, so much are they altered from their usual character. We

should be glad to know how they have been cultivated. We name them as far as known. No. 3, Flemish Beauty; 5, Napoleon; 6, Beurré Diel; 7, Beurré de Rance; 19, Baronne de Mello, probably; 20, Brown Beurré; 23 and 31, Fondante d'Automne; 25, White Doyenné; 26, Comte de Lamy; 33, Doyenné du Comice, extremely fine; 18, Knight's Monarch; 37, Passe Colmar; 39, Marchal de la Cour; 40, Triomphe de Jodoigne; 44, Probably Beurré Clairgeu; 41, Bergarotte Drouot.

NAMES OF PLANTS (*Rosin*).—Aretotic reptans. The late Mr. Beaton used to call it "The Frosted-silver Plant." (*M. K. Drumma*).—1, Purple Orache; 2, Agathia celestis variegata; 3, Nepeta cæsia. (*Julia*).—Capsella bursa-pastoris. (*J. S. H.*).—Hippophae rhamnoides.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending October 6th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 30	29.273	29.111	60	41	58	57	S.W.	.36	Rain; boisterous with rain; fine, slight mist.
Thurs. 1	29.994	29.640	59	39	58	57	N.W.	.00	Cloudy; fine, cloudy; clear and fine.
Fri. .. 2	30.007	29.842	61	35	56	56	N.E.	.00	Clear and fine; very fine; fine, rather cold.
Sat. .. 3	29.768	29.610	58	39	55	55	N.E.	.52	Drizzling rain; heavy rain; cold, heavy rain.
Sun... 4	29.864	29.801	61	36	55	55	S.E.	.00	Clear and fine; very fine; slight drizzle.
Mon... 5	30.017	29.898	62	45	55	55	S.E.	.09	Foggy; hazy, overcast; clear and very fine.
Tues.. 6	29.998	29.988	60	45	55	55	S.	.42	Overcast, rain; heavy showers; heavy rain.
Mean	29.847	29.691	60.14	40.00	56.09	55.71	..	1.80	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

DUBBING OR TRIMMING GAME STAGS.

GAME STAGS should not be dubbed until their combs are full grown, otherwise these will grow a little after the cutting. The usual time for dubbing is about the first Christmas, if spring-hatched birds, at which time the cock chicken becomes a "stag." In dubbing two persons are employed, one to hold the bird steadily and firmly in his hands, having the thighs and wings between his thumbs and forefingers, with the head of the bird pointing towards the operator. The two persons standing facing each other, the operator takes hold of the stag's comb, and with a sharp-pair of horse-clipping scissors takes off first one wattle and deaf ear at one stroke; then, turning the bird's head, still holding him by the comb, he with the second stroke takes off the other gill or wattle and deaf ear; and then, taking the bird by the back of the head and neck, or still holding him by the comb as some do, he with the third stroke cuts from the beak backwards, taking the comb neatly and quickly off close down to the head at one stroke, which completes the operation in about two minutes, and in three strokes if done by a clever operator. Some anoint the bird's head with sweet oil after the operation, but most persons consider this quite unnecessary, as a healthy bird heals very quickly, and in twenty days at farthest no trace of the operation should be visible, the whole head being quite healed and red again.

Some people cut from the back of the comb towards the beak, but I think this is backhanded and clumsy, as the stag can best be held facing the operator, and in cutting from the beak backwards the man stands in front of the bird, and can see both sides of the comb much better than in the other way. The comb should be taken off last (though some like taking it off first), as it affords a good hold to the operator. From six to twelve months old is the usual time for dubbing Game stags. Many operators say that they can cut better from the back of the comb to the beak, but in general I have seen it best done in the way I describe, and more quickly and neatly as well.

Game Bantams should be dubbed in exactly the same manner. The dark or gipsy-combed sorts stand the dubbing the best. These are the Dark Greys, Brown Reds, Dark Birchens, and the gipsy-combed Black Game fowls. The Piles and Whites, Blue Duns, and the yellow or daw-eyed sorts do not stand dubbing quite so well as the Black and red-eyed sorts. The light brown-eyed also, and bay-eyed sorts do not stand it so well as red and black-eyed birds, which are the gamest breeds and strains of all Game fowls.

Game stags should either be dubbed on their "out-walks," or be put out to walk as soon as dubbed, as if a number of them be dubbed in the home run, and then be put down together again, they will all begin to fight hard, and will probably injure themselves severely before they can be separated, as they do not know or recognise each other after dubbing, and will never run together quietly again, though they may have done so previously for some time.

Game stags should not be put out on a walk before they are six months old, and the best walks possible should be selected for them, on dry soils, not too bleak or windy in situation, and where from two to four of the smaller sort of farmyard hens are kept. Cottage walks if with a good run are the best, and maling or mill-yards, if not too hard strown, are in general preferable to any dirty farmyard, where they mix too much with pigs and aquatic fowls to keep clean enough. Piles, if high-bred, are, perhaps, more delicate than the darker breeds, and, therefore, require the best walks as a rule.

In preparing Game cocks for exhibition the small hairy feathers, called hairs or more technically "bristles," are all cut close off with the scissors, both at the top and sides of the head, but no trimming of the regular feathers is at all allowable. Some breeds have more of these bristles than others, the hardest breeds generally having most, Black-breasted Reds more especially.

Before exhibition some breeders rub the combs and faces of both cocks and hens with yolk of egg or milk, to give a smooth and shining appearance to the head and face, but healthy birds do not require this, and it is after all an artificial means of giving an appearance, and not to be recommended. Some leave the deaf ears uncut until the other parts have healed, but all should be trimmed or cut together.—NEWMARKET.

PAYING WITH POSTAGE STAMPS.

I VENTURE to call your particular attention, and more especially that of your readers, to the very objectionable practice on the part of exhibitors at poultry shows of sending postage and even receipt stamps in payment of entry fees. None but secretaries themselves have any idea of the trouble and inconvenience arising from this. Besides, if the exhibitors would look into the matter, they would find it exceedingly risky. Several cases have come to my knowledge this year of letters containing entries and stamps having either miscarried or been lost in their transit through the post office. I have myself, at the moment I write, nearly £100 worth of stamps, all of which have been forwarded to me as entry fees, and in sums of from 1s. to £2. Of course the stamps can be returned in prize money, but exhibitors do not like it, and they sometimes positively refuse to have them. Would it not save much trouble and anxiety if exhibitors sent the amount of their fees by means of a post-office order? I myself think so, for there is neither reason nor safety in a person sending, say 30s. worth of stamps by post in one letter, at the same time having to pay for an extra stamp or two in consequence of overweight, before he will take out a post-office order costing 3d., and incurring no risk.

I notice that as some shows stamps are only taken as fees at the rate of thirteen or fourteen to the shilling, but of course the order system would be much better, both to payer and receiver, if universally adopted. Then, again, every exhibitor could be paid his prize money in the same way, and he would thus have the pleasure of receiving money in place of penny, twopenny, and even sixpenny stamps.

If this is done it will, as I have before said, be more convenient to the senders, and at the same time considerably lessen the duties of many of our hard-worked and poorly-paid secretaries.—C. W. M.

[It would be wrong to refuse receiving postage stamps in payment of small sums, nor do we see any objection to paying larger sums with the same kind of paper money, provided the payer is required in every instance to pay thirteen penny stamps for every shilling due from him. The postage stamps will be taken by the Distributor of Stamps, and money given for them, after taking off a small discount.—Eds.]

MANCHESTER POULTRY SHOW.

THE eighth annual Show of Poultry and Pigeons at the Belle Vue Zoological Gardens, Manchester, has just closed, and the arrangements have been quite as effective as those of former years. Few persons ever anticipated that so large and excellent a collection could have been brought together so early in the season by any Committee, who restricted the competition exclusively to birds of the current year. Nevertheless, this Exhibition proved one of the very best "chicken shows" which has ever taken place, though had it been held a few weeks later no doubt there would have been a considerable addition to the entries.

This season appears to have had a very unusual influence on poultry during the moulting time. The long drought so suddenly followed by heavy rains, coupled with cold, and of late even frosty nights, has had anything but a good effect on chickens, and from these causes severe colds and even roup itself have become far more common than for many years past. At Manchester we noticed with regret various pens of Spanish, Cochins, Game Bantams, and several specimens of Hamburgs, seriously suffering from decided roup. It would have been far wiser of their owners to have let them remain at home than to have confirmed the disease by the continued exposure of the birds, independently altogether of the injustice to exhibitors whose fowls were not ailing, having birds thus suffering placed in proximity to their own. In some of the worst cases the birds were returned at once to their owners, as being the best plan that could be adopted under the circumstances.

That great numbers of the pens shown were of extraordinary merit is beyond question, though after a few more weeks, the Game fowls especially, would have shown in much harder feather. The prize Brown Red pullets, and the Game fowls generally, exhibited by his Grace the Duke of Newcastle, Mr. James Fletcher, Mr. Halsall, and a few others, however, were penned in first-rate condition. The class for Golden-spangled *Hamburg* cockerels was one of the very best we ever met with, and the Golden-pencilled Hamburgs were also unusually good, but the Silver-spangled and Silver-pencilled were, as a whole, not by any means in a healthy first-rate condition. The Black Hamburgs were most meritorious throughout. The Manchester classes of Dark *Brahmas* were better than any hitherto shown, and were numerously filled. The light-feathered ones, on the contrary, were comparatively defective. *Cochins* were really good, and some of the Partridge-coloured were most extraordinary, whether viewed as to the correctness of plumage or early maturity. Of *Dorkings* and *Spanish* there were large classes of first-rate birds, but scarcely as yet in full feather.

Geese, *Turkeys*, and *Ducks* were extraordinarily good, and our readers may feel an interest in knowing the weights of some of the best of them, in a very close competition. The best Rouen Drake weighed 7 lbs. 15½ ozs.; the best two Rouen Ducks, 14 lbs.; the best Aylesbury drake, 8½ lbs.; the best two Aylesbury Ducks, 14 lbs. 15 ozs.; the best Embden gander, 23 lbs.; the best two Embden Geese, 38 lbs. 5 ozs.; the best Grey gander, 21 lbs. 10 ozs.; the best two Grey Geese, 33 lbs. 8 ozs.; the heaviest young Turkey, 14 lbs. 14½ ozs.

Of *Pigeons* there was a very full and very superior collection, which attracted a vast number of amateurs. The class for Doves contained a great variety of unique specimens, chiefly the property of Messrs. Jennison. The Show was remarkably well attended, and the weather was very pleasant and encouraging.

DORKING (Coloured, except Silver Grey).—*Cockerel*.—First, Mrs. F. S. Arkwright, Etwahl Hall, Derby. Second, T. Briden. Third, J. Longland, Fourth, Duke of Newcastle. Clumber. Highly Commended, Hon. W. H. W. Fitzwilliam, Westworth Woodhouse; J. Longland. Commended, Mrs. Bailey, Shooter's Hill, Longton. *Chickens*.—First and Second, Mrs. F. S. Arkwright. Third, Hon. W. H. W. Fitzwilliam. Fourth, Duke of Newcastle. Highly Commended, F. Schofield; T. E. Kell; J. F. Newton; J. Anderson, Meigle, N.E.; Mrs. A. Hurt. Commended, J. Anderson; H. Pickles, jun. Early. *Pullets*.—First, Duke of Newcastle. Second, Mrs. F. S. Arkwright. Third, T. Raines.

DORKING (Silver Grey).—*Cockerel*.—First, Rev. E. S. Tiddeman. Second, T. Briden. Third, T. Raines. Highly Commended, Rev. T. O'Grady, Ashbourne. Commended, T. Raines. *Pullets*.—First, D. Hardie. Second, Miss Milne. Third, Rev. E. S. Tiddeman, Brentwood. Highly Commended, Rev. T. O'Grady.

SPANISH.—*Cockerel*.—First, W. A. Hyde, Ashton-under-Lyne. Second, M. Ferrand, Dalton, Huddersfield. Third, W. R. Bull, Newport Pagnell. Fourth, Messrs. T. & E. Comber. Highly Commended, M. Ferrand. Commended, T. Briden; J. Biggin; H. Lane, Bristol. *Chickens*.—First, M. Ferrand. Second, H. Lane. Third, Messrs. T. & E. Comber. Fourth, E. Jones. Highly Commended, M. Ferrand; H. Beldon, Goitstock;

Burch & Boulter, Shoffield. *Pullets*.—First, J. Newton, Silsda, Leeds. Second, Burch & Boulter.

COCHIN-CHINA (Cinnamon and Buff).—*Cockerel*.—First and Second, W. A. Taylor, Manchester. Third, C. Sidgwick, Ryddesden Hall, Keighley. Fourth, A. Darby. Commended, J. Siebel, Timperley. *Chickens*.—First and Second, W. A. Taylor. Third, J. N. Beasley. Fourth, Hon. Mrs. Sugden, Wells. Highly Commended, C. Sidgwick; C. Leyland; D. Young. Commended, Mrs. M. Wilkin; H. Mapplebeck, Mossley, Birmingham. *Pullets*.—First, Mrs. A. Woodcock, Rearsby. Second, Bowman and Fearon, Whitehaven. Highly Commended, Hon. Mrs. Sugden; R. E. Brown; D. Young; A. Darby; H. Mapplebeck.

COCHIN-CHINA (Brown and Partridge-feathered).—*Cockerel*.—First and Second, E. Tudman, Whitechurch. Third, J. K. Fowler, Aylesbury. Commended, Hon. Mrs. Sugden; J. A. Taylor. *Chickens*.—First, Second, and Highly Commended, J. A. Taylor. Third, E. Tudman. Commended, G. Lamb. *Pullets*.—First, G. Lamb. Second, H. Vaughan. Highly Commended, J. A. Taylor; H. Lingwood, Needham Market; J. K. Fowler.

COCHIN-CHINA (White).—*Cockerel*.—First and Second, R. Chase, Birmingham. *Pullets*.—First, A. Williamson, Queensborough Hall, Leicester. Second, R. Chase. Highly Commended, G. Lamb.

BRAHMA POOTRA (Dark).—*Cockerel*.—First, Rev. J. F. Newton, Kirby-in-Cleveland. Second, Duke of Newcastle. Third, J. Siebel. Highly Commended, C. Leyland; J. F. Newton; Mrs. Burrell; Hon. Miss D. Pennant, Penrhyn Castle, Bangor; Mrs. A. Hart; Mrs. Bailey; S. & R. Ashton, Mottram; E. Ryder, Harrytown. Commended, Mrs. Bailey. *Pullets*.—First, Hon. Miss D. Pennant. Second, K. Jopp, Abberdeen. Third, Mrs. A. Hart. Highly Commended, Rev. E. Alder; Hoc. Miss D. Pennant; E. Leech, Rochdale; Mrs. A. Hart; J. Siebel; H. Lingwood.

BRAHMA POOTRA (Light).—*Cockerel*.—First, F. Crook, Forest Hill. Second, H. M. Maynard, Holmewood, Isle of Wight. Third, H. Dowsett, Pleshey. Commended, J. Parea, Postford. *Pullets*.—First, F. Crook. Second, H. Lacy, Hedden Bridge. Third, A. O. Worthington, Barton-on-Trent. Highly Commended, J. Parea. Commended, H. M. Maynard.

POLISH (Any variety).—*Cockerel*.—First, H. Beldon, Goitstock. Second, H. Pickles, jun. Third, and Highly Commended, P. Unsworth, Lowton, Newton-le-Willows. *Pullets*.—First, H. Pickles, jun. Second, P. Unsworth. Third, H. Beldon. Commended, T. Walsley.

CRÈVE-CŒUR.—*Chickens*.—First, Hon. W. H. W. Fitzwilliam. Second, J. K. Fowler. Third, Col. Stuart Wortley.

HOUDANS.—*Chickens*.—First, W. Fair, Fixby Park, Huddersfield. Second, H. M. Maynard. Third, F. Heald, London. Commended, C. Leyland; Col. Stuart Wortley, London.

LA FLECHE.—*Chickens*.—First, J. K. Fowler. Second, J. C. Cooper, Cooper's Hill, Limerick. Highly Commended, Col. Stuart Wortley.

GAME (Black-breasted Reds).—*Cockerels*.—First, Duke of Newcastle. Second, J. W. Thompson. Third, C. Chaloner. *Chickens*.—First, Duke of Newcastle. Second, Rev. T. O'Grady. Third, J. W. Thompson. Fourth and Highly Commended, J. Fletcher, Stoneclough. *Pullet*.—First, S. Matthews, Stowmarket. Second, Rev. T. O'Grady. Third, D. Hardie. Commended, C. Chaloner, Workson.

GAME (Brown and other Reds, except Black-breasted).—*Cockerel*.—First, T. Statter, Stand. Second, F. Sales. Third, J. Hodgson. Highly Commended, J. Fletcher; W. Clough. *Chickens*.—First, J. Fletcher. Second, F. Sales, Crowle. Third and Fourth, J. Wood, Wigan. Highly Commended, Rev. F. Watson. Commended, J. Wood; T. Statter. *Pullet*.—First and Second, J. Wood. Third, J. Hodgson. Highly Commended, T. Dyson, Halifax; T. Statter.

GAME (Duckwings and other Greys and Blues).—*Chickens*.—First, J. W. Thompson, Southwam. Second, J. Fletcher. Third, J. Halsall. *Pullet*.—First, J. Halsall, Ince. Second, J. Steel. Commended, T. Mason.

GAME (White and Piles).—*Chickens*.—First, J. Halsall. Second, C. Chaloner.

DUCKS (Rouen).—*Drake*.—First, J. Anderson. Second, Gunson & Jefferson. Third, T. Statter. Commended, T. Wakefield; Gunson & Jefferson. Whitehaven; J. J. Stott, Rochdale. *Ducklings*.—First, T. Burgess. Second, J. Wood. Third, Gunson & Jefferson. Highly Commended, T. Wakefield; E. Leech; T. Statter; J. J. Stott. Commended, T. Wakefield; D. Hardie.

DUCKS (White Aylesbury).—*Drake*.—First, J. Anderson. Second, Mrs. M. Seamons, Aylesbury. Third, R. Smalley, Lancaster. Commended, E. Leech; J. H. Stott; R. Smalley; J. K. Fowler. *Ducklings*.—First and Third, Mrs. M. Seamons. Second, J. K. Fowler. Commended, S. H. Stott; E. Leech.

DUCKS (Black East Indian).—First and Second, Rev. W. Serjeantson, Acton Burnell.

ORNAMENTAL WATER FOWL.—First, Second, Third, and Commended, J. Jennison, Zoological Gardens, Manchester. Highly Commended, J. Jennison; J. C. Wood.

GESE (White).—*Gander*.—First, T. Statter. Second, J. & W. Rostron. Third, S. H. Stott. Highly Commended, J. C. Cooper. Commended, J. Hodgson. *Goosings*.—First, J. & W. Rostron. Second, E. Leech. Third, T. Statter. Highly Commended, S. H. Stott; Mrs. M. Seamons.

GESE (Grey and Mottled).—*Gander*.—First, Mrs. M. Seamons. Second, J. K. Fowler. Third, S. H. Stott. Highly Commended, E. Leech; S. H. Stott; Rev. G. Hustler, Stillingfleet Vicarage; T. Boulker. *Goosings*.—First, Mrs. M. Seamons. Second, J. K. Fowler. Third, T. Boulker. Highly Commended, S. H. Stott; Rev. G. Hustler.

TURKEYS.—*Poult*.—*Cock*.—First, Second, and Third, W. Sanday, Holme Pierrepont. Commended, E. Ryder. *Hens*.—First and Second, W. Sanday. Third, F. E. Richardson. Highly Commended, E. Ryder.

HAMBURGH (Black).—*Cockerel*.—First and Third, C. Sidgwick, Ryddesden Hall. Second, Mason & Walker, Denton. Highly Commended, W. Parr; Mason & Walker. *Pullets*.—First and Third, Mason & Walker. Second, Rev. W. Serjeantson. Highly Commended, W. Parr, Patricroft; J. Lancashire; Rev. W. Serjeantson. Commended, J. Lancashire.

HAMBURGH (Golden-spangled).—*Cockerel*.—First, T. Scholes, Hollinwood. Second, E. Brierley, Heywood. Third, N. Marlor. Highly Commended, T. Scholes; J. Mann, Stacksteads. Commended, E. Brierley; N. Marlor; J. Walker. *Pullets*.—First, E. Brierley. Second, H. Beldon. Third, J. Ogden. Highly Commended, J. Ogden; T. Scholes. Commended, E. Brierley.

HAMBURGH (Silver-spangled).—*Cockerel*.—First, J. Pickles, jun. Second and Third, J. Fielding. Highly Commended, J. Lancashire; J. Walker. *Pullets*.—First, J. Fielding. Second, H. Beldon. Third, H. Pickles, jun. Highly Commended, J. Lancashire; J. Fielding; J. Walker.

HAMBURGH (Golden-peccilled).—*Cockerel*.—First and Third, H. Beldon. Second, T. Sharples. Highly Commended, W. Parr; J. Walker; H.

Pickles, jun.; T. Wrigley, jun. *Pullets*.—First, H. Beldon. Second, W. Farr. Third, J. Walker. Highly Commended, J. Bowness; F. D. Mort. H. Pickles, jun.

HAMBURGH (Silver-pencilled).—*Cockerel*.—First, H. Beldon. Second, T. Sharples. Highly Commended, J. Walker; H. Pickles, jun. *Pullets*.—First, H. Beldon. Second, T. Sharples. Highly Commended, J. Walker.

GAME BANTAMS (Black-breasted Red).—*Chickens*.—First, F. W. Entwisle, Leeds. Second, Furness, Bamber, & Rhodes. Third, J. Crosland, jun. Fourth, J. J. Consea. Highly Commended, J. W. Morris; J. Crosland, jun.; R. Swift. Commended, H. Shumach; J. L. Robinson; E. Ryder. *Cockerel*.—First, J. W. Morris, Rochdale. Second, J. J. Consea. Third, J. Crosland, jun. Highly Commended, Furness, Bamber, & Rhodes. Commended, T. Raines. *Pullets*.—First, J. Crosland, jun., Wakefield. Second, H. Shumach, Southwell. Highly Commended, J. R. Robinson.

GAME BANTAMS (Brown and other Reds).—*Cockerel*.—First, T. Dyaon, Halifax. Second, R. Swift, Southwell. *Pullets*.—First, J. Wood. Second, Duke of Newcastle. Commended, T. Dyaon.

GAME BANTAMS (Any variety except Black-breasted and other Reds).—*Chickens*.—First and Second, J. Crosland, jun. Third, R. Swift. Highly Commended, H. Shumach. *Cockerel*.—First, T. P. Wood, Chesterfield. Second, H. Ashton. Highly Commended, Mrs. M. Hales; J. W. Morris. Commended, J. Steel; H. Shumach. *Pullets*.—First, H. Ashton, Polefield Hall, Prestwich. Second, J. Crosland, jun. Highly Commended, W. T. Entwisle; J. Crosland, jun.

BANTAMS (Any variety except Game).—*Chickens*.—First, H. Beldon. Second, Miss A. Woodcock. Third, W. H. Tomlinson, Birmingham. Highly Commended, T. Davies; N. Marlor, Denton. Commended, S. & R. Ashton.

PIGEONS.

POUTERS (Any colour).—*Cock*.—First, R. Fulton, Deptford. Second, A. H. Stewart. Third, F. Crossley, Elland, Halifax. *Hen*.—First, R. Fulton. Second, A. H. Stewart. Very Highly Commended, R. Fulton. Highly Commended, A. H. Stewart; J. Ilwley, Bingley (Blue).

CARRIERS (Black).—*Cock*.—First and Second, R. Fulton. *Hen*.—First, G. Charney, Preston. Second, R. Fulton. Highly Commended, F. Crossley. Commended, R. Fulton.

CARRIERS (Any colour except Black).—*Cock*.—First, F. Crossley (Don). Second, J. Hawley (Dun). Very Highly Commended, G. Charney (Dun); J. C. Ord (White); F. Graham. Commended, J. C. Ord, Fulmico (Dun and Blue). *Hen*.—First and Highly Commended, R. Fulton (Dun). Second, J. Hawley (Dun). Commended, J. C. Ord (White).

DRAGONS (Yellow).—First, C. Bulpin, Bridgwater. Second, J. W. Edge. Highly Commended, C. Bulpin. Commended, J. C. Ord.

DRAGONS (Any other colour).—First, D. Young (White). Second, H. Yardley, Birmingham. Highly Commended, R. A. Artindale. Commended, S. Dronsfield; J. Hawley (Blue); J. C. Ord (White).

ANTWERPS.—First, J. Hawley, Bingley. Second, J. Thompson. Very Highly Commended, J. Crosland, jun.

JACOBS.—First and Second, J. Hawley. Highly Commended, E. E. M. Roys. Commended, R. Fulton.

BARRS.—First, Second, and Very Highly Commended, Capt. H. Heaton, Lower Broughton. Commended, Capt. H. Heaton; F. Crossley.

FANTAILS.—First, C. Bulpin. Second, J. W. Edge, Birmingham. Very Highly Commended, H. Yardley. Highly Commended, T. C. & E. Newbitt, Epworth.

TUMBLERS (Almond).—First, J. Fielding, jun. Second, R. Fulton. Very Highly Commended, F. Key. Commended, R. Fulton.

TUMBLERS (Mottles, Agates, Kites, or Self-coloured Tumblers).—First, F. Crossley. Second, R. Fulton. Commended, J. Hawley; J. Fielding, jun.

TUMBLERS (Beards, Balde, or any other variety of Tumblers not before named).—First, C. Bulpin. Second, W. H. C. Oates, Beathorpe. Commended, J. Fielding, jun.

NUNS.—First, C. Bulpin. Second, J. Hawley.

TURKITS.—First and Very Highly Commended, J. Hawley. Second, H. Mapplebeck.

OWLS (Blue and Silver English).—First, J. Crosland, Wakefield. Second, Rev. F. Watson. Very Highly Commended, J. Hawley; C. Bulpin. Highly Commended, Capt. H. Heaton; C. Bulpin. Commended, A. Jackson.

OWLS (Foreign).—First and Second, J. Fielding, jun., Rochdale. Commended, F. Crossley.

RUNS.—First and Second, T. D. Green, Saffron Walden.

TRUMPETERS.—First, J. Hawley. Second, J. Firth, jun., Dewsbury.

ANY OTHER VARIETY.—First, J. Hawley. Second, H. Draycott (Fribback). Third, W. S. Loder. Very Highly Commended, J. Hawley. Highly Commended, Mrs. M. Hales. Commended, H. Yardley; C. Bulpin.

DOVES.—First and Second, J. Jennison.

Edward Hewitt, Esq., of Birmingham; and R. Teebay, Esq., of Preston, were the Judges of Poultry; and Dr. Cottle, of Cheltenham, for Pigeons.

GUISELEY AGRICULTURAL SOCIETY'S POULTRY SHOW.

At the nineteenth annual Exhibition of this Society, held October 3rd, the following awards were made:—

SPANISH (Black).—First, J. Thresh, Bradford. Second, J. Thresh, Windhill Cragg.

PHEASANT (Golden).—First, W. Drine. Second, J. Preston.

PHEASANT (Silver).—First, T. Robinson, Baildon. Second, T. Fawcett, Baildon. Highly Commended, W. Sugden, Thackley; H. Robinson, Baildon; T. Fawcett, jun., Baildon. Commended, J. Jennings, Esholt.

CHITTEFRAT.—First, H. Smith, Morton Banks. Second, J. Preston, Ollerton. Highly Commended, M. Scott, Cote.

GAME.—First, T. Deau, Keighley. Second, J. Steel, Halifax. Highly Commended, J. Hodgson, Bradford.

HAMBURGH (Black).—First, J. Preston. Second, C. Sidgwick, Ryddlesden, Kelghley. Highly Commended, E. Baxter, Idle.

HAMBURGH (Golden-pencilled).—First, J. Smith, Gilstead, Bingley. Second, J. Harker, Allerton, Bradford. Highly Commended, J. Smith; W. Wormald, Gmaseley; M. Scott.

BANTAMA (Any colour).—First, J. W. Wilkinson, Bradford. Second,

J. Riley, Hawksworth. Highly Commended, R. Mason, Skipton; J. Steel, Halifax; F. Steel, Halifax.

ANY OTHER DISTINCT VARIETY.—First, J. W. Wilkinson. Second, C. Sidgwick. Highly Commended, T. Deau; J. W. Wilkinson; A. E. Tee, Calverley.

ANY DISTINCT VARIETY.—*Chickens*.—First, H. Jowett, Idle. Second, J. Berry, Siladen. Highly Commended, J. Wilson; J. T. S. Beck, Baildon; W. & J. Bairstow, Bingley; F. Lees, Guiseley.

DUCKS (Aylesbury).—First, J. W. Wilkinson. Second, Miss Newson, Yeaton. Highly Commended, M. M. Robinson, Thirsk; J. Grunwell, Menatou (White).

DUCKS (Rouen).—First, C. Sidgwick. Second, W. Bentley, Bradford. Highly Commended, J. West; J. Priestley, Guiseley; M. Scott.

PIGEONS.—*Antwerps*.—Prize, J. W. Wilkinson. *Owls*.—Prize, J. Thresh. Highly Commended, J. Steel.

JUDGES.—Mr. E. Hutton, Pudsey, and Rev. J. Baile, Elslack.

ECCLESFIELD AGRICULTURAL SOCIETY'S POULTRY SHOW.

The twenty-sixth annual Show of the above flourishing Society was held October 1st. The following are the awards:—

DORRINGS.—Prize, G. Helliwell, Wakley.

SPANISH (Black).—First and Second, E. Brown, Sheffield.

COCHIN-CHINA.—Prize, H. Hobson.

GAME.—First, G. Helliwell. Second, C. Travis, Thurgoland. *Chickens*.—First, G. Helliwell. Second, H. Hobson. Highly Commended, C. Travis.

HAMBURGH (Golden-pencilled).—First and Second, T. Crookes, Owlerton. Highly Commended, H. Johnson, Ecclesfield.

HAMBURGH (Silver-pencilled).—First, G. C. Armitage. Second, J. Bomer, Grenoside.

BANTAMS.—First, J. Tomlinson, Sheffield. Second, J. Boler, Hilltop.

ANY VARIETY.—First, E. Brown. Second, W. Whiteley, Sheffield.

GAME COCK.—First, G. Helliwell. Second, C. Travis. Highly Commended, G. Lister, Ecclesfield.

GEESE.—First, G. Helliwell. Second, S. Crawshaw, Coumes. Highly Commended, W. Shaw, Grange Mill Farm.

DUCKS.—First, H. Hobson. Second, G. Helliwell. Highly Commended, Miss E. Rhoder, Carr House, near Rotherham.

TURKEYS.—First and Second, Mrs. Booth, Brightholme.

PIGEONS.

CARRIERS.—First, E. Brown. Second, L. Higgins, Blackburn.

TUMBLERS.—First, R. Siddall, Portmabon. Second, E. Brown.

FANTAILS.—First, E. Brown. Second, V. W. Corbett.

ANTWERPS.—First, R. Cauwood, Ecclesfield. Second, R. Siddall.

JACOBS.—First, R. Siddall. Second, E. Brown.

CROPPERS OR POUTERS.—First, E. Brown. Second, R. M. Smith, Barnes Hall.

ANY OTHER VARIETY.—First, R. Siddall. Second, E. Brown. Highly Commended, W. Bannister, Brightside.

Mr. Hutton of Pudsey, near Leeds, was judge.

FARNWORTH POULTRY SHOW.

The fourth annual Show of Poultry in connection with the Farnworth (near Warrington), Agricultural Society took place on the 1st inst., when the following awards were made:—

YOUNG BIRDS.

GAME (Black-breasted Red).—First, J. Halsall, Ince. Second, E. Aykroyd, Bradford. Third, J. Holland, Manchester.

GAME (Brown-breasted Red).—First, M. Hornby, Swanlon, Winsford. Second, J. Wood, Wigan. Third, W. Roberts, Thorneyholme, Burnley. Highly Commended, G. Charney, Preston.

GAME (Any other variety).—First, R. B. Riley, Ovenden. Second, E. Noble, Halifax. Third, J. Houghton, Upton. Highly Commended, J. Byron, Eccleston.

SINGLE GAME COCK (Any colour).—First, R. B. Riley (Black Red). Second, L. Biney, Manchester. Third, E. Shaw, Plas Wilnot, Oswestry. Highly Commended, J. Holland.

DORRINGS.—First, J. F. Newton, Kirby-in-Cleveland. Second, J. Stott, Healey, Rochdale. Third, H. Pickles, jun., Earby.

SPANISH.—First, Third, and Commended, T. Comber, Rainhill (Black). Second, J. Walker, Wolverhampton.

COCHIN-CHINA (Cinnamon or Buff).—First, J. Lee, Middleton. Second, G. Fell, Springfield, Warrington. Third, E. Brindley, St. Alkmunds, Derby.

COCHIN-CHINA (Partridge-feathered, or any other variety).—First, E. Tadmam, Ash Grove, Whitchurch. Second, T. Stretch, Ormskirk. Third, J. Dearden, Halifax.

HAMBURGH (Golden-pencilled).—First, J. Fielding, Newchurch, Manchester. Second, H. Pickles. Third, T. Wrigley, jun., Tonge. Highly Commended, S. Buru, Whiby.

HAMBURGH (Golden-spangled).—First, J. Chadderton, Hollinwood. Second, N. Marlor, Denton. Third, T. Scholes, Hollinwood. Highly Commended, J. Buckley, Taunton, Ashton-under-Lyne; S. & R. Ashton, Mottram.

HAMBURGH (Silver-pencilled).—First, T. Wrigley, jun. Second, H. Pickles. Third, J. Fielding, Bingley.

HAMBURGH.—First, T. Wrigley, jun. Second, H. Pickles. Third, W. McMellan, Glossop.

POLANDS (Any variety).—First, H. Pickles. Second and Third, P. Unsworth, Louton.

BRAHMA-FOOTRA.—First, C. Leyland, Grappenhall. Second, G. Dixon, Whitehaven. Third, E. Leech, Rochdale.

GAME BANTAMS (Any colour).—First, J. Crosland, jun., Wakefield. Second, T. Eggleston, Halifax (Black Red). Third, L. Biney.

GAME (Any breed).—First, S. & R. Ashton. Second, T. C. Harrison. Third, W. H. Bobinson. Highly Commended, N. Marlor.

GAME BANTAM COCK (Any colour).—First, J. Crosland, jun. Second, R. Halsall, Halewood. Third, Bonny & Davien, Blackpool (Black Red).

ANY OTHER DISTINCT VARIETY NOT BEFORE MENTIONED.—First, C. Leyland, Grappenhall. Second, T. Pilkington, Prescott (Houdans). Third, G. R. Rogerson, Liverpool (Golden Phoenix).

SELLING CLASS (Any colour or breed).—First, E. Shaw. Second, A. Bamford, Tongo. Third, T. Comber, Rainhill (Silver-pencilled Ham-burghs).

DUCKS (Rouen).—First, T. Wakefield, Railway View, Golborne. Second, R. Halsall. Third, T. Burgess, Macclesfield. Highly Commended, E. Leech; T. Houliker, Revidge, Blackburn.

DUCKS (Aylesbury).—First, E. Leech. Second and Third, Mrs. M. Seamons, Hartwell.

DUCKS (Any other variety).—First, R. Gladstone, jun., Broadgreen (Muscovy). Second, S. Burn, Whithy East Indian). Third, T. C. Harrison, GEESE.—Medal, W. Mather, Rainhill. First, Mrs. M. Seamons. Second, T. Houliker. Third, S. H. Stott, Maeshale. Highly Commended, E. Leech; R. Gladstone, jun.; Rev. J. C. Baedon, Sefton Rectory, Toulouse. Commended, R. Gladstone, jun.

PROCONS.—Highly Commended, T. Lea, Whiston (Black Barbs).

The Judges were Mr. R. Teebay, Fulwood, Preston, and Mr. Joseph Hindson, Barton House, Everton.

YORK AND DISTRICT FANCY RABBIT SHOW.

The inaugural Show of this Society, held in the Friendly Societies' Hall, Castlegate, on the 2nd inst., was one of the best that has ever been held in York. The Rabbits exhibited were for the most part of the purest breed, especially in the open classes, whilst those shown in the classes limited only to members of the Society were very fine and of excellent quality. The entries amounted to sixty. Rabbits were sent from Birmingham, Hull, Leeds, Middlesborough, Surrey, and Prestwich.

OPEN CLASSES.

LOP-EARED.—Buck.—First, M. Millington, York. Yellow Buck, age eleven months, ears 22½ inches long, 5 inches wide. Second and Highly Commended, M. Millington. Sooty Fawn Buck, age one year and six months. Commended, A. H. Easton, Hull. Doe.—First, M. Millington. Fawn Doe, age two years, ears 21½ inches long, 4½ inches wide. Second, G. Jones, Birmingham. Fawn Doe, age eleven months. Highly Commended, J. Ingham, Leeds.

LOP-EARED (Yellow and White Buck or Doe).—First, — Stainburn, York. Yellow and White Doe, age one year and four months, ears 21½ inches long, 4½ inches wide. Second, A. H. Easton. Yellow and white Buck, age two years. Highly Commended, J. Ingham.

LOP-EARED (Black and white Buck or Doe).—First, M. Millington. Black and white Doe, age one year and five months, ears 21½ inches long, 5 inches wide. Second, A. H. Easton. Black and white Doe, age one year and three months. Highly Commended, J. R. Jessop, Hull.

BUCK OR DOE (Any other colour not previously mentioned).—First, B. Hudson, Hull. Tortoiseshell Buck, age six months, ears 21½ inches long, 4½ inches wide. Second, A. H. Easton. Fawn Buck, age one year and four months. Highly Commended, W. Taylor, York. Commended, — Hainsworth, York.

ANY OTHER VARIETY.—First, A. H. Easton (Silver-Greys). Second, G. Robinson, York (Acoras), age eight months. Highly Commended, S. A. Wylie. Commended, — Rayson, Prestwich.

CLASSES OPEN TO MEMBERS ONLY.

LENGTH OF EARS.—First, — Stainburn, York. Yellow Doe, age six months, ears 21½ inches long, 4½ inches wide. Second, — Stainburn. Fawn Buck, age three months ten days old.

BLACK AND WHITE.—First, — Hall, York. Black and White Buck, age five months 10 days old, ears 18½ inches long, 4½ inches wide. Second, M. Millington. Black and White Doe, age four months and eighteen days.

YELLOW AND WHITE.—First, — Hall. Yellow and White Buck, age five months ten days, ears 21 inches long, 4½ inches wide. Second, M. Millington. Yellow and White Buck, age five months. Highly Commended, — Hall.

TORTOISESHELL.—First, — Stainburn. Tortoiseshell Doe, age six months, ears 19½ inches long, 4½ inches wide. Second, — Hall. Tortoiseshell Buck, age, 4 months 3 days.

BLUE AND WHITE.—First, — Stainburn. Blue and White Buck, age seven months, ears 21½ inches long, 4½ inches wide.

GREY AND WHITE.—First, — Stainburn. Grey and White Doe, age three months ten days, ears 19 inches long, 4½ inches wide.

SELF-COLOUR.—First, — Hall. Fawn Buck, age four months three days, ears 19½ inches long, 4½ inches wide. Second, Highly Commended, and Commended, — Millington. Blue Buck, age four months eighteen days.

HEAVIEST WEIGHT.—First, — Stainburn. Fawn Doe, age five months one day old, 9½ lbs. Second, — Hall. Grey Doe, age five months ten days, 8½ lbs.

The judges were Mr. J. Hume, of York, and Mr. Fletcher, of Hull.

BEEES IN LANARKSHIRE.

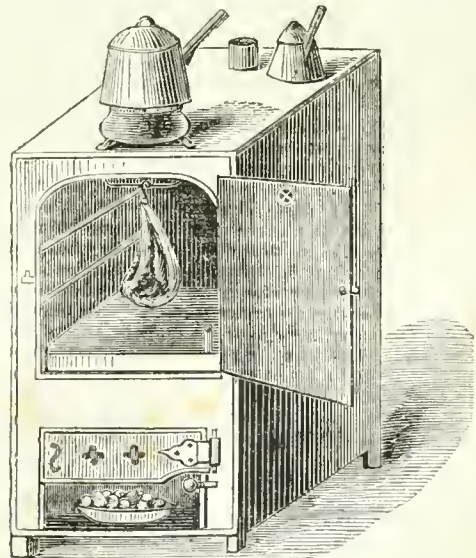
I FIND the following paragraph in the *Hamilton Advertiser*. "The Bee-man" therein referred to has, I am happy to say, a worthy successor in his son, Mr. A. Pettigrew, of Rusholme, near Manchester, who has from time to time during the last quarter of a century perseveringly advocated the adoption of much larger hives than those generally used. I know not if this were an inherited idea, but the weights given below are sufficient of themselves to prove that bee hives in Carluke must be very much more capacious than those we are accustomed to meet with in the south.—A DEVONSHIRE BEE-KEEPER.

"BEEES AND BEE-HIVES.—This village (Carluke) is the 'head

centre' of bee-keeping and bee-keepers. It is situate in the centre of a parish of poor clayey soil, with minerals underneath. The orchards in the vale of the Clyde serve the Carluke bee-keepers much, and they do not fail to place their bees within easy reach of the fruit blossoms of these orchards; but the white clover fields of Carluke are much inferior for honey-gathering to those of adjoining parishes and counties. The weights of the hives at Carluke year after year indicate that their owners are greatly in advance of the bee-keepers of Scotland generally, and more than half a century before those of England, in the art of making most of bees—that is to say, their profitable management. In 1864, it is reported that one bee-keeper at Carluke made £40 off nine hives; and in the *Hamilton Advertiser* it was stated that another bee-keeper had a hive which yielded two swarms in 1864, their united weight being 328 lbs. In 1866, the heaviest hive of the parish was 140lbs. This year many of the swarms are 140 lbs. each, and one weighed 168 lbs. The years 1864, 1866, and 1868, have been favourable for a good honey harvest. The bald weights given of bee-skeps at Carluke may stimulate many readers to pay more attention to bees; but it may interest some of them to know how it is that this village is the 'head centre' of bee management. About seventy years ago James Pettigrew, a labouring man, became the most extensive bee-keeper that this country has seen, and for thirty years he was well known fifteen miles round Carluke as 'The Bee-man' by name. He died twenty-five years ago, leaving the legacy of his experience and practice to the active, intelligent, and earnest bee-keepers of his parish. These shrewd men have not stood still these twenty-five years; they have adopted several valuable improvements of their own—so few in number, that they ask, 'Who taught the old Bee-man all he knew?'—but still improvements which enable them to talk of weights of hives and pints of honey startling to other folk."

SHREWSBURY'S PORTABLE GAS OVEN.

GREAT are the advantages of the use of gas for cooking purposes, especially during the summer months, when fires are desirably extinguished as soon as cooking has been completed, but there has hitherto been one great disadvantage—namely, that the roasting and baking have been performed over the burning gas, thereby causing the article cooked to become impregnated with the vapour arising from the combustion of the gas. This disadvantage is entirely removed in the case of Mr. Shrewsbury's Gas Oven.



The oven is heated from the outside, with the inventor's patent burner, which, for the convenience of lighting is fixed on a swivel, and is made to open with the door immediately under the oven, and as the heat is carried all over the oven, the sides and top are kept at an equal temperature, while the fumes from the burnt gas are taken away by an outlet provided for that purpose.

The oven can be heated in a few minutes, and for roasting

meat or poultry, or for baking bread and pastry, cannot be surpassed. Each oven is supplied with a water dripping-pan, which, during roasting, is placed at the bottom of the oven, the joint or poultry being hung over it. This pan has the treble advantage of preventing the fat from being thrown on the sides of the oven; the dripping from being burnt and useless; and, by the steam from the water, of preserving the same moisture inside the oven as in the external atmosphere: thus, while the joint is thoroughly done and nicely browned all over, it is not burnt or wasted, as is so often the case in open fire-roasting.

The oven is so constructed that the underneath part can be used for baking potatoes, toasting bread, browning dishes, &c., while the cooking operations are being performed; the top of the oven also forms an excellent hot plate, on which may be fixed, if required, one or two boiling apparatus, so that roasting, baking, and boiling can be performed at the same time. Its portability is a great advantage, as it can be easily removed from one place to another, and requires no fixing; it is cheap in consumption of gas, costing only 1d. per hour when in use; there is no collection of soot, and the flues never require cleaning out.

BEE-KEEPING IN WICKLOW.

As you gave me advice in the spring about my bees, I am induced to send the following statement of the condition of my apiary, wishing to know whether you consider I have been successful.

In May I had three stocks, one of them (C) very weak. A sent off swarms on May 7th and 18th, the swarm of the 7th swarming again June 13th and 26th. B sent off swarms May 12th and 28th, the swarm of the 12th swarming again June 26th. C swarmed June 7th.

I obtained a Woodbury hive by your recommendation, and in it lived the swarm of May 18th. I have just succeeded in taking from it two full bars of honey; they came away quite easily, being made straight. From the other hives I have had two large glasses (Taylor's 4s. 6d.), weighing 8½ lbs. each, and three of a smaller size. The present weight of my hives, this year's swarms, varies from 27 lbs. to 33½ lbs., including hive and floorboard.

But now for my difficulties. My three stock hives up to some little time ago appeared all right, except that we observed wasps going in and out; but now C has not a bee remaining, and no honey. A and B have only a few bees, as many wasps, and very little honey; the combs all cut, and the floorboards strewn with powdered comb. Can the wasps have destroyed the bees? as I did not see dead bees about the hives; but there are always numbers of wasps about the apiary, and I fear they are robbing other hives. I have contracted the entrances as recommended in "Bee-keeping." Can you advise any further measure likely to check their attacks? I have put several crocks containing treacle and beer near the hives, and have destroyed numbers of wasps, flies, and moths, but I fear some bees also, though our gardener thinks they are a kind of large fly like a drone, of which we have had numbers on the flowers this year; but it is difficult to distinguish them when smeared with the mixture. We destroyed hundreds of queen wasps in the spring, thirty or forty a-day in our greenhouses.

I have some vacant places in my bee house. Could I venture to move in some of the hives at present on stands near? Would the bees in that case know where to find their own hives? I send some of the moths that we found in the treacle and beer, and will thank you to say if they are the bee moth so much spoken of.—L. RIALI.

[The moths which accompanied your letter were so much crushed as to render identification difficult. They are certainly not wax moths, but are probably *Agrotis segetum*, the larva of which feeds on the roots of the wheat plant, &c.]

Having taken two full bars of honey from your Woodbury hive, you should replace the bars and frames, and take care that its inhabitants have plenty of food to last the winter, bearing in mind that empty straw hives of this construction weigh with their floorboards about 20 lbs., and wooden ones nearly 30 lbs. when empty. The same caution applies, of course, to all your other colonies.

The loss of your three stocks is owing in all probability to their entrances being too near to those of other hives, a defect which is common to all bee houses, and which is very frequently fatal alike to stocks and swarms other than first swarms placed therein through the loss of their queens, which are liable to

mistake their hives on returning from their wedding flights. In contracting the entrances to your hives you have done all that is necessary to enable strong colonies of bees to repel the attacks of wasps. These latter must not be credited, or rather debited, with the destruction of your three old stocks, which we have little doubt was really owing to the cause already indicated, and that the wasps only aided robber bees in plundering the stores of the hives after their inhabitants had become incapable of effectually defending them. Any colonies which you may now wish to place in the bee house should be moved thitherwards, bit by bit, very gradually, whilst the bees are still active, and got into it in this way before winter; but if this be found impracticable they should remain until the spring.]

BEE-KEEPING AT CLOGHEEN, IRELAND.

HAVING but four stocks in the spring, I determined to allow each stock to give one swarm, and, by destroying all queen cells except the most forward one, immediately after the swarms had left, I have succeeded far beyond my expectations and reaped a bountiful harvest. One stock yielded 72 lbs. of beautiful honey in supers, also a swarm that now weighs 47 lbs. exclusive of the hive. Two others were nearly as good; the fourth produced its swarm on June 24th, and 27 lbs. in the super. Being obliged to drive the bees of this last hive on the 25th of August I was surprised to find 51 lbs. of honey, after securing brood, &c., for stocking another hive, and which I have succeeded in doing through the excellent instructions given by "A DEVONSHIRE BEE-KEEPER."

My hives are all home-made, square, straw inside, board outside, with a half-inch space between, fitted with bars, &c., and covered with a board roof.

The best preventive of brood in supers that I have used, is to attach a good-sized piece of thick comb to the two or three middle bars of the super before putting it on.—G. BECKETT, *Shanbally Castle, Clogheen, Ireland.*

OUR LETTER BOX.

POULTRY TRESPASSING (Inquirer).—Give your neighbour a legal notice to keep his poultry from trespassing. If they trespass after that notice sue him in the County Court. The smallest damages recovered would suffice to make him prevent future trespassing.

BRAHMA POOTRA COCKEREELS (M. A. B.).—We learn to No. 1. From your description we fancy No. 2 is a aquat-set bird, while No. 1 has not only grown, but may again. Do not mislead yourself or us about the comb of No. 1. If it is a faulty one, it is a disqualification. In all breeds where the comb is a point, there is no hope for a defective one. Again, highly-feathered legs such as you describe on No. 2, are serious disadvantages. We do not admire the brown shade or patch on the wing, but we see few fine birds without it. Most of the birds good-coloured in the body have this on the wing.

BROODY HENS (H. E. N.).—There are no means of preventing a hen being broody, and it is very cruel to try. It is simply her nature, and a little patience will survive the annoyance. M. Jaque's book can be procured in London through any French bookseller. We bought ours in Paris, but we have never needed a French book that a foreign bookseller could not procure for us. The only extra expense is the substitution of shillings for francs.

PIGEON-KEEPING (Experientia docet).—We would say you can keep in a healthy condition in your space six pairs of large fancy Pigeons, or nine pairs of smaller; but remember crowding and quarrelling, ending in destruction of eggs, &c., always go together. Pigeons of high-class varieties are loose in feather from cold; and if neglected and not kept warm, consumption, "going light," and rot feather follow. A plastered floor, if a ground floor, would certainly be cold in winter. Have, at any rate, abundance of perches, like narrow stools, for the birds to avoid being much on the floor, and beware of wet from the birds bathing. Set a small pan in a larger, and then remove both after they have had a bath, and this only in genial weather. Fanciers separate their Pigeons in the winter to prevent their breeding and so weakening themselves. It is said that removing the nests and boxes and all temptations to breeding does as well. A slight wire door, that you can make yourself and put across your loft, would suffice.

RUNT PIGEONS (R. Barney).—If you refer to the prize lists of some of the poultry shows you will see the names of the most successful breeders.

BEES IN A ROSERY (An Old Subscriber).—There is no chance whatever of the hive bee injuring your roses. If you intend keeping bees somewhat after the ordinary manner, with the power, however, of putting on supers, you cannot do better than adopt Payne's Improved Cottage Hive, described in "Bee-keeping for the Many," but made somewhat larger, say 16 inches diameter, by 8 or 9 inches deep inside. If, on the other hand, you intend to go in for scientific bee-keeping, the Woodbury frame hive would be the best. As you live so near Exeter, why do you not call on Mr. Woodbury, who would, we are sure, be happy to give you every information in his power.

COMMENCING BEE-KEEPING (R. Walpole).—Sixteen inches in diameter, by 8 or 9 inches deep, inside measure, is a good size for flat-topped straw hives. Entrances, 5 inches wide, should be cut in the floor-board, and contracted when necessary by the insertion of movable blocks of wood. Buy "Bee-keeping for the Many," published at this office, whence you can have it free by post if you enclose five postage stamps with your address.

WEEKLY CALENDAR.

Day of Month	Day of Week.	OCTOBER 15—21, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year	
			Day.	Night.	Mean.		m.	h.	m.	h.	m.	h.	m.	h.				Days.	m.	s.
15	TH		58.8	40.4	49.6	20	26	af	6	4	af	5	25	af	5	14	16	289
16	F	Twilight ends 1h. 54m. after sunset.	58.7	40.1	49.4	17	28	6	2	5	43	6	16	5	1	14	28	290
17	S	Royal Horticultural Society, Promenade.	58.6	41.0	49.8	18	29	6	0	5	59	7	16	6	2	14	40	291
18	SN	19 SUNDAY AFTER TRINITY.	60.5	41.3	50.9	20	31	6	58	4	14	9	50	6	3	14	51	292
19	M		59.5	40.0	49.7	21	33	6	56	4	23	10	27	7	4	15	2	293
20	TU	Royal Horticultural Society, Fruit, Floral, [and General Meeting.	59.1	32.5	49.4	19	35	6	54	4	25	11	11	8	5	15	12	294
21	W		58.3	40.0	49.2	18	37	6	52	4	after.	0	9	6	15	21	295	

From observations taken near London during the last forty-one years, the average day temperature of the week is 51.9°; and its night temperature 40.3°. The greatest heat was 74°, on the 15th, 1861; and the lowest cold 20°, on the 21st, 1842. The greatest fall of rain was 1.04 inch.

ARRANGING AND PLANTING SHRUBS.



HAVING in previous numbers of this Journal given an extended list of flowering shrubs, it may be of advantage to intending planters to offer a few hints as to their arrangement and planting.

Shrubs may be arranged in straight or curved lines, and so as to form belts or masses of any width. It is not imperative that the border should be at all points of the same width; it may begin with a point, and be widened as it extends until it is 30 feet or more in width, may then be narrowed, merely leaving enough ground to plant in, be again brought out with a bold swell, increasing the width, of course, be continued some distance, recede again, and in turn be again brought out. In some parts the border will be narrow, in others wide, varying in width the whole distance, but the outline must not have any sharp elbows, no long extension and abrupt termination of a bend, but begin, go on, and return in an easy curve. Nothing destroys the harmony of a plan so much as an improper bend or ungraceful curve. To avoid this there is nothing like beginning the curve soon enough, for it is of no use planting three-fourths of the way gracefully, and so as to be all you require, and then finding a sudden bend cannot be avoided, and that you have gone too far to make it gracefully or easily. The greater width of the border at some parts than at others will admit of a greater variety of subjects, also of a greater number of one kind, being planted than if the border were of one uniform width, which it ought not to be, except where the shrubs are intended as a screen to shut out the boundary wall or objectionable objects beyond. Although the hiding of the boundary wall is desirable—indeed, from the interior it should always be invisible—yet the border may, where it is desirable to have a view of objects or scenery beyond the boundary, be so narrow as to admit of none but shrubs of small growth, and yet so tall and dense in foliage as to conceal the boundary without obscuring or shutting out the view.

The border, then, should be wide enough at its narrowest part to allow of shrubs being planted that will not allow of the boundary being distinguished, and yet permit of a view beyond; whilst in parts opposite those objects which it may be desirable to hide, the border may be of such a width as to admit of shrubs (and when these are not sufficient, of trees at the back of the shrubs), which by their height and density of foliage will serve as a screen. There will, therefore, not only be variations in width but in height, but the gradation should be easy and graceful as the ground outlines; there should not be any abrupt termination of the taller kinds of shrubs, but a gradual ascent from the low to the high, and of descent from the high to the low. There may be, when the objects to be excluded are extended to a considerable distance, an extension of the taller sorts of shrubs beyond what there otherwise would be where there are no buildings or objects to be excluded, and this extension may terminate suddenly

and begin suddenly, space being left between to admit of a particular object being seen. This will to some extent prevent the monotonous appearance presented by a shrubbery of the same height, or a long-continuance of shrubs of the same height; but it is well that the opening be formed of shrubs that are of spreading rather than pyramidal growth, as by the former it will be graceful, and by the latter too abrupt and violent.

The border varying in width, if those parts that are wide or narrow occur at regular distances, the result of the planting will be monotonous as regards height. This should be guarded against by forming some of the widest parts one-half or one-third the length they are in others; and so also with the narrow parts of the borders, they must not be of one uniform length, but the border must have narrow parts of various widths and lengths. This will prevent monotony of height and aspect, as a greater variety of shrubs can be planted, each mass distinct in itself, yet allied to the neighbouring mass, though different, all the masses harmonising so as to form dependant parts of the same whole.

The diversity of width will give scope for variety and for gradations in the height of different clumps or masses, for such they are, though continuous, and will afford different views, which cannot be too numerous; the extent of the ground will not be discoverable from one point of view; and the views, varying with the different points, will interest the observer. This will be the case with borders at parts 50 feet wide, more or less, in others 6 feet or less, the former width to allow of greater density of foliage and height of shrubs to conceal the walls, fences, or ill-placed disagreeable objects, and the latter to hide the wall or fence, and yet permit of a view beyond it. There will not, therefore, be any straight lines, but only curved ones; and for the observer to see the different objects the walks must follow the outline of the border, separated only by a margin of grass 18 inches or so in width, which width of grass verge must not be increased so long as the outline curves inwards nor when it recedes until one has passed sufficiently round the bend, so that when looking backwards the part traversed is not visible. Then the grass may increase in width as the border recedes, and if sufficient space between the walk and border be gained, a detached clump of shrubs may be introduced on the grass, but they ought to be low-growing, so as not to obstruct the view of the border, which must be continuous, unless broken for an object, or to admit of some new feature, which must not be incongruous, nor in any case be of a rugged character, but should be graceful.

These groups may differ from the background of shrubs or those in the border; if those in the latter are of dull, frowning, leafless, flowering shrubs, a clump of Rhododendrons, Kalmias, Andromedas, or other plants may be introduced on the grass between the walk and border of shrubs; whilst, on the other hand, if the background is cold from the prevalence of evergreens, the subjects of the clump should be warm, as the Gold and Silver Hollies, than which nothing can be more beautiful and effective. If the background is sombre, as Yews, it may be relieved, and

enhanced in solemnity by a specimen of the beautiful *Picea grandis*, and if the background is stiff and formal, the remedy is a specimen or group of some graceful plant, as the Pampas Grass. These groups or masses should be separated by glades, or intervals not planted, and so disposed as to form a whole. In some parts the walks should pass through the border, or it should be repeated on the other side of the path, and when the path passes between masses there must be intervals to permit of groups of objects being seen, artistically prolonging the perspective. These masses should be varied, both in disposition and in subjects, but nevertheless allied, so that they may harmonise with neighbouring masses.

The masses, as a rule, should join the walk, being separated only from it by a grass verge, and may go alongside the walk 30 or 40 yards, or as many feet, varying in width the whole distance, for whatever the form of the clump may be on its other side, on that next the walk the same width of grass must be maintained the whole length. The mass may begin with a single tree or space for that, widening as it proceeds until it is 20, 40, or 60 feet wide, or it may be any mean between these, then be brought round with a bold swell, and back again in the form of part of a circle, terminating a little further than the bold part stands out. This will give crescents or part circles on the opposite side to the clumps—excellent spaces of grass in which to place specimen plants contrasting in habit or hues of foliage, serving as connections between the masses or parts more or less distant from each other, and the defect of monotony, ever apt to creep in, will be greatly decreased.

To revert once more to the boundary border. As already stated, the border may be widened to shut out objectionable objects, which increased width need not necessarily detract from the beauty of the interior, but though limiting the extent of view, will enhance rather than detract from it; and the border may also be narrowed to admit of objects of interest and to afford diversity of view. This should not be carried too far, for one grand effect is preferable to a multiplicity of minor ones: at the same time diversity of form and subject pushed to the extreme is worse than repetition; the latter greatly increases the apparent extent, but diversity contracts it, and can only be permitted in continuous arrangements. Repetition and distinctness of view are productive of an agreeable effect, but diversity and indistinctness of view are destructive of effect. Shrubberies, where the aim in planting has been to secure a great variety of subjects and much diversity, are less in appearance than those formed with a due regard to distinctness of view, contrast of form, height, colour, and repetition, the latter making the space to the eye larger than were an equal number of varieties planted in place of the like number of one species or variety only.

The border, I was about to remark, may be widened to give space for planting to shut out unsightly objects, and it may be doubled or trebled in width to afford shelter; for as the wall or fence is a protection to the shrubs, so also must the shrubs be made to shelter the plants which they in a manner enclose. Without such helps in breaking the violence of winds, and diverting cold currents of air, many plants called hardy would be swept away; but such are grown by a judicious arrangement of the shrubs next the boundary, and planting them more thickly at the points whence come the coldest and strongest winds. By planting a thicket of Blackthorn on a bleak hillside, behind it may be grown a group of Laurels or Aucubas; and so by planting a thick belt of shrubs, putting the hardest at the back in the parts most exposed, we obtain the shelter necessary for the most tender of so-called hardy plants. These increased widths of the shrubbery will not detract from the harmonious effect of the internal arrangements but enhance it, as from a greater breadth of shrubbery we secure richness, distinctness, and massiveness, the last being especially productive of effect. Isolated specimens never have the effect of a mass, though they appear advantageously when used as connections between masses, being then refreshing; but frequently repeated they almost always present a certain degree of monotony.

At the most distant parts, and especially near the entrance, deciduous shrubs should predominate, for in the distance they are not so black and frowning when leafless, nor is their bareness so easily discerned as when near; whilst in summer, when at a distance, their lively foliage and gay flowers do not form so great a contrast to the evergreens which, as a rule, should be near, and though chiefly in masses, yet they must be in proportion to the masses of deciduous shrubs. The groups of evergreens may be in one spot, but it should be borne in mind

that they form a distinct view, and should be so arranged as to constitute a whole of themselves. When, however, masses of deciduous and evergreen shrubs occur in the perspective, the evergreens will not be in keeping in a large space where masses of deciduous shrubs abound. This may be remedied by multiplying the masses of evergreens, but it is not necessary that they should occupy space corresponding to that which the deciduous shrubs have, it being necessary to establish between the evergreens the same or a similar correlation as is required by the deciduous shrubs, therefore, their forms should recur at suitable intervals. To have a good effect the evergreens must in this case be interspersed with the leafless shrubs.

Evergreen and deciduous shrubs rarely look well together, but for variety a few evergreens may be interspersed among the deciduous shrubs. Generally, however, when evergreens and deciduous shrubs compose the same groups the latter should be planted in the distance, at the back of a border or in the centre of a group, the evergreens being placed in front. Clumps of this class, also borders, may occur near the entrance, and recur by the mansion, for these are the most distant points of view, and their indistinctness will not be so manifest as in the separating and connecting masses, which ought to be as distinct as possible. The intermixing of evergreens with deciduous shrubs is always bad, and yet evergreens are too dull in summer unless enlivened by intermixture with flowering shrubs; whilst in winter nothing is so cold as a frowning mass of deciduous shrubs; therefore, to give freshness in winter evergreens may be rather extensively intermingled with the deciduous subjects; whereas, near the mansion, the masses may be of a mixed character, but nothing must be done without harmony.

In front of the windows, but not too near, small groups of the better sorts of evergreen flowering shrubs ought to be planted, but unless this can be done without destroying the other parts of the design, or in itself be a distinct feature, it will be well to omit it, for nothing is so ugly as grass cut into all manners of fancy shapes, nothing so beautiful and effective as a broad expanse of grass, the finest of all evergreens.—G. ABBEY.

(To be continued.)

NEW ROSES.

"THEY come! They come!" and the inquiry on all sides is, "What will they be?" We have had for years to hear the high-flown praises of foreign Roses, but let Rose-growers be sure that ere long they will have to decide on the merits of English as well as foreign ones. Hitherto the former have been few, but the conviction has forced itself on some minds that after all Rose hews will ripen in England, and good seed can be obtained. I saw not long ago four or five large beds of seedling Roses in one well-known nurseryman's grounds, and I hear of others; while this year has been so favourable to the ripening of seed that many others will be trying their "prentice hands" at it. But for the present we have to do with foreign Roses. The John Hoppers, Mrs. Wards, Lord Clydes, Dukes of Edinburgh are few and far between; while the Souvenirs, Comtesses, Ducs, and Madames are as plentiful as blackberries.

When I was over in Paris this year the season was so far advanced that I was unable to see many of the novelties. I saw, however, several of the Rose-growers—Margottin, Charles Verdier, Eugène Verdier, &c. The first has three new Roses, I believe; Charles Verdier three also, and Eugène, *mirabile dictu!* none at all. Of those of which I heard most from all growers was one which is to be sent out by Charles Verdier, called *Thyra Hammerik*. It was raised by an amateur, and is, I am told, a vastly improved *Duchess of Sutherland*, and a flower of great beauty; while a bloom which I saw of *Souvenir de M. Portemer*, sent out by my old friend Margottin, gave promise of great excellence.

I have received two lists from the Lyons raisers, Ducher and Guillot fils, and these names have been favourably before us the last two or three years, for Antoine Ducher, Madame Margottin, La France, and Bouton d'Or have established themselves as favourites; hence we may have a reasonable hope that they may again have something good to offer us.

DUCHER.

La Tulipe (Tea).—Vigorous growth. Flowers large, full, and well formed, white tinted with rose, and sometimes with lilac. A plant of grand effect.

Marie Ducher (Tea).—Vigorous habit. Flowers large and well formed, very bright rose. Superb novelty.

Monplaisir (Tea).—Very vigorous. Flowers very large and very full, very deep salmon yellow. This variety, the issue of *Gloire de Dijon*, has the vigour of that plant, with flowers equally beautiful, but of a deeper colour and very rich.

Perfection de Lyon (H.P.).—Branches vigorous and erect. Flowers very large, full, cup-shaped, rose, with the back of the petals lilac.

Nardy Frères (Hybrid Portland?).—Very vigorous. Branches strong and straight. Flowers very large, full, and well formed, beautiful violet rose, with slate colour on the reverse of the petals.

GUILLOT FILS.

Madame Céline Norrey (Tea).—Very vigorous. Flowers very large, very full, and opening well. Reverse of petals purple red; centre, tender shaded rose. Very beautiful variety.

Mademoiselle Adrien Chirtoptle (Tea).—Very vigorous. Flowers large, very full, coppery yellow, strongly shaded with rosy peach, sometimes of a beautiful deep yellow. By the variation of its colours this variety produces a magnificent effect.

Mademoiselle Marie Sisly (Tea).—Very vigorous. Flowers large, very full, globular, yellowish white, deeply bordered with lively rose. Superb.

Marginata (Noisette).—Very vigorous. Flowers medium-sized, very full, well formed, very brilliant yellow, of an entirely new shade of colour, broadly bordered with pure white shading off to rose, and producing a magnificent effect. Superb variety.

Madame Jacquier (H.P.).—Vigorous. Flowers very large, well-formed, size and shape of the *Rose La Reine*, a beautiful bishop's purple. Very fine.

I need not say that the descriptions are not mine, but the raisers'; and I can only add what I daresay will strike every one, that if they at all are borne out by the flowers themselves, that they will be very great acquisitions. "*Nous verrons.*"—D., Deal.

GRAPES SHANKING AND SPOTTING.

In my opinion there are two causes of Grapes shanking—a deficiency of sap, and vitiated sap. The deficiency of sap may result from the great disparity between the temperature of the ground in which the roots are situated, and that of the house where the foliage and fruit, in the case of outside borders, are growing—a difference very often of 10° between the mean temperature of the house and that of the border. In a hot dry day the leaves and fruit will throw off moisture rapidly; but the roots furnishing sap slowly, too little will be supplied to meet the requirements of the expanding fruit; the footstalks of the berries will therefore shrivel or become ulcerated, and a complete stoppage of the communication between the roots and the berries will be the consequence, ending in the shrivelling of the berries.

Yet that in all cases is not the cause of shanking, for the condition of the roots may be such that they will supply sap fast enough, or there may be enough stored up in the stems to meet any sudden demand of the expanding fruit; this, however, can only be the case where the roots are in a medium favourable to the formation and preservation of the fibres and their points, or spongioles. Shanking, therefore, may not be the effect of too great a difference between the temperature of the soil and atmosphere; but the conditions unfavourable to shanking are elevation, dryness, and openness of the border, which are essential to the preservation of the fibres in health until the crop is mature, whilst the causes predisposing to the disease are lowness, wetness, and closeness of the materials of the border. Most outside borders have a tendency to cause shanking, for however dry they may be rendered by drainage and the materials of which they may be formed, yet very wet and cold weather, when the fruit begins to colour, may so retard root action as to induce shanking through an insufficiency of sap, arising from inactivity of the spongioles; but a dry scorching summer like the last will be most favourable to low, close-made borders.

A deficiency of sap may also result from the border being not only outside, but also below the level of the surrounding ground, and deep, rich, and imperfectly drained. This is generally the case when shanking is most severe. Than roots situated deep beneath the surface, and in a manner shut out from all sun and atmospheric influences, in conjunction with excessively rich soil, nothing further is required, except a period of cold rainy weather when the Grapes commence ripening, to cause the speedy destruction of the fibres, never

very plentiful. The supply of sap being thus rendered insufficient for the expansion of the fruit, as a consequence the berries shank. Examine at what time we may the roots of Vines situated in a deep, rich, low, wet border, we shall find them little better than so many bare sticks with a few fibres at the ends, in winter almost entirely rotten and dying back; and what can we expect but that similar destruction of the fibres will take place in summer when the same conditions of coldness and wet present themselves? Too great a depth of soil; roots too deep; soil wet, too rich, and cold, in comparison with the temperature in which the branches and fruit are situated, will destroy the fibres and cause a deficiency in the supply of sap, owing to which the footstalks of the berries or parts of the bunches will become ulcerated.

An insufficiency of sap may also result from depriving the Vines of too much foliage, either in the current or the previous season. It is not unusual to keep vineries warm and moist, with no great amount of air, after the fruit has set, in order to secure root action. A great breadth of foliage is produced, and when the fruit begins to colour, or a little before, a great part of the leaves is suddenly removed under pretence of allowing the fruit to become well coloured, and thus the foliage not being in proportion to the fruit and to the roots, it cannot assimilate the extraordinary amount of sap driven into it, hence the roots are rendered inert, and their destruction follows, either when the weather proves wet and cold, or a good supply of water is given to help the second swelling. The roots are now gone but more air is given, the evaporation from the leaves becomes excessive, the roots do not supply sap fast enough for the swelling fruit, and shanking of the footstalks of the berries and bunches follows. This is not so common a cause of shanking as coldness and wetness of the border, but it does sometimes occur with Vines planted in an inside border.

With regard to vitiated sap, in vineries where the borders are inside shanking is not wholly unknown. I have seen Grapes shank under what we may term very unfavourable conditions for the occurrence of the disease, and notwithstanding every precaution taken to guard against it. I fully believe the Vine to be no feeder on any strong manures that are often used in making Vine borders, the roots not taking up the supply of food as decomposed or rendered available, so that the soil not only becomes excessively rich, but sodden, sour, and deprived of air from its closeness; it follows that the spongioles take up food in a vitiated state, and the plant being unable to digest it, disease ensues as a necessary consequence. The sap may be vitiated by excessive watering, too rich soil, and the border being deprived of air from closeness of the materials employed, and this vitiated sap produces much wood and long loose bunches of fruit with wiry footstalks, the berries swell very irregularly, and when they should become large, plump, and well-coloured, they cease to swell, remain red, shrivel, and are sour. A soil open, well drained, and poor rather than rich, would prevent this cause of the disease. Our best Grapes are not grown in borders measured by their depth and the quantity of manure they contain, but by the openness of the soil, the slow decomposition of the manurial substances, and the soil's dryness and shallowness. Afford the Vines a warm, dry, and open soil, and shanking will be less frequently seen.

The varieties I have noticed most liable to shank are Frontignans and Muscat Hamburgh. I believe the last-named to be a splendid Grape, but it is most difficult to grow. I wish we were all fortunate enough to have it in the fine condition it is grown by Mr. Pearson, of Chilwell Nursery, but I think it might be greatly improved by grafting on the Black Hamburgh stock. I noticed the Vine borders at Garston Vineyard during a visit paid in August, and Mr. Meredith's intelligent foreman informed me he had never seen any Grapes shanked there, and I could see by the borders and the Vines that every precaution had been taken against that evil. The drainage of the outside borders rested on the ground level, and instead of a brick wall, as there is in most cases, turf was packed round the outside, so that there was nothing to prevent the air passing freely through the border from top to bottom, and this, in my opinion, is a great secret in the successful cultivation of the Vine. In the houses the Vines looked most vigorous and healthy, besides bearing an excellent crop of highly finished bunches. One house was devoted entirely to Mrs. Pince's Black Muscat, and one Vine nearly filled the house. The foreman informed me it was a very small cane planted in 1867, and this year at the time of my visit (August 21st), it was bearing twenty-six bunches, I should say nearly

averaging 1 lb. per bunch, and highly coloured; in fact, well finished in every respect.

I fully concur with the high opinions passed on Mrs. Pince's Black Muscat, and think it will prove a valuable addition to our late-keeping Grapes.—CHARLES ROBERTS, *Dorfold Hall*.

MADAME FILLION ROSE.

I AM not vain enough to suppose that any remarks I make upon the article signed "Q. Q.," appearing in your number for September 24th, would receive much attention, but I cannot refrain from making one suggestion, which I hope "Q. Q." will adopt—that is, do not discard Madame Fillion. The first year I grew it my opinion coincided with that of "Q. Q.," but last year I was truly thankful I had preserved it. Its colour, which is certainly a rose of a beautiful hue, was decidedly good, its form striking, and I can only say everyone who came to see my Roses exclaimed when they came to Madame, "Oh! what a lovely Rose." From June to September I dote upon having a Rose in my button-hole; whenever I could pluck one from Madame Fillion I did so.—AN AMATEUR GROWING 150 VARIETIES.

THE CEDAR OF LEBANON AND DEODAR.

AMONGST the trees to which Holy Writ and individual beauty have combined to give more than ordinary interest, the Cedar of Lebanon must assuredly take the pre-eminence. Its beauty, utility, and the district whence it comes have united to give it a charm which, perhaps, no other tree possesses, and its uses and abode have lost none of their interest since the latter has been more fully known, and the tree itself has been transported to almost all the countries of the globe, where there is a chance of its succeeding. In our own country it has long been a favourite, and at no time more so than at the present, when it has so many competitors; and, probably, a century hence may diminish the number of these rivals, as it is very questionable whether many of them possess that robustness of constitution requisite to adapt them for a climate like ours, so very different from those they came from. On the other hand, some of the earliest-introduced specimens of the Cedar of Lebanon, although rivalling in size our indigenous trees, look as if they would also equal them in longevity and the other features that give majesty to a tree.

A sort of poetry is also attached to this noble member of the vegetable world; its name is learnt in childhood, is familiar to all ages and classes, and when we meet with a majestic specimen of this tree, our admiration of it is increased rather than diminished by the recollection that its native home is so many hundreds of miles away, and in a position so different from those where it is usually met with here. Other and not less remarkable features of interest are presented by the Cedar of Lebanon, it being noised abroad, and that too with a strong appearance of truth, that this tree, to which we had been assigning a site only on the mountain frontiers of the Holy Land, has its counterpart many thousands of miles away in the interior of the great Asiatic continent, and at least a thousand miles from any sea coast, while the base of Lebanon is not far from the sea. Several thousands of feet difference in the elevation would also imply that the trees thus found widely apart could not have had a common origin. At the first introduction of the Cedar from central Asia, it was never dreamt that its relationship to the Cedar already amongst us would or could be pushed so close as it has been, yet such is the case; and as the similarity of the Cedar from the distant Himalayas to that of Lebanon becomes yearly more and more apparent, the opinion gains ground that they are one and the same species, varied only by the circumstance of their long abode in their respective positions.

The opinion that the Deodar and Cedar of Lebanon are both the same species has become more widely entertained since the specimens of the former have attained a larger size and assumed more of the rigidity of the Cedar of Lebanon, losing at the same time that pendulous habit which forms the characteristic difference. Some specimens we have here seem passing gradually from the one Cedar to the other, while parts of trees still more show the same change going on. Leaving this, however, for futurity to determine, it is not a little singular that a tree of such scriptural interest should also be equally an object of veneration to heathens, the Cedar of the Himalayas being held in no less regard by the tribes inhabiting the rich

and interesting country lying at the base of the tree's mountain home, than the Syrian Cedar was in patriarchal times. Probably one of the causes of the respect paid to this tree in both instances is a property for which the tree is remarkable, and one which must have addressed itself forcibly to a primitive people, and that is the durability of its timber.

From the limited quantity of Cedar timber that has found its way into this country, it has not yet had that fair trial of its merits which other woods have had, but enough of it seems to be known to prove that it is never likely to attain a high place among the woods adapted for making ornamental furniture, for neither in point of beauty nor adaptability to the purpose can it be compared with some woods that we possess, while for building it is hardly likely ever to compete with the Pine and other timber which we have from northern Europe and America. There is one merit, however, which it possesses, and which places it on a level with the best woods we have—its durability is equal to that of any known timber, and it is, doubtless, on that account, that Solomon was directed to use it in the building of the Temple; and I believe that trees of much smaller growth than those usually employed for building purposes, nevertheless cut up into scantlings that will equal, if not excel those of the best Pitch Pine. The wood does not seem to work up well into furniture, being liable to split, and being less ornamental than many others. Its durability would appear to be due to the large amount of resin which it contains, and which it does not part with so readily as many of the Pine tribe. This circumstance, I believe, also secures to it the fragrance that delights many, and which, doubtless, was no little recommendation to it in the early ages of the world, when paints and varnishes were less thought of than they are now, and it would be difficult to say the ancients were wrong. Paint has been much less used during the last twenty years in the fittings of churches and dwelling-houses than formerly, and it is probable that thick coatings of varnish, which have in some cases been substituted for it, will give way also; at any rate, the opinion that these substances maintain durability in all cases seems to be less generally entertained. In some instances, doubtless, they are to a certain extent beneficial, while in others they are as certainly a source of premature decay, and unpainted timber in a sound state can be met with in places some centuries older than any bedaubed with colouring.

As Cedar wood is rarely met with in any other condition than exhibiting its structural formation, I shall confine myself to its durability when in an unpainted condition, and, as in most cases, where it is kept dry. As the durability of timber in many warm climates is partly due to the resistance it affords to insects of various kinds which prey upon it, it is not unlikely that the resin this Cedar possesses and retains, is offensive to these agents of destruction. Even in this country we are not exempt from the destructive effects of such enemies. Beech chairs quickly fall a prey to them. The Deodar is as durable as the Cedar of Lebanon, if, indeed, both are not the same species.

It is much to be regretted that the patriarchal trees of Lebanon, like their compeers in California, are far from numerous; in fact, the reports of recent travellers place the number very low indeed, a gradual diminution having been going on for centuries. Some authorities dating back to 1550, make the number of large old trees only twenty-eight, and subsequent enumerators have made them gradually less, until in 1818 there were only seven, which appears to be the number of the principal group at the present day; but one or two solitary specimens have been discovered on other parts of the mountain, enabling some travellers to make as many as ten trees of the largest size. Around these a smaller crop is springing up of the sizes often met with in English pleasure grounds, but the whole area of the once-important forest of Lebanon is reported to be narrowed into a space not larger than that of many private pleasure grounds, and the number of trees of all sizes (excepting, perhaps, the smaller seedlings, of which there is abundance), is said not to exceed 500. An American traveller, Dr. Thompson, counted 443. This number seems small, and all writers concur in lamenting the decreasing numbers of this interesting forest, and leaving us little hopes of the tree's reappearing in any great number, unless under those conditions of artificial culture or protection which deprive it of most of its interest.

The trees, it would appear, are growing on those rocky shelves which form an important feature in all mountain countries, where the decomposed rock mingled with vegetable matter has formed a soil adapted for most of the fruits and plants that are useful to man, and where the Coniferae thrive particularly well.

It is also probable that a similar position marks the spot where the Himalayan Deodars are found, only the latter are at an altitude of several thousands of feet above the Lebanon trees, and what is more strange still, as before stated, so much farther inland, consequently beyond the reach of whatever influences the winds might acquire in passing over an expanse of salt water. A certain amount of hardness would seem to be required for both situations; possibly frost may be more felt on the Himalayas than on Lebanon, but the latter has quite as tempestuous a position, and it has its frosts and deep snows as well. It would be a great loss if the small remnants of the ancient forests of the Israelitish kings were entirely destroyed, and it is to be hoped that the same Society which is now prosecuting its researches amongst the antiquities of the Holy City, and its neighbourhood, will also take charge of the few remaining trees. It is painful to reflect that their number is really much less than could be found within a few miles of London.

In speaking of Cedar wood there is often great confusion, for it not unfrequently happens that some Cypress is confounded with it, to which nothing can well present a stronger contrast, and the reader will at once point to the small slips of a rather soft wood forming the black-lead pencils of everyday use. These Cedar pencils, as they are called, are said to be made from a soft kind of Cypress imported from Florida, while the kind of Cedar met with under the name of pencil Cedar, used in furniture-making for the lining of drawers and wardrobes, is from Bermuda. There is every reason to believe that not only the roof of the Holy Temple was composed of Cedar of Lebanon, but also the roofs of similar buildings devoted to heathen deities. The Temple of Diana at Ephesus was said to be of this tree and to have lasted four hundred years; while another, dedicated to Apollo, built with Cedar obtained from the African coast, was said to be quite as old. In Hindoo usages the durability of Cedar wood was equally appreciated, as it was used to contain the remains of the most renowned men, and for other purposes where endurance was required.

In this country, who can say that any other tree exceeds the Cedar in beauty when the specimen is good? and there are many such in England, the valley of the Thames containing many noble trees, as at Chiswick, Sion, and higher up, while even in the far north of Scotland it is growing with as much vigour as the native Fir; and as many of the oldest specimens in this country exhibit no signs of constitutional debility, it may be placed on the same footing in that respect as our native trees, which is certainly not the case with many Conifers of more recent introduction. Those, therefore, who wish to plant a given space, as an avenue, or even to plant a single tree as a memorial, I would recommend to select young, well-rooted plants of the Cedar of Lebanon that have not been in pots, and if the site be favourable the result need not be feared. I would certainly advise the Cedar of Lebanon in preference to the Deodar, for if the latter is not the same, it is inferior to it; but I expect that eventually they will be both regarded as one.—J. ROBSON.

TRICOLOR PELARGONIUMS BREAKING.

Your correspondent, "PERSIST," asks, "How long a time elapses before a Pelargonium will break, or show signs of variegation, if bred from a green Zonal?" This depends upon how much tricolor blood there is in the seedling plant. Some seedlings will show signs of variegation in a very young state, others will continue growing for several years without the slightest symptoms of variegation appearing, and afterwards throw out variegated sports. I have found that green seedlings bred from variegated parents, if crossed again with the pollen from variegated varieties, will generally produce a large per-centage of green seedlings slightly tinged and striped with variegation on the cotyledons or seed leaves. Some of these will show symptoms of variegation very early, by streaks of red, white, &c., appearing on their stems, and spots and blotches of variegation on some of their leaves. After the plants have fully developed from five to seven leaves, the green portions of the leaves should be gradually pinched away, this will allow the variegation to predominate and assume the mastery over the green portion of the plant. Much, however, will depend on the skill of the person having the care of the plant, as to whether it will survive after its green portions are taken away. If the plant has not a strong, vigorous constitution, the green portions of its leaves must be very gradually pinched away, otherwise the plant will become weakly, and ultimately die altogether. When the seedlings are small, and the proportion of

variegation is too great, it is often necessary to pinch away portions of the variegation in order to allow the plant to gain strength by allowing the green portion to take the lead for a short time. This may be easily checked by the means mentioned above, and the growth of the plant regulated to the greatest nicety, if its condition be properly studied, and a due amount of watchfulness be bestowed on it.

I know of no branch of floriculture more interesting than this, nor anything approaching the interest one feels in it after becoming acquainted with the subject.

The next question asked by your correspondent is, "If a Tricolor Pelargonium is bred from a golden variety, what will the seedling be?—will it be golden, and afterwards break?" No favourable results can be expected, or if expected such are seldom realised. The progeny in this case would be so weak that little or no hope could be entertained of their ever surviving more than a few days or weeks after their appearance above the surface of the soil. They have, generally, very little chlorophyll in the cotyledons or seed leaves, and are, consequently, unable to bear the light. A golden variety should, therefore, never be selected as the female parent.

The third question, "If seedlings raised from a Bicolor will be bicolor?" may be answered in a similar way to the above. Bicolors do not make good seed-bearing parents for the same reason, unless they are very strong growers, and have not much yellow in the leaf.

The best of all parents to select, is a good green horseshoe kind, with a good habit, and having the zone clearly defined and deeply stamped on the leaf.—J. WILLS.

INTERIM REPORT TO THE COUNCIL OF THE ROYAL HORTICULTURAL SOCIETY,

BY THE SUB-COMMITTEE APPOINTED TO INQUIRE INTO THE ADULTERATION OF SEEDS.

1. IN accordance with your instructions, your Committee have taken steps to ascertain whether there is any just foundation for the representations which have been made to the Council regarding the unsatisfactory state of the seed trade and the bad quality of much of the seed sold to the public.

2. It was represented to the Council that, as the business of seedmen is at present conducted, the purchaser of seeds frequently receives neither the kind nor the quality of the seeds he pays for, and that against this he has no remedy except a doubtful and expensive lawsuit after the mischief has been done.

3. It was also urged that, unlike most other kinds of adulteration or deception in the quality of goods, the injury done in the case of seeds does not terminate with the use of the article purchased, but entails, in addition, the loss of the rent of the ground on which the seed may be sown, and of the labour expended upon it in preparing the soil and tending the crop—not to speak of the disappointment of the reasonable expectations of the cultivator.

4. Having no means of compelling parties to give evidence, your Committee's investigation into the alleged adulteration, mixing, or deterioration of seeds has necessarily been confined to making inquiries of those who have the means of knowledge, and on whose statements they could rely.

5. From information so acquired, they believe that the public suffers more or less from the neglect and malpractices of dealers in seeds in at least the following ways:—

(1.) Generally by seeds being kept too long and being sold after they have lost their vitality.

This is the most injurious of all the causes of depreciation; for it applies equally to the honest and dishonest trader. In adulteration, the evil must be done with the intent to defraud. Here there may be no intention to defraud, but mere neglect or want of judgment may be as injurious to the purchaser as if there were.

(2.) By the addition of bad seed to good, and mixing old and new.

(3.) By the addition of seed whose vitality has been killed.

This is done in the case of varieties of peculiar excellence, when the supply is insufficient to meet the demand. Killed seed of a cheap kind, similar in appearance to that of a dear kind, is added to increase the quantity without affecting the quality. In this kind of adulteration the purchaser is only deceived in the quantity. What comes up at all, comes true, and the character of the dealer for supplying a true article is maintained.

(4.) By manipulating and doctoring the seed so as to make bad seed look like good, as by dying bad Clover seed, sulphur-smoking bad grass seed, oil-dressing bad Turnip seed, &c.

6. Your Committee have been unable to ascertain to what extent these different practices are carried on; but they have reason to think it must be considerable. One of their informants was able, from personal knowledge, to instance one individual whose principal business consisted in destroying the vitality of cheap seeds for the purpose of mixing with sound seed of greater value; and they have reason to believe that this is by no means a solitary case. They are told also that

large numbers of people obtain a livelihood by the manufacture of bad into apparently good Clover seed.

7. Your Committee next endeavoured to ascertain how far the various causes, above-mentioned, actually affect the productiveness of seeds sold in the market. They have not at present made any tests with the view of determining how far seeds sold as of special quality or kind come true. Their experiments have, in the first instance, been directed solely to the vitality of seeds; and to that alone the present report applies. In a future report they may deal with the quality of the kinds of seeds sold, as well as some other collateral points.

8. In entering on the inquiry as to vitality, your Committee attempted to obtain a test for guessing at the age of seed by the percentage which comes up; but this they found impossible, so much depending on the original quality, and the care with which the seed has been afterwards stored. They made, however, some trials of Turnip seed with this intent; and it may not be without interest to mention that, in them, they found the per-centage which came up from home-grown good seed one year old to be 80, three years old 43, seven years old 32, and the older the seed the lower the rate of germination.

9. It would have been beyond the means at the disposal of your Committee to test even a small sample of the goods of all the seeds-men and nurserymen in London; but by going only to the wholesale dealers, from whom the retail dealers of course chiefly obtain their supplies, they thought they could arrive at a fair estimate of the general character of the seeds sold throughout the country. It appears from Dr. Hogg's "Horticultural Directory" that there are twenty wholesale dealers in London. From each of these (with the exception of two, who were accidentally omitted), the Committee purchased samples of five of our commonest garden vegetables (Cauliflower, Broccoli, Carrots, and White and Yellow Turnips)—care being taken to prevent the purpose for which they were wanted being known. The samples were numbered, and the names of the dealers from whom they were got were kept secret. 100 seeds of each package were tested by the Society's officers at Chiswick, and a like sample separately by one of the Members of the Committee, and the number of seeds which came up were counted. In addition to this test, in a number of instances, especially where, before sowing, the appearance of the seeds was not good, they were mechanically tested by crushing and microscopical examination; and that test was found to correspond with the result of the trial by sowing. The test by floating was also tried, but found of no value, in the kinds of seeds specified.

10. The results of sowing, as shown by the average of both trials (which, it is right to say, in general corresponded very closely), were as follows:—

Out of the eighteen packages of 100 Cauliflower seeds, the following numbers respectively came up—viz., 86, 70, 66, 60, 56, 54, 54, 52, 51, 51, 50, 44, 44, 43, 39, 26, 24.

Out of the eighteen packages of 100 Broccoli seeds, the following numbers respectively came up—viz., 86, 83, 70, 68, 65, 62, 60, 59, 56, 55, 50, 46, 42, 42, 39, 35.

Out of the eighteen packages of 100 Carrot seeds, the following were the numbers which came up—viz., 61, 56, 54, 48, 47, 45, 44, 43, 41, 38, 38, 37, 37, 33, 30, 19, 14.

Out of the eighteen packages of 100 White Turnip seeds, the following numbers respectively came up—viz., 98, 95, 93, 87, 87, 83, 82, 71, 70, 68, 68, 66, 65, 61, 62, 60, 58, 57.

Out of the eighteen packages of 100 Yellow Turnip seeds, the following numbers respectively came up—viz., 95, 84, 79, 79, 78, 77, 72, 72, 67, 66, 65, 64, 62, 58, 55, 55, 44, 28.

11. It should be added that the quality of different kinds of seeds obtained from the same tradesman was not always uniform, all good or all bad; the Cauliflower would sometimes be inferior and the Turnip superior, and so on; but on the whole, a good position in one kind was generally accompanied by a good position in all. It is also to be observed that the general per-centage is less on some seeds than others—a difference probably due to the greater care required in harvesting them, and in the case of Carrots, to the difficulty in separating the good seed from the bad.

12. In seeking for a remedy for the evil, your Committee recognised the existence of two distinct elements in it, each requiring different treatment:—1, the actual adulteration of seeds; and, 2, the mere keeping them too long and selling them when too old.

13. Actual adulteration is entitled to no mercy. It is a deliberate and intentional fraud, in the suppression of which the trade is as much interested as the general public, and ought to be suppressed by the strong hand of the law in the same way as any other fraud.

14. It is different with the selling of old seed. The seeds produced in different years, like different vintages, vary in their quality and in their power of retaining their vitality. It thus sometimes happens that two-year-old seed is better than one-year-old. There is thus a special difficulty in dealing with it; but it is clear that the public are entitled to get what they pay for; and if it is necessary, to secure this, that the dealer should test the quality of his seeds each year, it is his duty to do so.

15. It seems a right and proper thing that Government should bestow some pains in protecting the very large numbers of ignorant and uneducated people who have to purchase seeds. In Prussia, Saebverstündigen, or, as we should call them, experts, are appointed by Government, whose duty it is, for a certain fee, to test the quality of the seeds of such merchants as apply to them, and to publish the

results; and in some districts (Saxony and Wurtemberg, for example) there are officials, paid by the Government or district, whose business it is to look after the culture of fruit trees and to give gratuitous advice to all who apply to them for it.

16. But, independently of the action of Government, your Committee are disposed to think that the Council of the Royal Horticultural Society might itself do much to encourage the sale of good seeds, if not to prevent the sale of bad. How it can most effectually exert its influence for this purpose, is a question on which the Council might probably obtain useful suggestions from the respectable members of the seed trade; and your Committee recommend that a number of them be invited to meet the Council and give their views as to the best steps to be taken to remedy the evil.

PLANTS IN FLOWER DURING SEPTEMBER.

Sept. 4. <i>Nolana prostrata</i>	Sept. 14. <i>Gaultheria procumbens</i>
<i>Sanvitalia procumbens</i>	<i>Erica tetralix</i>
<i>Anemone acutipetala</i>	<i>vagans</i>
<i>Pyrethrum cernuum</i>	<i>Anchusa sempervirens</i>
<i>Anthericum lilago</i>	<i>italica</i>
Tobacco	<i>Leycesteria formosa</i>
<i>Gypsophila prostrata</i>	<i>Aconitum autumnale</i>
<i>Lathyrus rotundifolius</i>	„ 18. <i>Passiflora carulea</i>
<i>Lobelia St. Clair</i>	<i>Spiraea Douglasii</i>
<i>propinqua</i>	<i>Weigela rosea variegata</i>
<i>ramosa</i>	<i>Achillea ptarmica plena</i>
<i>fulgens</i>	<i>Echinops ritro</i>
<i>multiflora</i>	<i>Corydalis lutea</i>
<i>graecilis</i>	<i>Asclepias incarnata</i>
„ 7. <i>Limnanthes rosea</i>	<i>Ileium autumnale</i>
<i>Hibiscus africanus</i>	<i>Erigeron Villarsii</i>
<i>Lycbium chalcidonicum</i>	<i>Aster elegans</i>
<i>Amaranthus tricolor</i>	<i>Leptandra sibirica</i>
<i>Centranthus cruceus</i>	<i>Nepeta macrantha</i>
<i>Callirhoe digitata</i>	<i>Myosotis alpestris</i>
<i>pedata</i>	<i>Linaria dalnatica</i>
<i>Ipomœa violacea</i>	„ 21. <i>Sedum purpureum</i>
<i>quamoclit</i>	<i>Gyncrium argenteum</i>
<i>Malva Morenii</i>	<i>Maria Nuttallii</i>
<i>Athanasia annua</i>	<i>Pentstemon sedoides</i>
<i>Mesembryanthemum gla-</i>	<i>Plumbago capensis</i>
<i>brum</i>	<i>Tradescantia congesta</i>
<i>Artemisia annua</i>	<i>splendens</i>
<i>Erysimum arkansanum</i>	<i>Tigridia pavonia</i>
<i>Gaillardia aristata</i>	<i>conchiflora</i>
<i>pieta</i>	<i>Enothera grandiflora</i>
<i>Velloziana</i>	<i>Jasione montana</i>
<i>Clintonia pulchella</i>	<i>Gnaphalium glandavensis</i>
<i>Nemophila discoidalis</i>	„ 26. <i>Gnaphalium lanatum</i>
<i>Lotus Jacobœna</i>	<i>Sempervivum tectorum</i>
<i>Cuphea platycentra</i>	<i>Lilium Catesbæi</i>
<i>strigillosa</i>	<i>rubrum</i>
„ 10. <i>Marrubium Barclayanum</i>	<i>superbum</i>
<i>Amaranthus caudatus</i>	<i>venustum</i>
<i>Ageratum mexicanum</i>	<i>Tritoma uvaria</i>
<i>Senecio elegans</i>	<i>grandiflora</i>
<i>Mirabilis jalapa</i>	<i>oxalis floribunda rosea</i>
<i>Pernettya mucronata</i>	<i>Agapanthus umbellatus</i>
<i>Gnaphalium lanatum</i>	<i>Ruta graveolens</i>
<i>Daphne laureola</i>	„ 29. <i>Crocus autumnalis</i>
<i>Omphalodes verna</i>	<i>Statice armeria</i>
<i>Viscaria oculata</i>	<i>Amaryllis belladonna</i>
<i>Coronilla emerus</i>	<i>Jasminum bignoniaceum</i>
<i>Linaria purpurea</i>	<i>puberulum</i>
<i>Pentstemon gentianoides</i>	<i>revolutum</i>
<i>Salvia patens</i>	<i>officinale</i>
<i>fulgens</i>	<i>Antholyza coccinea</i>
<i>bicolor</i>	<i>Loiseleur Douglasii</i>
„ 14. <i>Fuchsia fulgens</i>	<i>Rubus laciniatus</i>
<i>microphylla</i>	<i>nutkanus</i>
<i>Phloxes</i>	<i>Tamarix gallica</i>
<i>Hibiscus syriacus</i>	<i>Erica vulgaris rubra</i>
<i>Stenactis speciosa</i>	<i>Chelone obliqua</i>
<i>Sedum Sieboldii</i>	<i>Pentstemon confertum</i>
<i>Statice armeria</i>	<i>ovatum</i>
<i>Erica ramentacea</i>	<i>Potentilla bifurcata</i>
<i>Artemisia abrotanum</i>	<i>McNabiana</i>
<i>maritimum</i>	<i>Hesperis matronalis</i>
<i>absinthium</i>	<i>Mimulus tigrinus</i>
<i>Calycanthus floridus</i>	<i>moschatus</i>
<i>Ceanothus americanus</i>	<i>Commelina tuberosa</i>
<i>azureus</i>	<i>Pyrethrum parthenium</i>
<i>Cistus undulatus</i>	<i>plenum</i>
<i>Clematis vitalba</i>	<i>Verbena venosa</i>
<i>Escallonia rubra</i>	<i>Aloysia citrodora</i>

—M. H., *Acklam Hall, Middlesborough-on-Tees.*

WHORTLEBERRIES.

I HAVE seen it provokingly announced that Whortleberries were selling in Providence at 10 cents a quart, and we learn that the price in Woonsocket is only 5c. Happy Woonsocketites, to have a supply of berries at that price! Here (Newport), they are to be had, but not for a dime, be the market never so well supplied. Why we are forced to pay more than our neighbours for the fruits that grow wild on every hillside and bit of waste land I know not. I only know that the cry is, as usual,

"Huckleberries is skerse," and I believe they are always so in the estimation of those who deal in the article. The complaint is as "old as the hills," and was familiar to the ears of Rose Standish and other early American housewives.

Whortleberries are peculiarly an American institution. The Germans have what they call heidel beere, or heathberry, from the good old Anglo-Saxon heortberg or hasberry—at best but an indifferent fruit. The English have the Bilberry or Blea-berry, a stunted shrub but a foot high—

"Where fires thou find'st unrank'd, and hearths unswep't,
There pinch the maids as blue as Bilberry."

And the Scotch have the Cowberry—long the badge of the Macleods—a small, sour, and puckery fruit that would make one exclaim, as did the Yankee who tried the green Persimmon, "Mister, am I whistling, or what am I doing?" In our own country, well known to be the real home of the Whortleberry, we have half a dozen varieties, all known to consumers as Whortleberries. They are gathered at this season in endless quantities, and should be dog cheap.

There was one man who made a marked impression on my mind in early life, and stands out in bold relief as I review the scenes of my childhood—Naaman Gardner. Berries, which he always maintained were "skerse," were his staple of trade in the summer. In his day—the halcyon days of those who were fond of Whortleberries—they sold for three or four cents per quart, milk measure at that, at which price every one could afford to indulge in them freely. We boys bought by retail, and for a cent obtained a large beach clam shell full—about half a pint, which were turned into the crowns of our straw hats till we could make way with the fruit. When berries were out of season he filled his baskets with other commodities—wild Grapes, Berberries, Sweet and Sour Apples, and "yarbs"—taking with him at the same time a bundle of brooms or a basket or two to sell, the latter of his own make. They were strong white oak baskets, with only one fault—the handle was never in the centre; and this man at length claimed that they were put on one side intentionally, just as the Vermonter, who had one long and one short leg, said he was made so on purpose to mow on a side hill. I could relate other peculiarities, but I have already rambled far enough from my subject—the price of Whortleberries.

A farmer in Narragansett once told me that he could gather Whortleberries enough on the farm he hired to pay the rent; and from what I saw there I have no doubt but that he could easily have done so; and yet that fellow, with a miserable lot of cow frames, tried to keep the appearance of a dairy farm in a barren and "sparse" section, where nought would grow but wiregrass, Whortleberries, and Alders, with a sprinkling of black snakes, woodchucks, and skunks. In a short time he played out, and I have always associated him and others like him with the steady increase in the price of berries. They have neglected to gather the bountiful stores of the swamps and wild lands; and middle men—the sharpers—have forestalled the market, substituted wine for milk measure, run up prices, and played the dickens generally with the Whortleberry trade. Think of Whortleberries selling at 16c. a quart in the middle of August, or rather think of being asked that price for them, for they don't sell—much.

Whortleberries are good in any form but dried, a process that deprives them of every good quality, leaving us only the shrivelled skin and seeds; in pies, tarts, flapjacks, Johnny cakes, &c., but to my mind the "hollow"—a good old-fashioned Whortleberry hollow—is without a peer in the world. Some cooks make a batter, then stir in the berries and boil the whole together—making a heavy, doughy mass, and altogether a waste of most excellent materials. With others it is the custom to line a deep dish with puff paste, pour in the berries, cover with a thin paste, bake and serve with sauce—a good, palatable dish, but not the hollow of our forefathers, which must be made of Potato crust—for the reason that it is far more tender than puff paste—rolled out thin and spread over a pudding cloth; then pour in the berries, gather up the side of the crust and pinch it together—not, however, in a way that will make a lump of dough at that point—tie the bag and boil till done. When ready for the table, serve with sauce, but let it be sauce, not a little warm sugar and water thickened, nor a lump of butter and sugar rubbed together till snowy white, as firm as wax and as dry as table salt. These are makeshifts. But here is a recipe worth to any housekeeper a year's subscription to the Journal:—A cup of sugar, and a little less than half the quantity of butter, worked together till white and smooth; add a wine-glass of good wine, flavour with nutmeg,

and stir in boiling milk till the whole is of the consistency of thick cream. Send it to the table, and stir it well when served. Test the above, and my word for it, you will ever after use it for puddings of all kinds requiring sauce.—AQUIDNECK (in *Providence Journal*.)

FAILURES IN BOTTOM-HEATING.

We have received several complaints with regard to pipes laid in open rubble, and laid in a chamber covered with slate, that though the pipes are made hot, the heat does not rise into the bed above. This reminds us of a case that came under our own practice in Cucumber-growing. We have hardly ever been more successful than in a common brick pit, all above the ground; the walls formed of single brick on bed, with 9-inch piers to give strength, and the bricks laid in cement, as all the heating was done with mounds of rank fermenting dung outside the pit, turned at times, and kept banked up nearly to the wall plate. The bottom of the pit inside, for nearly half the depth, was roughly flued or chambered with stones, brickbats, and furnace clinkers, and covered over so as to have a thin layer of pebbles and clean-washed rough gravel on the surface to receive the soil for the Cucumbers. It was hoped that as the outside wall became hot, the heat would so circulate amid the openings of this loose bottom, as to give plenty of bottom heat. The closeness of the walls prevented all steam entering, and the walls at the top gave out enough of heat to keep up the top temperature, and when we wanted a moister atmosphere we had merely to sprinkle the walls with a little water, but in the winter that was only necessary in very bright weather. Nothing could have answered better for a time than the above plan for securing bottom heat; but presently, do what we could, though the walls outside were quite hot, we could not make the soil in the middle of the bed as warm as we wished. We racked our brains for some time to little purpose, when by degrees we reflected that confined air is one of the worst conductors of heat, and the air in our rough brickbat chamber was as confined as it well could be. Luckily we had a rough open flue, or space rather, along the middle of the bottom of our pit, and by putting down a drain tile at each end, the one end of the tile resting above the opening, and the other end standing a few inches above the soil, and furnished with a plug, we found that the earth in the centre soon began to be heated; and to make more sure of the air being put in motion, we had a metal pipe at each end outside, communicating with the open bottom, and by opening these pipes a little at times, we found the heat from the sides circulate all the way beneath the bed, so that the centre of the bed of earth was nearly as warm as the sides. Now we mention this because a fact is often more convincing than precept. If a heated chamber does not heat the bed above it, a little air admitted in two or three places near the bottom of the chamber will give a circulation to the confined air, and cause it to heat readily the bed placed over it.

Another cause of want of success when the pipes are covered with rubble, is having the pipes at too great a depth from the bed to be heated. True, heat will rise, and will not be lost; but the deeper the pipes the more liable will the heat be to be diffused longitudinally instead of vertically, and the more likely, too, will be the air round the pipes to be confined and still, unless some means have been taken, as above, to keep the air in motion.

When hot-water pipes are used for bottom heat, it is well to use no fermenting material in addition to the pipes. A says he put a 2-foot bed of cocoa-nut refuse over his pipes, and in a few weeks he could secure no heat for his pots, though the pipes were warm. B used dung and leaves for a similar bed, and as soon as the heat from them declined, he derived no benefit from his pipes; he felt they were warm, but the heat would not rise. This was partly owing to the air about the pipes being confined, but it was chiefly owing to the material next the pipes becoming dry and caked, and through such dry material neither cold nor heat will easily pass. For a plunging bed above such heated medium, we therefore recommend sand or fine ashes as being as good as anything else, and these no deeper than is necessary.

When a bed is supplied with pipes for bottom heat, it is often necessary for distinct purposes to have the plants nearer the glass, and then a raised bed of fermenting material may be necessary. A genial heat is thus given at once, but if that is to be continued with the help of the pipes, then it will be necessary to have the means, by tubes, &c., of pouring water

down among the pipes, and the vapour rising will prevent the material next the pipes becoming dry, and thus the heat will be conducted through the mass. Heat will rise through a fair thickness even of cocca-nut fibre, if the fibre is moist. It will not rise through any bulk of it if it is dry, and the same fact will hold good as respects dry tan, dry leaves, dry dung, or even very dry soil. We do not at present know of any better modes for removing a disappointment that is not seldom felt.

Heat often fails in common hotbeds of fermenting material long before the material is exhausted, not so much, as in the above cases, from obstacles being presented to the free conduction of heat, as from the material heating itself dry, or becoming so solid that air cannot penetrate to keep up a slow decomposition. The giving of water through tubes, &c., and air along with the water, will cause a fresh fermentation in the one case, and merely forking over a bed when it has become solid from the mere air thus given and covered in, will insure a gentle heat for a month or two, when none would have been obtained from a bed in its solid settled-down condition. The materials for yielding heat were there, but air as the great decomposer could not reach them, to act as flame to the fuel. Much skill is required to make up a common hotbed so as to give the most lasting and continuous heat. If built too loosely the air will dry it, and thus arrest decomposition and the heat it produces. If too close, air is kept out, and thus decomposition is arrested. The turning-over lets the air in, and then it acts like a bellows to a sluggish fire, giving out more heat, of course, at the expense of the fuel—the decomposition of the fermenting material.—R. F.

NOTES AND GLEANINGS.

At the meeting of the Fruit Committee of the Royal Horticultural Society on Tuesday next, there will be an interesting EXHIBITION OF GRAPES, the following prizes being offered—viz.:—A. For the best dish of Grapes, consisting of six bunches of any variety, grown in the open air against a wall, without any protection whatever, £2; £1. These prizes are offered by the Rev. George Kemp. B. For the best collection of any description of Grapes, except Muscats, one bunch of each, £3; £2. C. Ditto White Muscat Grapes, one bunch of each sort, £3; £2. It is not imperative that the Grapes shown in this class should be grown by the exhibitor, the object of the Committee being to obtain specimens of all the varieties of White Muscat Grapes that are grown in different parts of the country, for comparison. D. For the best dish of Muscat Hamburgh Grapes, £1; 10s. In a season like the present, the out-of-door Grapes are, no doubt, unusually fine. It is, therefore, a happy thought of Mr. Kemp to have offered the prizes on this occasion.

— MR. DAVID THOMSON, so favourably known to all horticulturists as Lady Mary C. Nesbit Hamilton's gardener at Archerfield, will soon leave that place to occupy a similar position at the still more extensive establishment of the Duke of Buccleuch, at Drumlanrig Castle, in Dumfriesshire.

POMOLOGICAL GLEANINGS.

D'AGEN FIG.—This is the latest variety of Fig with which we are acquainted. It comes into use after all the others are past, and is very valuable on that account. In the large and fine collection of Figs in the Royal Horticultural Society's garden, Chiswick, we have to-day observed in pots two handsome plants of this variety quite laden with beautiful green healthy fruit, which has just commenced to ripen. The plants being placed in a sufficient heat, the fruit will continue to ripen successively from this time up to Christmas. There are many varieties from which occasionally there may be a few straggling late fruits gathered (the fag-end of the crop), but they are not to be depended upon, and they are generally of but indifferent quality. This variety, then, which only commences bearing at the present season, is a decided acquisition. The fruit is above medium size, roundish turbinate, very regularly formed, and very handsome. Skin deep green, covered with a fine bloom, cracking when ripe in shallow white lines. Eye small, generally closed. Flesh deep red, solid, firm, and rich. Should be in every collection.

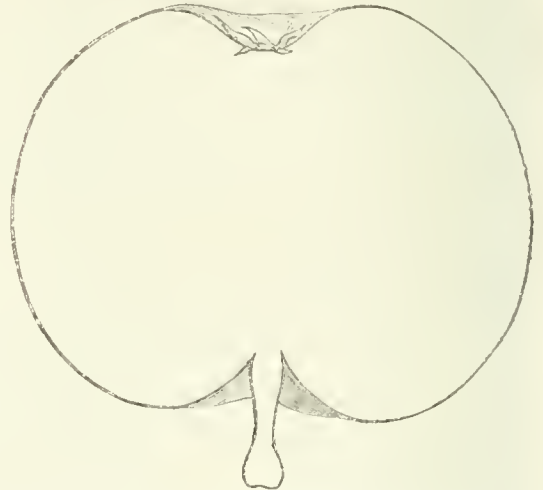
— DEUX SŒURS PEAR.—When ripe and mixed with Marie Louise, this variety may easily be mistaken for the latter. It is a very handsome fruit, the colour of the skin pale yellow,

with a little russet exactly like Marie Louise. It is, however, rather more uneven under the skin, and fuller towards the stalk, and the stalk itself is thick and fleshy, instead of slender like Marie Louise. The flesh is slightly granular at times, but buttery and melting, with an exceedingly sweet and almost honied taste. The tree is a good bearer, and forms a neat pyramid on the Quince.

The name Deux Sœurs (Two Sisters), it is said, was given to this through the fruit generally growing on the trees in pairs, which it certainly does—a very marked characteristic.

— THE REV. C. P. PEACH, of Appleton-le-Street, writes:—"I wish you could see some Apples and Pears I had from BUSH TREES this year—1300 Seckles from a two-year-old bush, and the most wonderfully fine Easter Beurré, Beurré Diel, and Van Mons Léon le Clerc. I had a tree, too, of Pike's Pearmain Apple planted twelve years ago, which is now about 9 feet high and 8 feet through, which bore from sixteen to eighteen pecks. I do not think there was any 3 inches on the tree down to the very ground without a fruit on it."

— RIVERS'S EARLY NONPAREIL.—Along with some specimens of the old Golden Pippin Mr. Rivers has sent us a few examples of what he calls "our Early Nonpareil." He thus designates it by way of distinction from the Early Nonpareil, or Hicks's Fancy, as some call it. It is a perfectly different Apple, and is supposed by Mr. Rivers to be the old Haute Bonté of the French, which Miller in his Dictionary says is often sold



in the streets for the Nonpareil. It is quite distinct from that variety, and is one of unusual excellence. The shape is not unlike that of the Nonpareil, and the colour, in the highly coloured specimens, is of a bright aurora glow. It is a larger and a handsomer Apple than the old Nonpareil.

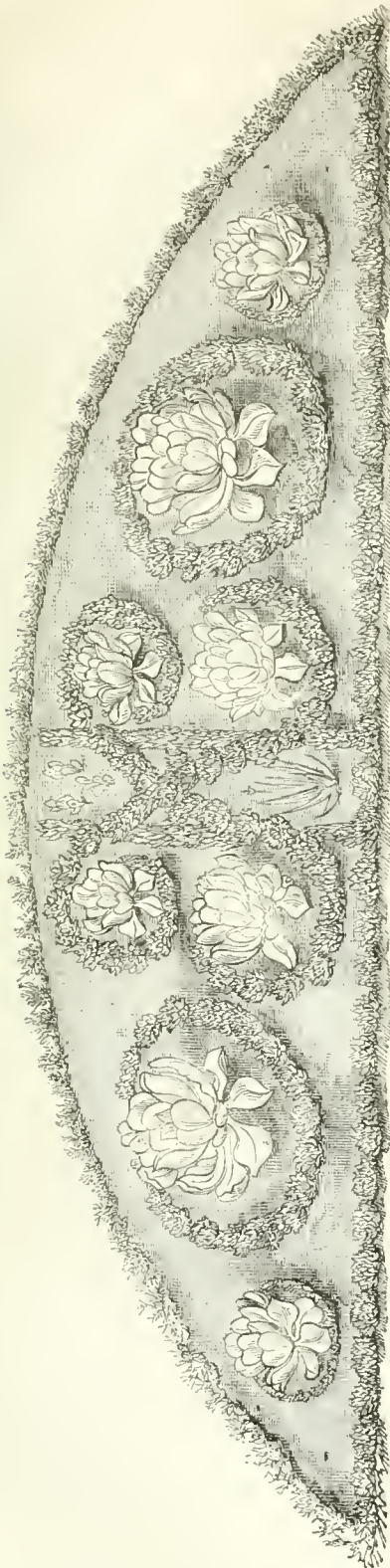
— WE have received some Red Currants grown by Mr. Twells, a mechanic at Letchurch, Derbyshire. They are fully ripe, and quite of an average size and excellence. Their peculiarity is that they are part of the second crop produced by the same bushes this year. A dish was gathered on the 11th inst.

BEDDING-OUT AT CLIVEDEN.

ONE of the prettiest examples of what may be done in the way of bedding with succulent plants alone, such as Sedums, Echeverias, &c., that we ever recollect having seen, is a small bed planted by Mr. Fleming at Cliveden this season, representing the monogram of Harriet Duchess of Sutherland. We have tried by the aid of the accompanying engraving to give some idea of how this has been carried out. It is, however, one of those things that require to be seen to be understood and thoroughly appreciated. It is impossible to show in a sketch of a bed of this sort the different forms of the various plants, their different hues, &c., which are so neatly and happily blended in this little gem. It is planted thus:—

The H is formed with small plants of *Arabis lucida variegata*; the two S's and the largest circles with *Echeveria secunda*

glauca; the two small circles with *Sempervivum hirtum*. The eight centre plants are beautiful specimens of *Echeveria*



metallica, which show up exceedingly well, and the circles are joined to the *Echeveria* by cross bands of *Sempervivum*

hirtum. In the centre angle, front side, are three nice plants of *Gasteria verrucosa*, and in the back angles small plants of some species of *Mesembryanthemum*. The front edging is the beautiful *Sempervivum californicum*, and the back edging *Sedum carneum variegatum*. These being the leading hues in the bed, the intervening spaces are all filled with a deep mossy carpet of, first, *Sedum glaucum*, which has a pretty silvery appearance, and, second, a deep green variety of *Sedum*; and *Sedum denticulatum rubrum* filling up the corners.

WORK FOR THE WEEK.

KITCHEN GARDEN.

As soon as we hear of the thermometer having fallen 3° or 4° below freezing, we must have mats ready for covering up with. Some gardeners, however, are unwilling to expose their best mats yet, for fear of these becoming saturated with wet, and thus being rendered of less service when there is need for them. *Cauliflowers*, pull up a number of those that are fit or nearly fit for use, and lay them in by the heels in some moist earth in a dry shed or outhouse. It is as yet too soon to put them in the cellar. Choose a dry, well-sheltered border, dung and dig it as well as you can, and the first mild day plant it all over in patches with good Cauliflower plants, ready to be sheltered when necessary with hand-glasses. *Cabbages*, if any failures have happened in the rows already planted, the spaces should now be filled up with the strongest plants you have on hand; nothing looks worse in winter than to see gaps here and there in any rows or crops of plants. Plant out *Endive* and *Lettuce* for spring use. If planted on the sloping sides of wide ridges they will withstand the winter better, damp being quite as destructive as frost. Take the precaution of securing a quantity either in pits or in frames, or have the means of protection in readiness. Remove the leaves from *Rhubarb* and *Sea-kale* intended for early forcing, and keep a look-out for slugs and weeds, both of which will be troublesome after these rains.

FRUIT GARDEN.

Prepare for planting all kinds of fruit trees by putting the ground in good order for the different kinds. The sooner the trees are planted the better, as they will then make fresh roots before winter. In all cases, but more especially in the case of cold, stiff soils, it is advisable to plant on hillocks a foot or 18 inches higher than the surrounding surface. The trees will not grow so fast in consequence, but will require more attention to mulching in summer, but they will form short-jointed, well-ripened, fruitful wood, which is the best preventive of canker, gum, &c., and will save resorting to much root-pruning. Pruning may now be commenced, beginning first with the Currants; the Gooseberries and Raspberries may follow, this will clear a considerable space of ground to be dug in fine weather. Apple and Pear trees should follow, and then look over trees against walls, and cut away useless laterals and late growths on the Peach trees; indeed, any shoot that will not be wanted in spring, had better be cut out at once to make more room for the others, and let in the sun and air to ripen the bearing wood for next year; the leaves of Peach trees are of little use after this time, and they do much harm by shading the wood.

FLOWER GARDEN.

If there is one thing more than another which contributes to the high keeping of this department, it is finely-kept and perfectly smooth turf; in truth, it is impossible to produce a harmonious whole if the turf which surrounds the groups of flowers is not in every respect perfect, and for this reason at the present season it is advisable to replace every foot of bad turf that can be found in any part of the grounds. This is the best season to lay turf, except under large trees, and in such situations it is better to delay it until spring, or the constant drip consequent on the rains of winter would materially injure it. However, fine turf will not please if it is not level, and for a lawn to be beautiful it must be level, smooth, and perfectly clean. At this season, also, the edgings which surround the walks and borders, should be adjusted to one regular height. Level turf and edgings, combined with good walks, will give a garden a highly finished appearance, even though there is not a flower in it. Herbaceous borders may now be regulated, reducing the large plants considerably, and preferring rather to leave the outsides than the centres of the plants. Where the plants have not been regulated for some years it will be best to take them all up, manure and trench the border, and replant them properly.

GREENHOUSE AND CONSERVATORY.

Those who have not the advantage of cold turf pits will have to crowd the greenhouse on the approach of frost. However small a place may be, there ought to be some contrivance for sheltering half-hardy greenhouse plants late in the autumn, without crowding them into houses thus early. The Chrysanthemums and Pelargoniums ought now to occupy the best places here, and more hardy plants will be much better in pits where rain and frost could be kept from them till the Chrysanthemums are nearly over, and room for them in-doors can be made. Some of the late Chrysanthemums can be retarded by placing them under a north wall. Strong plants only should thus be treated, and rough sticks should be placed against the wall over them to support mats, which should be put over them in frosty nights. Pelargoniums with sweet-scented leaves are very useful for mixing in bouquets in winter. *Jasminum grandiflorum* makes an excellent climber in the conservatory, but is seldom to be met with as such. *J. stellatum*, *ligustrifolium*, *birsutum*, with the varieties of *J. sambac*, and some others, are good plants for forcing to decorate rooms. For this purpose their climbing habit should be checked by under-potting, and by pinching-off the points of the shoots when the parts are young; they will then form bushy heads and flower more freely.

STOVE.

Phajus grandifolius, or *Bletia Tankervilleæ* as it was once called, is an excellent plant to force in winter, and should now be removed to the forcing pit where a brisk bottom heat of from 80° to 90° can be kept up. *Euphorbia jacquiniæflora* is unwilling to submit to much forcing at this time, but if checked now by being kept rather dry for a month or six weeks, it will flower a month earlier than its usual time. Old plants of *Justicia speciosa* and *Eranthemum pulchellum* always flower earlier than young ones, they should be ready for the conservatory at the same time with the early Chrysanthemums. *Nematanthus longipes* is a curious winter-flowering stove plant of the easiest culture, and well suited for the drawing-room or conservatory when in flower, as is also *Centradenia rosea*, which is a gem in its way. This also flowers in winter and early in the spring. *Achimenes picta* seeds freely, and, no doubt, will produce crosses; it is well worth having on that account, as well as for the beauty of its flowers and the singularity of its foliage.

PITS.

The forcing pits should now be in full operation to keep up a stock of flowering plants for the rooms and conservatory through the winter. All hardy and half-hardy plants brought in for forcing should have at first a temperature of from 50° to 60°, to be increased to 75°, when more advanced; but as many plants will not bear such heat, and others will not do much good without a high temperature there should be two distinct pits, or divisions at least, for this purpose. In large establishments many plants are forced in the stoves and early vinery. With a large stock of Chinese Azaleas, some of them may be had in flower from Christmas till the end of May; the first lot should now be brought into a heat of 50° or even 60°. The double Roman Narcissus is the first of the forced bulbs, and when it has been potted early it will now stand a heat of 60°. Hyacinths that have also been potted before the middle of August will now endure a good heat and bloom early without at all injuring the bulbs, whereas late-potted bulbs, though they will flower well enough if forced early, are of no use afterwards. —W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

AFTER much rain we have had two or three rather fine days to finish the week. Took the opportunity to fill up blanks among Cabbages and Lettuces, which the insatiable grubs made like Ferns. As to these predators, after the plants are put in the earth, we know of no certain remedy, except hand-picking. Before planting, if we had known they would have been so numerous we would have sprinkled tar water, and even tar itself in small quantities on the ground, and turned the soil frequently. We hope we have caught the most of them now.

Celery.—Tied and earthed it up in the dry afternoons, confining our work to cleaning and tying the later beds, though if fine dry weather come we shall not hesitate to earth up the main crops, as the objections will not apply that we have urged in the case of early *Celery*. Hitherto we have only done little spaces at a time, according as we judged we should want it,

earthing-up at once from twenty-one to twenty-eight days before we wanted the *Celery* for the table. Sometimes we have had it very good after fourteen days, but our medium time in general is twenty-one days. After the middle of this month all the evaporation from the leaves will not make the roots very dry, as dews and rains to a great extent neutralise the force of the sun's rays.

Dwarf Kidney Beans.—Those fully exposed, owing to the rains, and a little frost a few mornings ago, are now looking worse. Even those protected will not do much more good. Those in a pit where a little heat can be given will produce by the time the protected ones are gone, and before the soaking cold rains; those sown in pots in the open air were placed in the same pit, where a little artificial heat can be given.

Cucumbers.—The young plants in the pit are bearing too profusely, and have been thinned of their fruit, and a number of small ones cut off, as we would rather have a quantity a month hence than so many now, and being well aware that if young plants bear profusely at first, they have less strength left to produce fruit in the dark days. Where such cold things as Cucumbers are desired all the winter, we recommend a steep roof, and, therefore, plenty of light, and the command of plenty of heating power. We know what it is to manage them in flat-roofed pits and frames, and we have seen and helped the good old gardeners to have fruit in winter in dung frames and pits, but the constant care and attention required in stirring the soil, washing the glass, careful air-giving, and securely protecting, would be a good lesson to many of our spruce young gardeners now. With all the benefits that hot water has afforded us, it has rather lessened the strict attention to minutiae that could alone secure success in the old-fashioned modes.

Earth Pits.—Several inquiries about these prompt us to say, that they are most generally useful when the bottom of the pit is higher, rather than lower, than the surrounding ground, as then it is easy to guard against extra damp. A good width is from 5 to 6 feet; and for low plants 9 inches in front, and from 15 to 18 inches at back, are very good heights. In the simplest form have these walls of earth from 15 to 18 inches in width, and if covered with a layer of turf they will last for many years. When turf cannot be had, the walls sloping outwards may be beaten smooth, then covered over with tar the thickness of a shilling, and gravel or rough ashes beaten into it. This, if done and well hardened before frost, will last many years. The best coverings for such a pit are glass sashes, wooden covers, covers made with asphalt, waterproofed cloth and canvas to roll up, neatly-made straw covers, and hurdles thatched with evergreens. The first named will be the best, and in value they will come in as named. All those that keep out wet as well as cold will be the most valued and the most useful. Where rats, rabbits, and other vermin can be excluded, such pits are very useful. Where these animals abound they will clear the pits in frosty weather, when those plants outside will be left alone. We have had a score of fine Cauliflowers spoil in a night at Christmas, and what was most vexing the intruders ate nothing in proportion to what they destroyed. Otherwise these pits are great auxiliaries in winter and spring.

FRUIT DEPARTMENT.

See what was stated last week, and a few weeks previously, as to fruit, planting, replanting, and root-pruning. The great drawback is, that there is generally such a difficulty in getting work done at the proper time. The struggle is too often how to go on without allowing anything materially to suffer. We have known cases where work had to be found every season to keep the usual number of men employed; but now the generality of gardeners have to try as much as possible to avoid extra work, as even without it they find they cannot have their regular work as forward as they would wish. We have no objection to having plenty in hand, and difficulties staring us in the face, provided we can look forward to the time when we shall master the work, instead of allowing the work to master us. We know it is depressing to use every energy, and yet never see daylight beyond, and such a condition of things is apt to cause a man to do his work merely as a matter of duty, and not as a matter of pleasure and enthusiasm. Even in our limited observation, we know not a few instances where a little extra help, instead of lessening help when most needed, would make all the difference between the enthusiast, who will look at difficulties only to resolve to surmount them, and the mere six-o'clock man who does a certain amount of work in so many hours, and in time becomes careless of the work that cannot be overcome. Without a little enthusiasm nothing great has ever yet been done; but employers who are apt to grumble

as "MAUD" pleasantly tells us, are also apt to forget that they may have had much to do in toning down the enthusiast into a mere plodder, a worker without heart and mind in the work.

In our first orchard house, there being besides Grapes not yet thoroughly ripened, lots of Figs that require a little more heat in this weather, we have in dull wet days put a fire into our iron stove. We have also replaced the glass ventilators at the apex of the roof, which we had removed, and put gauze in their place to keep the wasps out. But for retarding the Peaches as much as possible, the Grapes and Figs would have been ripe in such a season as this. The Figs now coming in are chiefly the second crop. We are often asked many questions about such composite houses—that is, having Grapes, Peaches, Plums, Figs, &c., under one roof, and without divisions. It is best to have only one kind in one house; but then that would not suit nine-tenths of our readers, and very good returns can be had from all, if sudden checks are not given to one kind of fruit, to meet some desired condition in another kind of fruit. For instance, in this first orchard house, could it have been convenient to use the Peaches as they ripened, without changing the little forcing they were receiving from sun heat, then the Grapes would have progressed also without a check so as to perfect their growth and ripening. The means, however, which we took by slight shading, and giving all the air possible night and day, to retard the Peaches for a few weeks later, somewhat checked the free swelling of the Grapes. Then, also, it is well, in all such mixed houses, where many kinds of fruit are grown, to make one kind, be it Peach, Plum, Cherry, or Vine, the principal object, and make the others subsidiary to it. Thus we made Peaches and Nectarines the chief objects in this house, and though we shall have good gatherings of Grapes, they would have been finer and earlier, could we have given them the full benefit of the sun in such a fine summer. This would have been of importance even in the case of late Grapes, as those will keep better that were ripened in September, than those ripened much later.

Strawberries in pots have needed no watering of late, and if the rains continue it will be as well to turn the pots on their sides. A dusting of scot over the soil in the pots will also do them good. Our plants are not so strong as usual; we had such a difficulty in securing runners, and feared at one time that we should lose the established plants. The pots are becoming so full of roots, that, provided we have a fortnight of fair weather, we shall have little fear of the plants not fruiting very fairly when fruit is wanted. We will have all our outside beds cleaned and mulched as soon as we can, and such work we never like to do except when the weather is fine and dry.

We have pruned and washed the front of our early Peach house, so that we might fill the front with bedding plants. The back, not so forward, we will leave for a few more days; and cleaning the walls and washing the trees can be done in a wet day. Transplanted a tree to fill a small vacancy, as it is a pity to have a foot unoccupied under glass.

ORNAMENTAL DEPARTMENT.

Potted a number of stove plants. Gave less water to those intended to flower in winter. The fine showy Euphorbias, &c., should now be rather dry. Water now chiefly in the morning, that the houses may be dry before night. We shall ere long prune-in climbers on the rafters, to give all the light possible in winter.

We took our cuttings later than usual this season, and a great number of Scarlet Pelargoniums being out of doors in boxes, and just beginning to root, but apt to be tender from so much rain, we have had them transferred to the Peach house, where they will be safe from rains and slight frosts, which we may now expect. Our first vinery will also be filled with flowering plants, which we cannot yet take into the conservatory. The Verbenas, Heliotropes, &c., that were put in pots as cuttings in the cold pit, have on the whole done well, and where they had double sashes they gave scarcely any trouble, as with air at night they needed no further attention. All the most backward of these have been placed in another pit, where a little bottom heat can be given them, not so much that they require it, as because we need the cold pit for inserting our Calceolaria cuttings, which we hope to do about the middle of the month. We would as soon do this at the end of the month, only we may have a frost, but we hope not for a month, and if not, there will be a fine late display in the flower garden. The moving even of these cuttings does them good, as we can run a pointed stick over the surface, and perform any little cleaning that is necessary. We have a large number of cuttings of bedding Pelargoniums, &c., put in thickly in small

pots, and the moving of so many other things will give us more room to turn them over, pick off any bad leaf, and give them a little more room in the old frames, in which they now stand. By leaving few leaves on such cuttings, and putting them in very thickly, we winter a large number in very little space, and in ordinary seasons in autumn we are rarely troubled with a damped leaf; but now we see there are some leaves going, owing to the dull, damp weather, and our sashes being anything but perfect, so that they will be all the better of being picked over, and having the benefit of full exposure in fine sunny days, as even variegated Pelargoniums are juicy enough for the cuttings to stand that for short intervals, even before they are rooted. If the cuttings are large, they will stand all the sun they are now likely to have; if small, they will feel the full exposure to the sun more.

We have taken off a lot of the white-leaved *Centaurea*, though rather late, but we have taken large cuttings with firm bottoms close to the old stem, and cleared the bottoms nicely for an inch or so, that there may be no risk of damping. Part of these in small pots we have put in a bed with a little bottom heat, and part on an open shelf in the vinery. The bottoms being so firm, we have little doubt the cuttings will escape the damping, so apt to befall small soft cuttings at this season. It is best to take cuttings in July and August, but ours were not large and firm enough. We took up our plants from the beds last year, and, treating them as then described, we did not lose one, but they require much room in winter.—R. F.

COVENT GARDEN MARKET.—OCTOBER 11.

THE market in respect to home-grown produce exhibits but little variation from our last report, a fair amount of business being done in articles of general request. Among imports from abroad we may now include new Oranges from the south of Spain. The report from the Potato markets is not so satisfactory, a large quantity proving very inferior when taken up.

FRUIT.

	s. d.	s. d.		e. d. s. d.			
Apples ½ sieve	1	6 to 2	0	Melons..... each	2	0 to 5	0
Apricots doz.	0	0	0	Nectarines doz.	0	0	0
Cherries lb.	0	0	0	Oranges..... 100	8	0	12
Chestnuts bush.	10	0	16	0	Peaches.....doz.	10	0
Currants ½ sieve	0	0	0	0	Pears (dessert) .. doz.	2	0
Black do.	0	0	0	0	Pine Apples lb.	4	0
Figs doz.	0	0	0	0	Plums ½ sieve	4	0
Filberts lb.	0	9	1	0	Quinces doz.	0	9
Cobs lb.	0	9	1	0	Raspberries.....lb.	0	0
Gooseberries .. quart	0	6	0	0	Strawberries.. per lb.	0	0
Grapes, Hothouse.. lb.	2	6	5	0	Walnuts..... bush.	10	0
Lemons..... 100	10	0	16	0	do. per 100	1	0

VEGETABLES.

	s. d.	s. d.		s. d. s. d.			
Artichokes doz.	3	0 to 6	0	Leeks bunch	0	4 to 0	6
Asparagus 100	0	0	0	Lettuce..... per score	2	0	4
Beans, Kidney ½ sieve	3	0	4	0	Mushrooms... pottle	2	0
Beet, Red..... doz.	2	0	3	0	Mustard & Cress, pinnet	0	2
Broccoli bundle	1	0	2	0	Onions per bushel	5	0
Brus. Sprouts ½ sieve	2	0	0	0	Parsleys per sieve	3	0
Cabbage doz.	1	0	2	0	Parsnips doz.	0	9
Capiscums..... 100	3	0	0	0	Peas per quart	0	0
Carrots bunch	0	4	0	0	Potatoes..... bushel	4	6
Canflower doz.	0	0	0	0	do. Kidney do.	4	0
Celery bundle	1	6	2	0	Radishes doz. bunches	1	6
Cucumbers..... each	0	4	1	0	Klinbarb bundle	0	0
Endive doz.	2	0	0	0	Sea-kale basket	0	0
Fennel bunch	0	3	0	0	Shallots lb.	0	8
Garlic lb.	0	8	0	0	Spinach bushel	2	0
Herbs bunch	0	8	0	0	Tomatoes..... per doz.	1	0
Horse-radish .. bundle	3	0	5	0	Turnips bunch	0	6

TRADE CATALOGUES RECEIVED.

Charles Turner, Royal Nurseries, Slough.—*Select List of Pelargoniums, Auriculas, Carnations, Pinks, Ficoetes, Camellias, Azaleas, &c.*

Godwin & Sons, Ashbourne, Derbyshire, and Edmonton, London.—*Catalogue of Roses, &c.*

Julien Monnier, à la Pyramide, près Angers (Maine-et-Loire).—*Wholesale Priced Catalogue of Ornamental Trees and Shrubs, Fruit Trees, &c., 1868-69.*

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

ODONTOGLOSSUM GRANDE.—In the last Floral Committee Report, it is stated that an *Odontoglossum grande* from the Society's gardens with six flowers in great perfection, received a certificate. It should have been with sixty-two flowers in great perfection.

BOOKS (E. S. S. H.).—If you send twenty postage stamps with your

address and order Keane's "In-door Gardening," you will have it sent free by post. It contains directions for the culture of potted plants under glass. You must send another leaf and flower in a box. The others are smashed. (*Try Green*).—"The Pine-Apple Manual;" you can have it free by post from our office if you enclose thirty-two postage stamps.

THORNS DYING AFTER BUDDING (*C. Ellis*).—We are quite at a loss to account for your Thorns dying after budding, and after the fresh buds had pushed vigorously. Perhaps you cut away the old parts of the trees rather soon, and this paralysed root action; but that could scarcely be the case when the fresh buds grew so vigorously.

CUCUMBER FOR WINTER (*A Subscriber*).—There is nothing better than the old Lord Kenyon, or Lion House, or some of its smooth-skinned varieties. Volunteer is a very good kind, a little longer, but not so long as the Telegraph or Manchester kinds. We would say Lord Kenyon or Lion House. Take care your flue does not become too hot, or allow gases to escape.

GRAPES SHANKING AND RED (*J. W. F.*).—With Vines that have been bearing forty years, it would not be advisable to raise the roots and replant, except in rare cases. We think that as the Vines are healthy, make good wood, and bear well, but have shanked bunches, we should be inclined to try what raising the gravel path would do, placing good soil instead, and sinking a drain in front deeper than the bottom of the border, using fire heat now to harden the wood. If you resolve to make a fresh border and raise the Vine roots and replant, we would recommend a concrete bottom, 30 inches from the top, and the bottom sloping well outwards, a drain 18 inches deeper in front, three-inch drain tiles laid across at every 8 feet, and 8 inches of open rubble round and over them. Have upright pipes communicating with the cross pipes and open rubble, and the upright pipes furnished with plugs to allow hot air to circulate through the border and keep cold air out. But for having the old Vines we would rather plant strong young Vines. There is much labour involved in taking up the roots of old Vines carefully and keeping them properly wrapped up before replanting.

PEGGING DOWN ROSES—STOPPING SIDE SHOOTS (*E. F. W.*).—"The side shoots from the strong shoots, stopped six weeks ago, may be left till spring, and then be shortened to the first plump eye in sound wood. The more you cut a strong-growing Rose the stronger and more blind will it become. I do not peg-down Roses. I prefer them upright, as more manageable. It is difficult to weed beds of pegged-down Roses; moreover, you cannot go among them. Why not try growing them espalier fashion? A few Roses will make more show when pegged-down than in an upright position. Roses that do not break well at the eyes, and cast their flowers at the tops of the shoots, are suited to pegging-down and to espalier training.—W. F. RADCLIFFE."

ROSES FOR CONTRAST (*M. R.*).—"These as standards in three colours would look well.—Charles Lefebvre, Gloire de Dijon, and Senateur Vaise; or Prince Camille de Rohan, Céline Forestier, or Triomphe de Rennes, and Madame Victor Verdier. For whita you cannot have a more excellent and beautiful Rosa than Baronne de Maynard. It has been covered with flowers throughout the season, and without intermission, and is still flowering abundantly. Comtesse de Charbrillant, Madame Vidot, and Madame Rivers do best as standards on the Manetti stock. The last two are the most beautiful and perfect light Rose known, but very delicate and difficult to keep in health. Buy Marguerite de St. Amand and Caroline de Sausal instead of these. Marie Baumann is here, but not yet proven. Mr. Keynes speaks very highly of it. Buy Alfred Colomb and Antoine Ducher and you will be right. Duc de Cazes or Charles Lefebvre would make an excellent climber for your south-east wall. Maurice Bernardin is a most superior crimson Rose.—W. F. RADCLIFFE."

FORCING VINES AND PEACH TREES FOR FRUITING IN MAY (*Old Sub.*).—To have Grapes ripe in May, the Vines should be started gently in the beginning of December. If now in full leaf shorten the shoots and keep the border rather dry, so as to prune in November. Peach trees to produce in the end of May should be started slowly at Christmas.

HEATING A VINERY BY A STOVE (*W. Mash*).—It is impossible by any one mode to obtain all advantages. All stoves to be economical must have rather small fireboxes, and therefore want frequent attention, and at least should be cleaned out every morning where fuel that will cake or leave a clinker is used. A brick stove, 30 inches square outside measure, and from 42 to 48 inches in height, with a firebox 12 inches square, and 15 inches deep, would keep the frost out of a house 20 feet long and 10 feet wide, and gently force the Vines. The top of the stove had better have two plates of iron, one to rest on the bricks, bedded in mortar, and to be covered with sand, leaving a ledge of brick outside, into which the plate fits, and then another plate all over with a sand joint between. The small chimney should go out at one side, 6 inches below the plate, extend 18 inches horizontally, and then pass perpendicularly through the roof. If the stove is placed near the front of the house, the fuel-feeding door and the ashpit door might be outside. If it is necessary to feed the stove inside of the house, it will have to be emptied carefully every morning, damping ashes, &c., previously to prevent dust. Such a stove must have the draught regulated by the ashpit door, which, therefore, must fit closely, but we did not expect you would be able to obtain such doors absolutely air-tight, nor is that required. With all improvements for heating a small house, there is no plan so economical as a brick or even an iron stove. There are few of the latter, however, that would enable you to dispense with lighting, as the fire space is not large enough to hold enough of fuel, and then if it did it would require some experience so to manage it as not to have too much heat, and so to regulate the air that enough be given, and no more, to secure slow combustion, as, if not enough reaches the fuel, it will go out from want of oxygen, which is as necessary to keep fuel burning as to enable us to breathe. If the freedom from relighting your fire cannot be secured, then we would recommend a small conical boiler, to be fed from the top, and only the best broken coke, or the best coal that leaves nothing but a little ash, used. All caking coal will leave clinkers. Your crop of Grapes is fair, but not heavy. To have larger bunches, you had better begin afresh next season, and take up a fresh rod from each Vine. Give that rod the second season more room, and take fewer bunches. You will thus have no difficulty in obtaining larger bunches, but otherwise you will have more trouble. It will also be advisable to allow more growth. With Vines spurred 2 feet apart up the roof, we have no hopes that you will do much with Vines against the back wall. It would be better to have shelves there for various plants before the Vines covered the roof.

HIPPOPHAE RHAMNOIDES (*J. S. H.*).—This is the Sea BUCKTHORN, or Sallow Thorn, as it is sometimes called. In a sandy soil and sheltered situation it might succeed and ripen its berries in the midland counties; but not unless care be taken to have male and female plants growing together. The female flowers are produced on separate bushes from those which produce the male flowers.

AMARYLLIS BELLADONNA (*H. T.*).—Your Belladonna Lilies have done very well indeed; but we have seen quite as good specimens when the bulbs were well established.

NECTARINE LEAVES UNHEALTHY (*A. S. A.*).—The leaves have been attacked with red spider, and we think thrips has also been present, but we are not sure. If many of the leaves are green they might be well washed with soft-soap water. If as bad as the specimens sent, we would pull them all off, wash the part of the tree, the wall, &c., with warm soap-water—say at 140°, and when dry paint the wood with Gishurst compound, or clay and sulphur.

PEARS OF ASTRINGENT FLAVOUR (*A Subscriber, Norfolk*).—Many varieties of Pears have deteriorated both in flavour and appearance owing to the extreme heat and dryness of the summer and the autumn. This has been especially noticed on sandy soils like yours. Such deterioration would have been prevented by mulching the surface over the roots and occasional watering. Some varieties will endure much higher temperatures than others.

FORCING ROSES AND STRAWBERRIES IN COLD PITS (*A Subscriber*).—To keep Roses and Strawberries in a brick cold pit, they will do best with just enough of tree leaves to plunge them in, whilst the pots rest on the hard bottom. If you wish to force gradually, then a bed beneath them of fermenting material would be an advantage, and it does not in the least matter whether the bed is of sweetened dung below and leaves above, or all leaves, but it is of importance that the heat should not be strong at this season, not above 70°, and also that the Strawberry roots should not be encouraged to run through the hole in the pot into the leaves. It would be well to move the pots frequently, or set the pots on boards and slates when plunging them.

WINTERING BULBOUS PLANTS (*Idem*).—The Lilliums will keep very well in the cold pit, and will need no water in winter if a few damp leaves be placed over the surface of the pit. The soil should not be wet, but it should not be dust dry. They would keep well in a cellar, or under the stage in a cool greenhouse, before they begin to push, when they must have light and water, and fresh surfacings with rich soil. The bulbs of the *Tropaeolum* should be kept dryish before they begin to push. It is well to rot them when in a dormant state, and place at once in the flowering-pot, and water as the roots advance. The *Valotta purpurea* will not need much water in winter, but it should not be dry, and the leaves should not wither. A cool greenhouse will suit it best.

INSECTS (*J. S. E., Dorking*).—Your "red daddy" was, doubtless, *Ophion luteum*, one of the Ichneumonidae; all the females of which family are furnished with a sting, but it is very weak, and used chiefly for depositing eggs, and very rarely as an instrument of defence.—W.

GARDENING CATECHISM (*E. S. B.*).—There is one in the "Finchley Manuals," but it only relates to cottagers' gardens; and there was one by the Rev. Mr. Edwards, but we believe it is out of print, and only relates to vegetable and fruit culture.

LARGE SUNFLOWER (*O. S. Round*).—Ten feet ten inches is a very great height for a Sunflower, and the flowers 10 inches in diameter, and the leaves 22 inches long, are large in proportion.

MASTERS' TROUBLES (*Nemo and Others*).—You all quite mistake "MAST," all her banter and pokes are at the exceptional characters. She is the friend, not the enemy of the profession. You will see what she says ere long about "Gardeners' Troubles."

ADDRESS (*A. Z.*).—Messrs. Betham & Blackith, Cox and Hammond's Quay, Lower Thames Street.

TREATMENT OF ROSE CUTTINGS (*Rose*).—The cuttings put in six or seven weeks ago, and now struck, may be potted-off singly into small pots, care being taken not to injure or break the roots. The pots should be well drained, and the compost may consist of two-thirds turfy sandy loam, and one-third leaf mould, or old well-decomposed manure, adding one-sixth of sharp sand, well incorporating the whole. After giving a gentle watering plunge the pots to the rim in coal ashes in a cold frame, and put on the lights, keeping them rather close for about a fortnight, and then well hardening off. The plants cannot have too much air, but protection should be given from frost and heavy rains by drawing on the lights, and in severe periods the protection of a mat or other covering should be afforded.

ARALIA JAPONICA CULTURE (*T. C.*).—It is a deciduous shrub, and requires to have the stems protected by a band of straw and hay, wrapped round them from the ground upwards. You may, if convenient, take up the plant, place it in a large pot, and winter it in a cool greenhouse. In summer the plant may be planted out, or the pot plunged in the ground, and in autumn be lifted. In this way it would give you greater satisfaction, as in cold districts it is liable to lose its side branches in winter when left out of doors. It is grown for its foliage; its flowers are produced in panicles, and are greenish.

PROPAGATING MAGNOLIAS (*Cornubia*).—As propagation by layers is inconvenient, you might succeed in striking cuttings of the ripened wood, taking the growing points after they become firm, cutting them across below a joint, and removing the leaf from that and the joint above. The cuttings should be inserted in pots singly in sandy loam, and with one or two joints in the soil, and the same number of joints above it, the surface of the soil being covered with about half an inch of silver sand. A gentle watering should be given, and the pots plunged to the rim in tan or sawdust over a hotbed of from 70° to 75°. If in a house, the cuttings ought to be covered with a glazed frame, or if the hotbed is in the open ground, the frame should be kept close and shaded from bright sun. No water should be given beyond a sprinkling occasionally to keep the soil and atmosphere moist. In about six weeks they will be rooted. The best times to put in the cuttings are September, and about the beginning of April.

PROPAGATING LAURELS, PRIVET, AND ANROR-VITE (*An Inexperienced Amateur*).—Laurel and Privet are propagated by cuttings. The Laurel cuttings should have been put in some time ago, the end of September and beginning of October being best, but they will yet succeed. The

growth of the current year should be taken with a joint or two of the old wood, and should be cut across below the lowest joint, and the leaves removed half way up the cuttings, though that is not material. They are then to be inserted in a sheltered situation, making a trench as for planting Bex, and placing the cuttings against the side of the trench, at about 3 inches apart, and so that they will be one-half or two-thirds of their length in the soil. The soil is then to be placed against them, and is to be made firm. The next row may then be put in at 6 inches distance from the last, and so on to the sixth row, when 2 feet must be allowed for an alley, so that you will have the cuttings in 4-foot beds, and six rows in a bed, with a narrow alley of 1 foot wide between the beds. Privet cuttings may be put in in the same way, but not until November, and it is not necessary to take them off with a portion of old wood; they should have only two or three joints above the soil, fully two-thirds of their length being covered. The shoots should be cut into lengths of 9 or 10 inches, and ought all to be of uniform length, or have their tops cut off. Arber-Vitæ is best raised from seed, but cuttings of the current year's growth will strike if inserted in sandy soil in a cold frame. September is a good time. There is no cheap work on the subject you name.

STRAWBERRIES TOO DEEPLY PLANTED (*Idem*).—You may now take up the plants with good balls of earth, and plant them higher. They will not be injured to any great extent; indeed, if the operation be carefully performed it will not interfere with next year's crop.

PINE APPLE CULTURE (*R. F. Wheeler*).—Pine Apples may be grown cheaply and to pay, but you cannot do it without a house specially devoted to them, and we fear your prejudice against the present mode of Pine-growing will deter you from the undertaking. They are not worth growing if not grown well. Small inferior Pines are not worth eating. Read the "Pine Apple Manual," which you can have post free from our office for 2s. 8d.

SHOWING LEUCADENDRON ARGENTEUM SEED (*Amateur*).—The seeds sent you are those of *Leucadendron argenteum*, the Silver tree of South Africa, an evergreen. The seeds should be sown in March in a compost of sandy peat and loam in pots well drained, covering with soil to a depth equal to the diameter of the seeds. Give a gentle watering, and plunge the pots in a hotbed of from 70° to 75°. When the plants are a few inches high they should be gradually hardened-off, and removed to an airy greenhouse. When the pots are full of roots the plants should be shifted into others of larger size, using the same compost as before, and the soil should at all times be kept sufficiently moist. The plant succeeds well in an airy greenhouse.

GRIFFINIA HYACINTHINA NOT FLOWERING (*Idem*).—We can only account for your large bulb not flowering from your not ripening-off the growth well, and the size of pot is perhaps too great. We would advise you not

to pot the bulb, but to let it be pot-bound, still keeping the drainage clear, and removing all offsets. Encourage the plant when it makes new leaves, by plentiful supplies of water and a moist atmosphere, and when a good growth has been obtained, and the foliage is firm, place the plant on a shelf in the stove, and in the full sun, giving no more water than enough to keep the leaves from flagging. Hardly any water will be needed from October to February; indeed, the bulb can hardly be kept too dry. This we think will give you flowers. It is a stove plant.

POTTING LILUM GIGANTEUM (*Idem*).—In potting, the bulbs should be covered to the neck with soil. They are no better off being more deeply buried, nor of being left further out of the soil.

LISTS OF PEARS (*H. J. C.*).—For *pyramids* in North Hants—Jargonelle, Doyenné d'Été, Baronne de Mello, Urhuniste, Louise Bonne of Jersey, Jersey's Victoria, and Forelle. For the *west wall*—Louise Bonne of Jersey, Bergamot, Gansel's Late, Colmar d'Été, Alexandre Lambré, Beurré Superfin, and Thompson's. For *south wall*—Marie Louise, Fondante d'Automne, Winter Nohis, Beurré de Rance, Beurré Sterckmaus, and Gansel's Bergamot. For *east wall*—Thompson's, Red Doyenné, Napoleon, Glou Morceau, Van Mons Léou Le Clerc, and Duchesse d'Angoulême.

NAMES OF FRUITS (*G. H. D.*).—Your Apples are—1, Yorkshire Greening; 2, Braddick's Nonpareil; 3, Autumn Pearmain; 4, White Nonpareil; 5, Nonpareil. The "g" in Margil is pronounced soft. (*J. D., Ilford*).—1, Fall Pippin; 2, Beurré Blanc des Capucins; 3, Beurré Bosc; 4, Not known; 5, Grand Soleil; 6, Doyenné Blanc. (*M. C., London*).—Your Pear is Beurré d'Amanlis. (*W. H. C.*).—The seedling Apple is a very pretty and nicely-flavoured fruit. We do not recognise it as being the same as any known variety. (*J. Scott*).—The Apple is Cox's Orange Pippin, and we cannot identify the Pear. (*Southern*).—Your Pear is evidently the Marie Louise.

NAMES OF PLANTS (*W. L.*).—1, *Cratægus punctata*; 2, *Cratægus purpurea altaica*; 3, *Carya microcarpa*. (*P. D. M.*).—*Rhamnus lincifolius*. (*M. H.*).—*Moncha rotundifolia* and *Aster dumosus*. (*E. C.*).—*Cincinialis davens*, or *Notholæna chrysophylla*. (*A. New Subscriber*).—1, *Doodia caudata*; 2, *Lastræa Filix-mas cristata*; 3, *Pteris serrulata*; 4, *Doodia lunulata*; 5, *Asplenium Cyrtionium falcatum*. (*Discipulus Milneri*).—*Cobæa scandens* and *Aster amelloides* (*Agatheæ celestis*). (*G. G.*).—*Polystichum angulare*. (*C. P.*).—*Nicotiana undulata*. (*J. C.*).—1, *Acacia Drummondii*; 2, *Genista canariensis*; 3, *Cytisus caudicæus*; 4, *Acacia armata*. (*Centuria*).—*Phycella lichenaria*. (*J. S.*).—1, *Gymnogramma chrysophylla* variety, very beautifully crested; 2, *Lastræa glabella*? 3, *Adiantum tenerum*; 4, *A. capillus-Veneris*. (*J. C. C. S.*).—1, *Asplenium auritum*; 2, *Hypolepis distans*; 3, *Doodia caudata*; 4, *Pellæa falcata*; 5, *Asplenium adiantum nigrum*; 6, *Pteris cretica*; 7, *Trichomanes pyxidiferum*; 8, *Adiantum formosum*. (*H. D.*).—*Digitaria sanguinalis*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending October 13th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 7	30.032	29.901	60	28	55	55	W.	.00	Clear and fine; overcast; very fine; fine, clear. Fine; cloudy, fine; overcast but fine at night. Overcast; cloudy; fine, cloudy at night. Slight fog, fine; hazy; fine, rather foggy. Heavy fog; clear and very fine; fine, foggy. Dense fog; very fine, mild air; foggy. Fine, misty heavy dew; very fine; clear and fine.
Thurs. 8	30.108	30.002	61	41	54	53	S.W.	.00	
Fri... 9	29.988	29.906	69	37	54	53	S.	.00	
Sat... 10	29.991	29.942	63	31	54	53	E.	.00	
Sun... 11	30.020	29.937	64	34	53	53	E.	.00	
Mon... 12	30.053	30.041	69	39	52	53	S.E.	.00	
Tues... 13	30.021	30.010	65	36	52	53	W.	.00	
Mean	30.030	29.962	64.43	35.14	53.43	53.28	..	0.00	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

POULTRY AT THE YEAR'S DECLINE.

SHORTER days, colder nights, and damp weather call for the exercise of rather more attention towards our poultry. The quantity of food may be increased, and as the night is now nearly twelve hours long, care should be taken to give food just before roosting, and as soon as the birds are out in the morning.

Birds that have roosted out of doors ever since they were hatched, must now be brought in to roost in a house. Where there are many cocks, the young ones should be removed and shut up by themselves; or, if they are not wanted for stock, they should be fattened and killed.

Where space and conveniences permit, it is not too soon to begin thinking of the breeding pens, and while they are being put in order, scan the birds narrowly every day while they are feeding, that they may be easily recognised and caught when at roost at night. We are great enemies to the confusion and injury that ensue from running fowls down when they are wanted.

HOUDANS.

I HAVE reared an average of nine chicks from every sitting of thirteen eggs during the past two seasons. Some breeders would call this good luck, but in my opinion it is what any

person by the commonest attention might do with Houdans in the most limited space for rearing chickens.

I reared all my birds in a sandy yard for the first three days, giving chopped egg boiled hard, with bread crumb and lettuce, and after the third day their staple food was middlings and lettuce, with an occasional handful of shelled oats. With this food, supplied little and often, the birds grew with wonderful rapidity, and an aptitude to make flesh is a strong argument in favour of the breed for table purposes. Its flesh is delicate, tender, and nutritious. My Houdans hatched in April were fit to kill a month before Dorking chickens of the same age; but unlike other fowls, the hen birds are the most rapid of growth, and when only a few hours old may be distinguished from the cockerels by their superior vigour and larger crests.

As layers the Houdans will hold their own against any fowls with which I am acquainted; their eggs are large, of a fine rich flavour, and equal in weight to those laid by the famous Spanish.

The Houdans never sit, which is another strong argument in their favour, for cooping, and all its attendant trouble, are thus saved, and these birds after a couple of days' rest recommence laying, whereas "clacking hens" are the pest of the amateur's life.

The Houdan is gentle, very tame, and of a contented stay-at-home disposition; not at all a dainty feeder, and not addicted to scratching. As a proof that fanciers are becoming alive to the increasing popularity of Houdans, I may point to the fact that the late National Poultry Company at their sale obtained £8 10s. for their prize cock and hen, which was the highest

price paid for any two birds amongst the eight hundred sold.—
C. W. GEDNEY, *Sevenoaks, Kent.*

CHELMSFORD POULTRY SHOW.

THE fourth annual Exhibition of the Chelmsford and Essex Poultry and Pigeon Society was held in the Chelmsford Corn Exchange on the 6th and 7th inst.; but the Committee, which is one of the best working Committees we have met with, was in great difficulty in consequence of the unavoidable absence of Mr. Hewitt, who had promised to act as judge of poultry. Hearing, however, that Mr. W. B. Jeffries, of Ipswich, was in the town, no time was lost in waiting upon him, explaining the difficulty, and suggesting that he might withdraw his entries and judge in place of Mr. Hewitt, in connection with Mr. Tegetmeier. This request he kindly acceded to, although it was very evident he was exhibiting by far the best Black Red Game Bantams in the Show. Three hundred and eighty-three entries, an increase of fifty-nine on last year, bore testimony to the growing popularity of the Show; and never had the quality of the birds on the whole been better.

Light Brahmas were in the ascendancy; there were twenty-one pens. The selling class was well filled, and contained some excellent birds, which were very soon claimed.

(From a Correspondent.)

THE classes were confined to chickens, and the pens consisted of one bird for cockerels and two for pullets in separate entries.

The *Dorkings* struck me as being somewhat small. A fine bird of Dr. Campbell's was passed without notice, and I was not struck with the straightness of the tail of Mr. Parlett's first-prize coloured Dorking. The *Game* classes were good; but doubtless, like other parts of the Show, they would have been better filled if Manchester had held its Show at the usual time. A Brown Red chicken belonging to the Rev. F. Watson was a promising bird. *Cochins*, generally neither numerous nor good at this Show, were in fuller force than usual, and of better quality. The *Spanish* classes contained some good birds. *Brahmas*, both Light and Dark, were in great force, and good, particularly the cock birds. Amongst the *Hamburghs* were some fine birds, particularly Mr. Pittis's first-prize pullets. The French fowls were numerous, particularly the *Houdans*, which were very good.

Mr. J. K. Fowler exhibited a handsome bird "The Nigger," which obtained the first prize in the "Any other variety" class. It had no relationship to the Negro fowl, but appeared to be the body of a Japanese Silky enveloped in the feathers of a Frizzled fowl.

There were many entries of *Game Bantams* containing some fine birds, particularly Mr. Entwisle's third-prize Black Red, and Miss Marriage's Red Piles. A Golden Sebright cockerel, rich in colour and distinct in lacing, deservedly obtained the first prize in the class for Any other variety of Bantams. The Selling classes on the whole, were remarkably good.

Pigeons numbered sixty-seven pens, and formed a very good show, although many of them were not in feather.

One of the leading features of this show, and one which has been recommended so strongly by the Food Committee of the Society of Arts, is the classes for the best pair of dead chickens or Ducks, trussed as by poultryers, but not drawn. In these Mr. Dowsett's cross with the Brahma Pootra and the Dorking, twenty-two weeks old, weighing 16 lbs. 14 ozs., and another of the same age weighing 16 lbs. 9 ozs., had respectively the first and second prizes. In Ducks, the first-prize pair, twenty-one weeks old, weighed 11 lbs. 7 ozs.; the second, fourteen weeks old, weighed 10 lbs. 13 ozs.

The following is the prize list:—

DORKINGS (Coloured).—Cockerels.—First, F. Parlett, Great Baddow. Second, R. E. Tinner, Great Baddow. Third, D. C. Campbell, Brentwood. Highly Commended, O. E. Cresswell, Hanworth. **Pullets.**—First, Viscount Turnour, Shillinglee. Second, F. Parlett. Third, D. C. Campbell.

DORKINGS (Any other variety).—Cockerels.—First, D. C. Campbell (White). Second, O. E. Cresswell. Highly Commended, I. Perry, Springfield (White). **Pullets.**—First, O. E. Cresswell. Second, C. Turner (Grey).

GAME (Black-breasted and other Reds).—Cockerels.—First, Rev. F. Watson, Messing. Second, F. R. Hall, Cambridge. Third, H. Loe, Appuldurcombe. **Pullets.**—First, S. Matthew, Stowmarket. Second, F. R. Hall. Third, H. Loe. Highly Commended, S. Matthew; D. Lane, Great Barr; H. Loe.

GAME (Any other variety).—Cockerels.—First, T. Dyson, Halifax. Second, R. E. Raley, Oveden (Duckwing). Third, Rev. F. Watson (Pile). Highly Commended, W. Gray, Margaretting (Duckwing). Commended, W. Dale, Weston-super-Mare (Pile). **Pullets.**—First, S. Matthew (Duckwings). Second, W. Gray (Duckwing). Third, Rev. F. Watson (Pile).

COCHIN-CHINA (Buff).—Cockerels.—First, H. L. Ricketts, Banwell. Second, F. W. Rust, Hastings. Third, C. Sidwick, Ryddlesden. **Pullets.**—First, C. Sidwick. Second, F. W. Rust. Third, A. Barker, Roxwell.

COCHIN-CHINA (Any other variety).—Cockerels.—First and Third, H. Lingwood, Bucklesham (Partridge). Second, J. K. Fowler, Aylesbury (Partridge). **Pullets.**—First and Second, J. R. Rodbard, Wrington (Partridge). Third, D. Lane (White).

SPANISH.—Cockerels.—First, P. H. Jones, Fulham. Second, J. Walker, Wolverhampton. Third, F. Waller, Wood Green. **Pullets.**—First, P. H. Jones. Second, F. Waller. Third, H. Lingwood.

BRAHMA POOTRA (Dark).—Cockerels.—First, Second, and Highly Commended, Mrs. Burrell, Stoke Park, Ipswich. Third, H. P. Leech, Woolpit. **Pullets.**—First, J. K. Fowler. Second, H. P. Leech. Third, J. Tindall, Islington.

BRAHMA POOTRA (Light).—Cockerels.—First and Second, H. M. Maynard, Holmewood, Ryde. Third, J. Pares, Postford. Highly Commended, H. Dowsett, Pleshey. Commended, F. Crook, Forest Hill. **Pullets.**—First, P. Crowley, Culverton House, Alton. Second, S. Felgate, Ipswich. Third, H. M. Maynard. Highly Commended, F. Crook. Commended, H. Dowsett; D. Causar, Erdington, Birmingham.

HAMBURGHS (Gold or Silver-pencilled).—Cockerels.—First, F. Pittis, jun., Newport, Isle of Wight. Second, W. K. Tiekner, Ipswich. Third, Viscountess Malden, Marden Hill, Hertford. **Pullets.**—First, F. Pittis, jun. Second, Viscountess Malden. Third, W. K. Tiekner.

HAMBURGH (Gold or Silver-spangled).—Cockerels.—First, J. Laming, Cowhurr. Second, H. Loe. Third, Rev. F. Tearle, Gazeley Vicarage, Newmarket. **Pullets.**—First, H. Loe. Second, Rev. F. Tearle. Third, J. L. Loversidge, Newark-on-Trent.

FRENCH VARIETIES.—Cockerels.—First, Col. Stuart Wortley, London. Second, Lady L. Charteris, Attleborough. Third, H. M. Maynard. Highly Commended, J. K. Fowler. **Pullets.**—First, Lady L. Charteris. Second, J. K. Fowler. Third, J. Lee, Romford.

ANY OTHER DISTINCT VARIETY.—Cockerels.—First, J. K. Fowler (Nigger). Second, F. Pittis, jun. (Andalusian). **Pullets.**—First, J. K. Fowler (Japanese Silkies). Second, F. Pittis, jun. (Andalusian).

GAME BANTAMS (Any variety).—Cockerels.—First, W. Adams, Ipswich. Second, Miss Marriage, Moulsham Lodge. Third, W. F. Entwisle (Black Red). Highly Commended, W. Dale, Weston-super-Mare (Black Red). **Pullets.**—First, Rev. E. S. Tiddeman. Second, Miss Marriage (Duckwing). Third, H. & S. Cooper, Walsall (Duckwing).

BANTAMS (Any other variety except Game).—Cockerels.—First, G. Manning, Springfield (Sebrights). Second, H. M. Maynard (Black). Commended, Rev. F. Tearle. **Pullets.**—First, E. Cambridge, Bristol (Black). Second, T. C. Harrison, Hull. Highly Commended, H. M. Maynard (Black); S. A. Wyllie, East Moulsey (Japanese). Commended, Rev. F. Tearle.

DUCKS (Rouen).—First, Rev. G. Gilbert, Claxton. Second, D. Lane. Third, H. Dowsett. Highly Commended, F. Parlett. Commended, A. Hutley, Terling.

DUCKS (Aylesbury).—First and Third, J. K. Fowler. Second, E. Lawrence, South Weald.

DUCKS (Any other variety).—Prize, F. Pittis, jun. (East Indian). **GEESE.**—First, J. K. Fowler. Second, S. H. Stott, Rochdale. Third, Mrs. E. Goodliffe (Toulouse). Highly Commended, Lady L. Charteris.

TURKEYS.—First, C. Carter, Billerica. Second, Mrs. Mayhew, Galleywood, Hall. Third, H. H. Tippler, Roxwell. Highly Commended, S. H. Stott; R. Pigott, South Weald; G. R. Pearson, Witham Common.

SELLING CLASSES (Any variety).—Cockerels.—First, H. M. Maynard. Second, Rev. F. Watson (Game). Commended, D. C. Campbell (Coloured Dorking); Rev. E. S. Tiddeman (Game Bantam); J. Walker (Spanish); Viscount Turnour (Dorking); W. Tippler (Houdan); Lady L. Charteris (Houdan). **Pullets.**—First, J. R. Rodbard (Partridge Cochins). Second, D. C. Campbell (Coloured Dorking). **Ducks.**—First, J. Thompson, Writtle. Second, F. Parlett. Highly Commended, A. Hutley; H. Dowsett. Commended, Mrs. E. Goodliffe.

PIGEONS.

CARRIERS.—First and Highly Commended, R. Fulton, Deptford. Second, H. M. Maynard. Commended, L. Wren, Lowestoft.

POUTERS.—First, P. H. Jones. Second, R. Fulton.

TUMBLERS.—First, R. Fulton. Second, P. H. Jones.

JACOBIANS.—First, H. M. Maynard. Second, H. Yardley, Birmingham.

FANTAILS.—First, H. Yardley. Second, P. H. Jones. Highly Commended, S. A. Wyllie; J. Lukin, Farnham. Commended, H. M. Maynard.

BARBS.—First, H. M. Maynard. Second, P. H. Jones. Highly Commended, P. H. Jones; R. Fulton. Commended, H. Yardley.

TRUMPETERS.—First, H. Yardley. Second, E. Sheerman, Chelmsford.

ANY OTHER VARIETY.—First and Second, P. H. Jones. Highly Commended, H. M. Maynard (Archangels); H. Yardley. Commended, H. Yardley.

JUDGES.—Mr. W. B. Tegetmeier, of Muswell Hill, and Mr. Jeffries, of Ipswich.

STAVELEY POULTRY SHOW.

THE show of poultry held at Staveley, on the 29th of September, consisted of upwards of two hundred pens, and had the weather been favourable, would, no doubt, have been a complete success. Messrs. Chaloner, Jarvis, and Beldon were the principal winners, exhibiting really first-class birds in their several classes.

The following is the prize list:—

SPANISH.—First, E. Brown, Sheffield. Second, J. Thresh, Manchester. Highly Commended, Burch & Boulter, Sheffield. Commended, T. Rogers, Walsall.

DORKINGS.—First, Mrs. Arkwright, Etwell Hall. Second, Mrs. Hurt, Alderwasley. Highly Commended, C. Chaloner, Workop.

HAMBURGHS (Golden-spangled).—First, H. Beldon, Bingley. Second, T. Hanson, Thwaites Bank. Highly Commended, T. Mason, Walsall.

HAMBURGHS (Silver-spangled).—First, H. Beldon. Second, C. Outram, Sheffield. Highly Commended, Burch & Boulter.

HAMBURGHS (Golden-pencilled).—First, H. Beldon. Second, Burch and Boulter.

HAMBURGHS (Silver-pencilled).—First, H. Beldon. Second, W. Birstow, Fearncliff, Bingley. Highly Commended, T. Hanson.

ANY OTHER VARIETY.—First, H. Beldon. Second, B. Jarvis, Mansfield.

Extra Second, W. H. Tomlinson, Newark. Highly Commended, W. H. Tomlinson.

GAME (Black and other Reds).—First and Cup, C. Chaloner. Second, B. Jarvis. Highly Commended, H. Warner, Loughborough.

GAME (Any other variety).—First, C. Chaloner. Second, R. Butcher, Croxswell. Highly Commended, Miss E. Crawford, Farnfield.

GAME BANTAMS (Black or other Reds).—First, C. Chaloner. Second, W. Adams, Ipswich.

GAME BANTAMS (Any other variety).—First, T. Evinson, Chesterfield. Second, Mason & Charlesworth, Chesterfield.

DUCKS.—First, F. E. Richardson, Uttoxeter. Second, R. Hoplewhite, Staveley.

GEESE.—First, C. Chaloner. Second, B. Jarvis. Highly Commended, J. Crofts, Staveley.

SINGLE GAME COCK.—First and Cup, B. Jarvis. Second, C. Chaloner. Highly Commended, J. Fresh, Chatsworth.
SINGLE GAME BANTAM COCK.—First and Cup, C. Chaloner. Second, Mason & Charlesworth, Chesterfield. Highly Commended, Miss E. Crawford, Farnfield.
SELLING CLASS.—First, B. Jarvis. Second, H. Beldon. Highly Commended, T. Hanson. Commended, W. O. Quiball, Newark.
FARMYARD.—First, H. Beldon. Second, B. Jarvis. Highly Commended, B. Jarvis.

The prize for the winner of the largest number of prizes was taken by Mr. H. Beldon, Goltstock, Bingley.

The Judges were Mr. J. Crosland, jun., Wakefield, and Mr. E. Aykroyd, Bradford.

ELLESMERE POULTRY SHOW.

The entries for this Show, held on the 8th inst., proved more numerous than in previous years, and in the quality of the specimens there was a great improvement. The arrangements were good, a very commodious tent affording ample room to exhibit every pen to equal advantage. The day was one of those fair autumnal ones, so enjoyable for any Exhibition of this character, and the number of visitors was beyond the anticipations of the Committee.

Except in "the Selling Class," every competition was confined exclusively to birds of the current year. Of *Game* fowls, the display was unusually good, the whole being birds of high character, and shown very true to feather, though only a few years ago *Game* fowls were shown at the Ellesmere Meeting exclusively for their value as fighting birds, their only requirement at that time in the district, and without the slightest regard to uniformity of plumage. Now, on the contrary, the show of *Game* fowls evidences a most careful selection, and it is generally supposed not a few of the Ellesmere *Game* winners will figure highly in the prize lists of other exhibitions.

The entry of *Dorkings* was exceedingly limited, and the *Cochins*, though few in number, were most of them of first-rate character. Many very good *Hamburghs* were shown, and a few pens of the *Polands* were really excellent. The *Brahmas* were as good as could be desired, the Hon. Miss Douglas Pennant showing such a pen as will be difficult to beat at any show. In the selling class a pen of very superior Partridge *Cochins* took the first prize, entered at the unusually low figure of 10s.; the three birds, of course, at such a price were gone directly. In the class for "Any other distinct variety" *Silver-spangled* *Polands* stood first, and *Grise-Cours* second. A pen of most excellent fowls arrived for this class a considerable time after the prizes were awarded, as did some five or six other pens, leaving them entirely out of competition, equally to the annoyance of their owners and the Judge. It is very injudicious to entrust exhibition poultry to the last available train, as any little hitch on the line, or detention at the terminus, inevitably places them out of all chance of winning; whereas, if sent by a previous train, a similar delay of an hour or two admits, possibly, of being amended. The class for cottagers proved quite a failure, and will in future be discontinued.

GAME (Black-breasted Red).—First and Second, — Wilcox, Oswestry. Commended, E. Sadler, Whitechurch.

GAME (Brown-breasted Red).—Second, E. Shaw, Plas Wilmot.

GAME (Duckwing Greys, White, and Piles).—First and Second, E. Sadler. Commended, J. Little, Chester; H. Crutchloe, Oswestry.

DORKINGS.—First, E. Shaw (Grey). Second, E. Williams, Henllys (White Rose-combed).

COCHINS-CHINA.—First and Second, E. Tudman, Whitechurch (Partridge). Commended, G. Lamb, Compton (Partridge).

COCHIN-CHINA (White or Buff).—First, R. Chase, Balsall Heath, Birmingham (White). Second, H. Yardley, Birmingham (Buff).

SPANISH.—First, J. Walker, Wolverhampton (Black). Second, H. Beldon, Goltstock (Black). Highly Commended, W. B. Etches, Woodhouse, Whitechurch; H. & S. Cooper, Walsall (Black).

HAMBURGS (Silver or Gold pencilled).—First, H. Beldon (Pencilled). Second, J. R. Jessop, Hull (Golden-pencilled).

HAMBURGS (Silver or Gold-spangled).—First, T. Blakeman, Tattenhall, Wolverhampton (Gold-spangled). Second, Ashton & Eooth, Mottram (Silver-spangled). Highly Commended, T. May, Wolverhampton (Gold-spangled); J. Cooke, New Marton (Silver-spangled).

BRAHMA-FOOTRA.—First, Hon. E. D. Pennant, Penrhyn Castle (Dark). Second, L. P. Biddulph, Congleton. Highly Commended, Hon. E. D. Pennant (Dark). Commended, C. Layland, Morrisbrook, Warrington; E. Leech, Rochdale; W. B. Etches (Dark); J. Little, Chester.

ANY OTHER DISTINCT VARIETY.—First, H. Beldon (Polands). Second, E. Williams (Crève-Cours). Highly Commended, C. Layland (French); Rev. A. Brooke, Ruyton-XI-Towns (Malay); J. M. Kilvert, Ludlow (Black Hamburg).

GAME BANTAMS.—First, A. Bury, Wrexham (Black Red). Second, W. Griffiths, Nantwich (Black Red). Highly Commended, J. Adams, jun., Walsall.

BANTAMS (Any other variety).—First, S. & R. Ashton. Second, T. C. Harrison.

TERKEYS.—First, E. Leech, Rochdale. Second, S. H. Stott, Rochdale.

GEESE.—Prize, S. H. Stott.

DUCKS (Aylesbury).—First, S. H. Stott. Second, E. Leech.

DUCKS (Rouen).—First, E. Leech. Second, S. H. Stott.

SELLING CLASSES.—First, E. Tudman (Partridge *Cochins*). Second, W. B. Etches (Black Spanish). Third, H. Yardley. Highly Commended, H. Crutchloe, Oswestry (Black-breasted *Game*). Commended, J. M. Kilvert (Black East Indian *Ducklings*); W. B. Etches (Golden-pencilled *Hamburghs*); R. G. Jebb, Ellesmere (Turkeys); H. Beldon; A. E. Evans, (Patagonian *Ducks*); E. Shaw (Aylesbury).

LOCAL CLASSES.

GAME (Black-breasted).—First and Commended, H. Crutchloe. Second and Highly Commended, — Wilcox.

GAME PULLETS (Any colour).—First, — Wilcox (Black-breasted). Second, H. Crutchloe (Black-breasted Red). Commended, R. G. Jebb (Black-breasted Red).

DORKINGS.—First and Second, E. Shaw (Grey).

AMATEURS' PRIZES.—*Game Cock* (Any colour).—First, — Wilcox (Black-breasted Red). Second, E. Shaw (Black-breasted Red). Commended, — Wilcox (Black-breasted Red).

COTTAGERS' PRIZES.—*Any Distinct Breed.*—First, Withheld. Second, J. Eccles, Oswestry (Buff *Cochins*).

EXTRA. Commended, P. Cooke, New Marton (Peacock).

Edward Hewitt, Esq., of Sparkbrook, Birmingham, was the Judge.

CHRISTCHURCH POULTRY SHOW, CANTERBURY, NEW ZEALAND.

THE first exhibition of poultry under the auspices of the newly formed Association took place August 1st in the New Town Hall, opening at 10 A.M. The number of entries was about 160, and comprised not only a large number, and variety of fowls, but many of superior merit; indeed, I may state they were quite equal to any I ever saw for sale at Stevens's, King Street, Covent Garden, a few years ago. All the arrangements had been carefully made, and the patronage of farmers and poultry fanciers on this occasion fairly claimed. Various prizes were offered, and a gold medal, value £5, was given by Mr. W. Wilson, nurseryman of this place, to the winner of the greatest number of prizes for poultry. From what I saw and judge for myself, I think the medal will fall probably into the hands of either Mr. J. Williams or Mr. A. M. Johnson, Curator, Acclimatisation Society. This gold medal has for some time been looked forward to with considerable interest by breeders, and the large attendance of visitors is a proof that the efforts of the Association are appreciated.

The experiment of holding a poultry show is quite new in Christchurch. I am informed that the number of available gentlemen competent to undertake the duties of judges was so limited as to greatly embarrass the management. This will account for a great deal of the grumbling which I heard, by exhibitors about their exhibits not being dealt fairly with by the censors. Possibly there may be some errors in judgment; however, being the first show they ought to be passed over; we must allow for these shortcomings.

I must not forget to mention the fine pen of Aylesbury *Ducks*. This part of the world seems to suit them; plenty of water-crosses, and whitebit for them when in season.

The exhibits of all sorts were exceptionally good, sufficiently so to have done credit, as already stated, to country shows at home, and older in competitions of the kind than Canterbury. The lots were required to be marked with their selling prices; a great number of the distinct breeds were sold at a very high price; in one or two instances a reasonable price being asked on the ticket, these birds of course were readily bought. Many persons, as well as myself, were not aware before to-day that the fancy of breeding poultry was carried on to such an extent here. It would not be a bad idea, if it were carried out, for the Acclimatisation Society and Poultry Association to amalgamate in Canterbury. We learn from the latest census taken, that Canterbury is already at the head of the list as regards the number of poultry bred in the provinces of New Zealand. According to the returns, this province possesses 161,882 head of poultry; Otago, 148,012; Auckland, 145,222, and so on; Taranaki or New Plymouth, 13,807.

Subjoined is the prize list; the closeness of the contest in some of the classes will be seen.

DORKINGS (Silver-Grey).—Prize, Potts.

DORKINGS (Coloured).—First, Reade. Second, Johnson.

GAME (Black-breasted Red).—First and Second, Rees. Highly Commended, Haskett.

GAME (Brown-breasted Red).—First, Fulton. Second, Boswell.

GAME (Duckwings).—Prize, Faraday.

GAME (Any other variety).—First, Andrews (Sydney Blue). Second, Mrs. Chudley (Blue Dun).

SINGLE GAME COCK (Any variety).—Prize, Haskett.

SPANISH.—First, Clark. Second, Gould.

COCHINS (Buff).—First, Chagwedden. Second, Mrs. Hornbrook. Highly Commended, Mrs. Hornbrook.

HAMBURGS (Golden-pencilled).—Highly Commended, Russell.

HAMBURGS (Golden-spangled).—First, Cole. Second, Donaldson. Highly Commended, Sneed.

HAMBURGS (Silver-pencilled).—First, Donaldson. Second, Todd.

POLANDS (Silver-spangled).—Prize, Miss Orme.

FRENCH FOWLS (Crève-Cours).—First, Reeves. Second, Haywood.

MALAYS.—Highly Commended, Tremayne.

BARNDOR.—First, Price. Second, Boys. Highly Commended, Laney. **GAME BANTAMS.**—First, Daire. Second, Williams (Black-breasted Red).

ANY OTHER VARIETY.—First, Walker. Second, Williams.

TURKEYS (Black).—Prize, Potts.

TURKEYS (White).—Prize, Akman. Highly Commended, Wilson.

GEESE.—I do not recollect seeing any exhibited, we have abundance of them in the provinces, probably their absence is owing to this being our breeding season for them.

DUCKS (Aylesbury).—First, Johnson. Second, Wright. Highly Commended, Foster.

DUCKS (Rouen).—First, Genld. Second, Tapperill. Highly Commended, Price.

ANY OTHER VARIETY.—Prize, Tubman.

I noticed a pen with a cock and two hen Pheasants in it from the Acclimatisation Society's Garden.

PIGEONS.—*Tumblers.*—Highly Commended, Anderson. *Jacobins.*—Prize, Williams. *Fantails.*—Prize, Miss Orme. Second, See. *Any other Variety.*—Prize, Williams.

N.B.—The Fantails were very beautiful, and attracted much notice. I think "WILTSHIRE RECTOR" would have been pleased to have seen them.

CANARIES.—*Cock.*—Prize, Clark. Highly Commended, Anderson. *Hen.*—Prize, Williams. Highly Commended, Ness.

N.B.—I can safely state that the Canaries were not up to the mark, notwithstanding the owners ticketed a very high figure on the cages; I think the highest priced one was £5. We have a great many choice and good birds amongst us, and I hope they will be better represented another time.

RABBITS (French).—Prize, Howell. *Any other variety.*—Prize, Fester. Highly Commended, Evans (Double Lop-ear).

—WILLIAM SWALE.

SOME NOTES ON PIGEONS.

PREVIOUS to my settlement in good Old England, I had the pleasure of visiting a portion of Asia Minor, European Turkey, Spain, Italy, Austria, Egypt, Belgium, France, and the United States. In every town one of my first inquiries was, "Are there any Pigeon dealers here?" And whether there were or not, I made out what sort of interesting specimens there were, and now from my observations give my conclusions.

In every one of the named countries existed once, and in most yet exist, the common sorts of half-bred Pigeons, of several colours. In the warmest countries, as in the case of the wild birds also, the Pigeons are most improved; for example, there are in Africa specimens of all sorts, and of all the distinct varieties exhibited in England. I observed, in general, that wherever cultivation or importation introduced the moderate and short-beaked varieties, the long-beaked sorts have disappeared gradually, and I believe I am correct in saying, that the same is the case in this country. So far as I am informed, once the principal breed was the worthy Carrier, in its several degrees, and the most beautiful Almond Tumbler, and nearly every fancier kept some form of the Carrier race. The introduction of the several short-beaked varieties has limited the Carrier fancy considerably, which I am very sorry to see, as I consider the English Carrier ought always to be preserved, as a contrast to the modern introductions. The principal reason of this apparent transformation, I believe to be public opinion, and this is also the conclusion from my inquiries in other countries. I say public opinion, because the general public, including modern fanciers, at sight appreciate a compact, short-beaked Pigeon, rather than a long-beaked one, and anyone can be convinced of this by a little attention to the remarks of the non-amateur visitors to the large Pigeon shows.

The only long-beaked varieties some of the general public appreciate, are the Pouters, the Fantails, the double-capped Trumpeters, &c., possessing some remarkable and pleasing attraction; and is not the Carrier most remarkable? I say decidedly it is; but we cannot prevent the general public, and especially ladies, from saying, "Oh! what unsightly, deformed beaks and sore eyes these birds have. Are they well, poor creatures?" Although there is something remarkable and pleasant in the Pouter, Fantail, Trumpeter, &c., they do not approach the short-beaked varieties in public estimation even in England, where the latter are of comparatively modern introduction; but in countries where there are plenty, and such specimens as England has not seen yet, the long-beaked varieties have disappeared, or if any, are in the loft of some old lady or gentleman, like my uncle, who kept Runts, and large Trumpeters, whose progeny he had cooked by passing through them a long iron rod. They had to be turned by this rod over a charcoal fire, saturating them constantly with butter, and powdering them with ground biscuit till ready for the table, and I assure you they were infinitely superior to any which had been made into a pie.

The Carriers, Pouters, Fantails, Trumpeters, Runts, &c., are, of course, well known, and of great perfection in this country, so they need no comment from me. I pass, therefore, to the moderate-sized and short-beaked varieties. There are in this country Archangels, Nuns, Magpies, Swallows, Jacobins, &c., perfection, also of the short-beaked kinds there are perfect specimens of Almonds, of course, Owls, and Barbs, but unfortunately not of Turbits. I must say that I have not yet seen a well-formed and good-coloured Turbit, such as I met with on the Continent, where the black is as good as a good black Barb's, the red a deep warm red, and the yellow a fine deep

orange yellow, all shining naturally, as if they were varnished, instead of the generally faded dead-looking colours I see on their feathers in England. To my surprise, instead of persevering to improve this most important property, breeders have given their attention to breeding clear-thighed birds, which should be quite a secondary consideration. The eye, also, of the Turbits in this country is quite insignificant; the good continental Turbits have the lash round the eye of a most remarkable buff colour, contrasting most beautifully with the black eye, and increasing its apparent size.

In looking at the most interesting "new variety" class in our large shows, I always think of the answer I received from a great German new-variety breeder for the English market. I asked what is the origin of the Ice Pigeon, the Fairy, the Satin Swallow, and the like? The answer—"I mingle together in my loft a dozen of each of the following breeds: Hyacinths, Swallows, and Spots, of different colours, and Archangels; cocks of the two breeds, and hens of the other two, so that I may be sure of having crosses, and I obtain more new varieties than I can find names for!" And who can deny that nearly all the different new varieties have one and the same character? Certainly there are some with beautiful plumage, such as the Satin Swallow, but the variety from which it has taken half of its name, the Satinette is admitted to be the new variety which has revolutionised the fancy. As a proof, a reference to this Journal, from 1863 to 1866, will be sufficient to show that the Satinettes have done what no other variety ever did—in fact, they have tired the judges awarding their prizes, to such an extent that one judge said he must give the turn to others for encouragement. I never yet heard any fancier or observer say that he had seen anything prettier in the Pigeon tribe, and I never expected meeting with anything approaching them anywhere, till I saw this breed, which is a production of Africa, and my opinion most decidedly has been verified in England. The Satinettes possess as great perfection of plumage as any of the known new varieties, if not a superiority in that respect, with as exquisite and compact a form of head as the Owl, including the frill. They are Grouse-muffed, and the most remarkable of their properties are the tail feathers, which are of similar colour to those of the blue Owls, only darker, and at the extremity of each feather there is a white spot as large as a shilling, which is the admiration and puzzle of every fancier, as they are the only known variety possessing this beautiful peculiarity.—A FOREIGNER.

UNITING BEES.

In the case of late and weak swarms of bees, instead of waiting till the autumn, and driving and uniting them to other stocks, as directed in "Bee-keeping for the Many," would it do equally well to proceed in the same way on the evening of the day they swarm by knocking them out on the ground at sunset, and setting the stock they came from, or some other, over them—in short, proceeding in the same way as when uniting stocks in the autumn?

In putting a nadir under a hive, should it be permanently left there, or removed in the winter?—W. MASH.

[Late and weak swarms may be advantageously united or returned to their parent stocks in the manner you describe. Nadirs must be removed in the autumn, and any worker combs which they contain should be taken care of, as they will be found very valuable either as guide combs or as decoy combs for supers.]

As your object is to obtain eggs only, keep Golden-pencilled Hamburgs.]

HAD your correspondent "H." (see page 161), proceeded as follows, the morning light, instead of revealing the "melancholy sight" which met his view, would in all probability have shown but two empty boxes without a single dead bee on either floor board:—

He ought to have driven the cottager's bees into a spare empty Stewarton hive in the one case, and into a Woodbury in the other, *leisurely*, so as to ensure the due filling of the honey bags, setting down each close by the hive to which it was to be united till dusk, then raised the Stewarton stock, and as quickly as possible set it down upon the corresponding hive with the driven bees, closing the upper entrance, and gently withdrawing the slides of the lower box nearly to their ends, and in like manner disposed of the driven bees in the Woodbury, after of course removing the crown board of the lower box. A few puffs

of smoke to both hives just before uniting "makes assurance doubly sure."

I cannot say I ever approved of Payne's plan of uniting. Knocking out bees on a cloth spread on the cold ground "an hour and a half after sunset" is anything but sound practice, as a considerable number will inevitably find their way under the cloth, crawl away to a distance, and become chilled and lost; and to set a cold draught passing underneath is the very thing to arouse them, and should the guards seize one or two of the incomers, skirmishes would quickly follow, and the probability is a general battle would be the result. If the bee-keeper has not a spare hive with bars and slides, far better for him to drive up the bees in the stock with a good puffing smoke, then invert the stock, and sprinkle the combs and inmates with a small quantity of thin sugar syrup, flavoured with a little peppermint. Serve the driven bees in like manner, and instead of knocking them out on the ground, knock them at once into the inverted stock; set on the floor board, stop up the door, re-invert the stock in its place; after a minute or two open the entrance, the object of closing it being to prevent the bees rushing out in the first confusion, and provided the honey bags of the driven bees be well laden, fighting I have never found ensue in such circumstances.

Well filled driven bees invariably ascend with pleasure and delight from their empty hives into a fully combed stock set over them, on the removal of the slides, and are as invariably made welcome. I generally dispense with the smoke, the syrup, and the peppermint unless the evening be somewhat chilly. The beginner may employ all these, as they induce confidence, and during a warm evening, if at all neatly managed, by either the above modes success is reduced to certainty.—A RENEWESHIRE BEE-KEEPER.

BEES NOT THRIVING.

I HAVE kept bees in one of Marriott's humane bee hives since May last. They have worked so as to about half fill the hive with comb, but much of this appears to be empty. In August I put on the super—a rather large bell-glass. In this they did not work at all, and I have now removed it, closing up the apertures. I have also now narrowed the opening to about half an inch. A few bees go in and out in fine weather, but through the windows the hive appears to be almost deserted. About three months ago the hive was blown over, but was replaced without damage, and the bees have continued to work in it since. Its situation faces the south, and is sheltered from the north by a holly hedge. When the hive was replaced after the accident referred to, its position, with reference to the opening, was altered by my gardener. The part that was at the back was brought about one-third of the circle towards the front. This may have puzzled the workers.—J. S., Lee.

[Your swarm has not done well, owing either to a failure in the honey harvest, or insufficient numbers at the outset. It would be much benefited by the addition of a stock of condemned bees in the manner described in page 60 of the last edition of "Bee-keeping for the Many." In any event it is likely to be short of food, and this is a question which should be at once decided by weighing. The nett contents of the hive should reach at least 15 lbs., and anything short of that weight should be immediately made up by feeding with an inverted bottle. If the entrance is made in the floorboard, it probably remains in its original position, and in this case no harm whatever was done by the hive being partially turned round when replaced after its capsize; but if the entrance was shifted, the bees, doubtless, suffered some temporary inconvenience.]

FOUL BROOD.

Prior to the 20th of last month, we had a week of chilling east and north-east winds, and many hives that showed great activity about the beginning of the month passed suddenly into a semi-dormant state. With a view to solving the origin of foul brood, I shall be glad to learn whether any apiarian now finds foul cells in those hives which at the beginning of the cold weather had brood in the larva state, and only a scanty population.

The "RENEWESHIRE BEE-KEEPER" evidently inclines to the idea of over-heating as the cause. When he first stated his views, I was much impressed with them, but circumstances have since occurred which lead me to receive them less favourably. Some time ago when the weather was so warm that it

seemed impossible, our friend "APICOLA," had a batch of nearly matured brood placed over a strong hive chilled to death.—R. S.

LARGE HARVEST FROM ONE HIVE.

WHEN I transmitted some remarks on brood in supers, I gave as an illustration a strong octagon hybrid Italian colony of my own, estimating the this-season's harvest from it at 160 lbs., or the average full contents of the eight supers then taken, not having the weights beside me, and some of the supers still to weigh. As it may prove interesting to your apiarian readers, I now append the exact weight of each, and the date it was harvested, together with an estimate of the honey left in the stock hive.

July 9.—1	Octagon Super.....	23½	lbs.
" 9.—1	" "	22	
" 16.—1	" "	21½	
" 27.—1	" "	23	
" 27.—1	" "	21¾	
" 27.—1	" "	19½	
" 27.—1	" "	19	
Aug. 1.—1	" "	22½	
Sept. 14.—1	" "	12	
" 14.—1	" "	10	
10 Octagon Supers, gross.....		194½	
Deduct—10 Supers at 3 lbs. each.....		30	
Net Super Honey		164½	
Sept. 17.—Stock hive weighed, gross.....		70½	— 164½
Deduct—			
Board and stock boxes		2½	
Bees' comb and pollen, allow		9½	
Surplus honey in spring, suppose 10		40½	
Net body honey.....		30	— 30
Total harvest....		194½	

As the honey harvest terminated in this quarter by the middle of August, I have no doubt, had this colony been weighed then, the result would have been a weight of upwards of 200 lbs.

This large yield is mainly due to the continuous dry warm weather of the late summer, so very unusual to us pluvians of the west coast, enabling strong colonies of our little favourites to show what they could do when fairly at it, more than to any great flow of honey or prevalence of honeydew, which latter was very unusual. The white clover from which the above was chiefly gathered, was certainly rather above, while the yield from the lime trees fell considerably below, the average, owing to the blighting wind, which despoiled them of their foliage early in the season.

Had the colony been moved to the heather, from the large band of reapers, the harvest would in a very few days have been largely augmented, and I need scarcely add, that the whole was the *bonâ fide* ingathering of the bees, no feeding in any form, to the extent of even a teaspoonful, having been administered to this stock for the last two years. The very reprehensible mode resorted to by some bee-keepers of feeding largely with sugar syrup, with the view of getting up and more thoroughly completing supers, and palming the produce off on dealers as honey, is most disgraceful to themselves and injurious to the more general consumption of the commodity.

I may give at a future time a report of the harvest sipped by my other colonies, which was good, but nothing approaching the above—by far the best colony ever possessed by—A RENEWESHIRE BEE-KEEPER.

THE BERKSHIRE HIVE.

I HAVE often seen the question asked in your Journal as to what is the best hive. Now, though there can be no doubt but that the Woodbury frame hive is the best for scientific purposes in the hand of the skilled apiarian, yet for all other purposes I have seen nothing equal to the Berkshire hive, as constructed by Mr. James Sadler, of Sonning, near Reading, and for which he obtained a silver medal at the Reading Industrial Exhibition. For facilities of observation, for simplicity of management, and for profit, all combined, it is unrivalled.

The stock box is made of inch wood, 11½ inches square by 10½ inches deep, inside measurement. There are three large windows, 10 inches by 8, by which the apiarian is admitted to a full view of the interior of the hive—that is, one on each side except the front. The advantages of glass are thus combined with the utility of wood. The honey is taken from the top of

the hive by means of two boxes. They have glass at each end, and one of the ends can be detached for the easy removal of the combs. The bees are admitted into the supers by means of long holes nearly a quarter of an inch wide, so as to admit only the worker bees. The holes are at the ends of the top of the stock box, so as not to interfere with the centre of the hive where the breeding chiefly goes on, and are protected by wooden slides.

The system of management is as follows:—One super is always kept on, and the slide that communicates with it open, to allow the condensed vapour to pass off. As soon as the bees have filled the stock box they take to this super, and when it is three parts full the bees are then admitted into the second super. By this method one super is always filled before the other, and is then taken off and replaced by an empty one; and thus the bees have always plenty of room and air, and have no need to swarm, and a continual supply of honey is obtained as long as the season lasts.

This year Mr. Sadler has taken 40 lbs. of honey in supers from one hive, and in 1866 he took nearly 60 lbs. from each hive without interfering with the stock box; and this, it must be remembered, in an indifferent honey neighbourhood, where there is no heather, and the bees are entirely dependant for their stores upon the flowers, and their harvest ends with the cutting of the grass in the meadows.

Mr. Sadler's hives have never thrown off any swarms, and he never primes his supers with empty comb, as he finds it quite unnecessary. When he requires swarms he purchases them from his neighbours, as he finds it more profitable to keep his own hives entirely for the produce of honey. The bees are confined when necessary by a piece of fluted wood which exactly fits the entrance. For simplicity of management there is certainly no hive equal to this, and at so low a price—viz., £1, which includes the complete hive with two supers.

Mr. Sadler's bee sheds, too, are worthy of notice. They are so thoroughly rustic, and so very pretty for either the garden or the lawn.—S. B.

THE HONEY HARVEST IN LANARKSHIRE.

I am indebted to Mr. A. Pettigrew for the following extracts from a private letter bearing date the 25th of September, and giving particulars of the recent honey harvest in his native village, Carluke, in Lanarkshire.—A DEVONSHIRE BEE-KEEPER.

"We only brought our bees home from the moors the week before last. The weather was fine, and we thought they would be gaining weight, but we were wrong. Henshilwood had his home about ten days before us. We thought he would lose by it, but not so. Ours lost 8 or 10 lbs. from the time he had his home till we had ours. The heaviest top (first) swarm I had was 104 lbs. when it came home. My weights (steelyard) only weigh 112 lbs. I weighed the same top about a fortnight before it came home, the steelyard was drawn out to 112 lbs., and did not lift it, so it was a few pounds more. I had another top swarm about 6 lbs. lighter. Our best second swarm was 75 lbs.; our old stales (stocks), 50 and 60 lbs. I went over to R. Scoullar's to-day. His heaviest tops were three, about 120 lbs. each, and one 130 lbs.; he had also two second swarms, one 80 lbs. and the other 90 lbs. J. Jack, weaver, had two stales in the spring. I dare say they did better than any person's here. He had a top 161 lbs., another 104 lbs., and a second swarm 68 lbs. I did not hear the weight of the old ones, but he took 46 pints of honey from the produce of the two stales. Samuel Denster had two stales in the spring. His two tops were 110 lbs. and 148 lbs. So you see I am far behind this year, but I see the reason why—Henshilwood, Jack, and Denster took theirs away to the clover, the two first to Newbigging, and the latter to Hankerton. They did a very great deal better at these places than they did at Carluke. I forgot to say that my brother had a top of 130 lbs., the rest of his were very middling. You have already the news about Henshilwood. His heaviest top was 168 lbs., but it was put into a good skepful of combs, which gave it a great start. He had not another above 100 lbs.—R. R."

OUR LETTER BOX.

GAME COCK'S LEG BROKEN—POULTRY FOOD (*A Beginner*).—In the first place, we do not think the cock will ever be of any service. We dislike tail wheat as food for anything but very small chickens, and even with them it is what it is to everything else—a plaything. There is no food, or rather feeding in it. You need not be surprised if the hens do not lay till November; but you must feed better and give more variety—a little whole barley, a handful of Indian corn, table scraps, and a lettuce. You

do not state what run your fowls have beyond their house of 5 feet square. Have they grass? If they have not, they want some. What extent have they, and of what nature?

LOSS OF A CLAW (*J. S. K.*).—The accidental loss of a claw would not disqualify a bird, or unfit it for competition. It would be a disadvantage in deciding between two pens of almost equal merit.

OLDHAM POULTRY SHOW (*Subscriber*).—We have had a somewhat similar circular from another show committee, and the only "very painful" circumstance in either case is, that any committee of gentlemen should ask others to bear any portion of the loss which that committee have incurred. Consult your solicitor as you propose.

DEBBING AND TRIMMING GAME STAGS.—In the ninth line from the end of the article on this subject, in page 272, the word "of" should be inserted before "Black-breasted Reds."

DARK GREY DORKINGS' EAR-LOBES (*Scot*).—It is preferable that a Dark Grey Dorking should have a red ear-lobe, but if it is entirely or partially white, it is by no means a disqualification. The ear-lobe in a Dorking fowl is immaterial.

WHITEHAVEN POULTRY SHOW.—We are informed that the dates of this Show have been altered to the 12th, 13th, and 14th of January, 1869.

DICES AT FARNWORTH SHOW.—Both first and third prizes in the Any other variety class were awarded to M. T. C. Harrison, of Hull. The error is that of the list sent to us.

POULTRY DISEASED (*C. L.*).—We do not think you will lose many of your fowls. We believe the disease you mention has been brought by the French fowls. Whether it be that they are not yet acclimatised, or that it is their natural state we cannot say, but all of these new breeds are subject to illness of a serious and often fatal character when they are chickens, and to relapses in adult life. In the latter case they recover rapidly. We have noticed that these maladies are prevalent immediately after heavy rains. We have seen at such times these birds leave the fine spring water with which they are supplied, in order to drink from any dirty little puddle, and they are sure to be ill after it. We advise you to keep them almost without water, and especially to see that there are no puddles of water about. Let them have drink twice or thrice a-day, but not always by them. Continue the camphor. Feed very sparingly, and give only bread and ale. If you can do it, separate the Cochins and Brahmas from the French breeds. A little change of condition may be looked for as the air becomes damper, its temperature lower, and the nights longer. Many fowls are out of condition from moulting, but there should be nothing like such disease as you mention. As appetite returns, you will, of course, increase the quantity of feed.

COMMENCING POULTRY-KEEPING (*Two-years Subscriber*).—If you wish to have the best possible return with the least trouble, we advise you to keep Brahma Pootras. They are very hardy, good layers, good sitters, and good mothers. They are also very useful table fowls. They will do well in such a space as you name. Is there any grass in the run in front of the house? The floor of the house must be earth; clay beaten hard and covered with gravel is an excellent flooring. Neither in the house nor in the run should there be any boards, stones, or bricks. If it be necessary a little of such may be left outside, but inside there must be nothing but earth. The house should be ventilated just under the roof by openings or windows that can be shut in very severe weather.

RUNT PIGEONS (*R. Barney*).—We have a letter for you, and will forward it if you send us your direction.

CANARIES ATTACKED BY PARASITES (*H. J. G.*).—"I know of no means of eradicating them but extreme cleanliness, and even then it is a most difficult matter. I will take an early opportunity of writing a short article on the subject. Meanwhile try the Persian powder for destroying vermin—I think that is the name; but it is advertised daily. It is sold, with an apparatus for using it, at a very cheap rate, and I have known it need very effectively. Blow it under the feathers.—W. A. BLAKSTON."

CANARY WITH BLACK LEGS AND BEAK—GROATS AS FOOD (*A. T. E.*).—Say what variety of Canary the bird is. Some kinds are black in the points mentioned, the blacker the better. We have not known a clear bird affected, and certainly should not attach blame to the saffron. Groats are used as food by many breeders, and form a considerable ingredient in the contents of the bags of seed sent with birds for exhibition.

FEEDING BEES (*J. C. J.*).—Your bottle-feeding must have failed either through the mouth being too wide or from some error in management, but as you do not give particulars we scarcely know how to suggest a remedy. Read our reply to "TYRO," in page 246, and if robbing take place insert the bottle-mouth in a close-fitting perforated block of wood, a precaution which will stop pilferers at defiance.

SWEET CIDER (*H. L.*).—We believe that it is no more than cider bottled before the fermentation is completed. We shall be obliged by practical information on the subject.

RABBIT DISEASES (*E.*).—To cure the scurf which appears on the nose, feet, and ears, give each a teaspoonful of flowers of sulphur mixed with their bran daily, and a good supply of carrot and lettuce. The young rabbits dying without any apparent cause, is, probably, occasioned by their moulting, or changing their fur. At that time they should be kept warmer and fed more liberally—that is, on more nourishing food, such as boiled barley; and if, notwithstanding, some die, give the others daily fifteen grains of camphor each until the mortality ceases.

RABBITS (*J. E.*).—If you enclose seven stamps with your address, and order "The Rabbit Book," it will be sent from our office free by post. The ears are measured from the tip of one ear to the tip of the other.

POULTRY MARKET.—OCTOBER 14.

THERE is a large supply of goods in the market, but the bad demand and the hot weather cause things to be unusually dull.

	s.	d.	s.	d.	s.	d.	s.	d.	
Largo Fowls.....	2	0	3	0	Pheasants	2	6	2	9
Smaller do.....	3	6	3	0	Partridges	1	6	1	9
Chickens	1	9	2	0	Hares.....	2	6	2	9
Geese	6	0	7	0	Rabbits.....	1	4	1	5
Ducks	2	0	2	0	Wild do.....	0	8	0	9
Pigeons	0	8	0	6	Grouse	3	0	3	6

WEEKLY CALENDAR.

Day of Month	Day of Week.	OCTOBER 22-23, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Risos.		Sun Sets.		Moon Risas.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year		
			Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	h.		
22	TH		58.9	42.5	50.7	24	38	af	6	50	af	4	6	af	9	7	15	39	296
23	F		58.2	39.8	49.0	23	40	6	48	4	46	1	50	10	9	15	38	297	
24	S	Royal Horticultural Society, Promenade.	56.2	39.4	47.8	19	42	6	46	4	17	2	50	11	9	15	46	298	
25	SUN	20 SUNDAY AFTER TRINITY.	58.0	38.5	48.3	20	43	6	44	4	48	2	inorn.		10	15	52	299	
26	M		55.5	36.6	46.0	18	45	6	42	4	12	3	53	0	11	15	58	300	
27	TU		55.0	39.0	47.0	20	47	6	40	4	36	3	57	1	12	16	4	301	
28	W		54.5	36.0	45.3	25	49	6	38	4	59	3	2	3	13	16	8	302	

From observations taken near London during the last forty-one years, the average day temperature of the week is 53.6°; and its night temperature 39.8°. The greatest heat was 69°, on the 22nd, 1863; and the lowest cold 17°, on the 23rd, 1859. The greatest fall of rain was 1.03 inch.

MERITS AND DEMERITS OF SOME BEDDING PELARGONIUMS.

FOR some time I have been intending to record in your Journal the result of two years' trial of ordinary bedding Pelargoniums, but have hitherto been prevented by not having been able to find sufficient time to devote to the subject, and I am afraid the notes I now send you must necessarily be imperfect.

I shall, of course, be obliged to tread over ground that has already been gone over by many of your correspondents on the subject; for as the Pelargonium is certainly the most useful and easily cultivated of all plants for bedding purposes, it is, if I may use the expression, everybody's plant, and every lover of a flower or of a garden is interested in recording his own experience with regard to it.

Our last two seasons, one exceptionally wet and cold, the other even still more remarkable for its extreme heat and drought, have been crucial tests for the constitutional vigour and general utility of the different kinds of Pelargoniums, and those that have been good in both of the last two seasons may, I think, be safely relied on, and recommended for ordinary bedding purposes. I will not enter into detail about 1867, but will only refer to it from time to time in my notes on the Pelargonium in 1868.

I will begin by stating that, in order to give Pelargoniums as nearly as possible the same conditions of trial, I planted some diamond-shaped beds in a long border, which surrounds my garden, with thirty different kinds of plain-leaved and zonal Pelargoniums, not variegated, each bed being edged with variegated *Arabis albid*a. Each bed held sixteen plants, which were all, with but few exceptions, struck and potted off at the same time of the year. The list of those I tried in this way is as follows:—

NOSEGAYS.—Stella, Lord Palmerston, Cybister, Black Dwarf, Minimum, Waltham Seedling, Rival Nosegay, Duchess, Indian Yellow, Orange Nosegay, Amy Hogg, Violet Hill.

ORDINARY ZONALS.—Victor Emmanuel, Brookfield Pink, Trentham Rose, Merrimac (Lemoine), Rose Rendatler, Dr. Lindley, Glorious, Vivid, Eclipse, Madame Vaucher, White Tom Thumb, Madame Werle, François Desbois, Madame Rudersdorff, Gloire de France, Christine, Comte de Moray.

Besides these in the thirty beds, I also tried in some larger mixed beds in the garden Rebecca, Princess Lichtenstein, Louisa, Excellent, Alexandra, Roi d'Italie, Pink Stella, Mrs. W. Paul, Rose Perfection, Ratazzi, &c.

I have not classed the varieties in any order, but will endeavour to do so now.

NOSEGAY PELARGONIUMS.

1. *Waltham Seedling.*—Dark rich crimson. This has been decidedly the best of the dark-coloured Pelargoniums with me this year, and it also stood the wet of last year well, though not blooming so freely, as, in fact, no Pelargonium did last year. One of its great merits is its short, stiff, flower stalk, which throws the bloom just the right height

above the plant, and it is not dashed down with wind and rain like some.

2. *Black Dwarf.*—Next in point of colour, but the flower stalks are not stiff enough, and the flowers are constantly dragging on the ground.

3. *Stella.*—Still very good. The flower stalk too long, and habit too straggling.

4. *Rival Nosegay.*—Very good, but not quite free-flowering enough. For those who prefer a pure green leaf this is a desirable variety.

5. *Lord Palmerston.*—Lighter crimson. There is no Pelargonium of this colour better, and it is on the whole the most constant and free blooming of any, producing a greater succession of flower buds than any other kind I know. Its fault, again, is that the flower stem is not strong enough for the mass of bloom it has open at once; and here I think Duchess of Sutherland, a slightly lighter shade of colour, may surpass it.

6. *Minimum.*—Dwarf, of the same colour as the last; smaller heads of bloom, but very free; would do to edge a large bed of Lord Palmerston.

7. *Cybister.*—The best scarlet either in the Nosegay or Zonal section. Rather too straggling a habit, and in this respect Lady Constance Grosvenor will, very probably, be superior, but it cannot surpass it for freeness or constancy of bloom.

8. *Duchess.*—Rich cerise; fine truss. Rather too strong a grower, and not so free in wet weather.

9. *Violet Hill.*—Cerise. A beautiful, free-blooming, dwarf plant, and, in my opinion, the best of its colour, especially in good rich soil. In poor land it would be too dwarf.

10. *Amy Hogg.*—Cerise, shaded with magenta. Very free blooming, and an interesting variety of colour, but the flower stalk is too long to stand wet weather.

11. *Indian Yellow.*—Light cerise. One of the very best; a constant bloomer, and stands dry weather better than any variety.

12. *Orange Nosegay.*—Rich orange. Rather too free a grower, and the heads of bloom not quite large enough, but otherwise a very desirable variety.

This brings me to the end of those Nosegays I tried in separate beds. Among the mixed sorts, of which I had not quite enough, or which I have hitherto only had in pots, are Rebecca, very good; Lady Constance Grosvenor; Duchess of Sutherland; International, sent out by Mr. C. Turner, very promising; Mrs. Laing; and King of the Nosegays, also very good. We want, if it could be obtained, a white Nosegay, and a light salmon-coloured one of the Madame Rudersdorff shade; and any person who could raise a white Nosegay as good as Waltham Seedling or Violet Hill would be a great benefactor to those who delight in bedding-out gardens.

ORDINARY ZONAL PELARGONIUMS.

On these my remarks will be much shorter, as I am convinced that the Nosegays are destined in the end to surpass all others for bedding purposes, their greater constitutional vigour and hardness enabling them to stand the changes of the weather so much better; for I find, as a general rule, that those which grow and flower well

in dry hot weather, will also succeed better than others in wet.

Scarlet.—Victor Emmanuel, Dr. Lindley, Vivid, Eclipse, and Glorious.

Of these, Victor Emmanuel, Vivid, and Eclipse are nearly of the same shade of colour, and this season did very well, except in the very hottest weather; but both Vivid and Eclipse are of too strong growth for wet seasons. Dr. Lindley is not free-flowering enough, and the habit of the plant is too upright. Glorious is a very good dwarf, nearly of the same colour as Roi d'Italie, and would do best in wet seasons, as, if the plants are bedded out too small, they burn up in dry weather.

Cerise.—Herald of Spring, Trentham Rose, Merrimac (Le-moine), and Comte de Morny.

These are all good, and I think Trentham Rose not surpassed yet in its colour. Comte de Morny has a fine branching habit, and the flower is of a distinct shade of colour, with a large truss. Herald of Spring is rather too strong and upright in growth for wet seasons, but stands dry weather better than most Zonals. Merrimac is also very good, and has a fine truss, but is rather too upright in its growth.

Pink.—Brookfield Pink, Gloire de France, Christine, and Rose Rendatler.

Of these, Rose Rendatler is by far the best pink, though of rather too light a colour, but its immense flower trusses on fine stiff stalks enable it to resist both dry weather and wet better than any other pink. Brookfield Pink is a sport from Trentham Rose, propagated and made constant by A. Walker, Esq., of Brookfield. It will not, however, stand sun. Christine is useless in dry weather. Gloire de France is not free-blooming enough.

Salmon.—Madame Rudersdorff, François Desbois, and Madame Werle.

Of these, Madame Rudersdorff is the best, and is very free-blooming, especially in dry weather. Madame Werle is of too strong and upright a habit of growth, and ought really to be called white, with a pink eye. François Desbois is good, but not so good as Madame Rudersdorff.

White.—Madame Vaucher and White Tom Thumb. I can detect no difference between them. They are the best whites as yet sent out, but are neither free-blooming nor constant enough, and in wet weather, though the white is purer and less pink, yet the plants become too coarse. A good white is, as I before said, still a desideratum.

Amongst others I did not put into self beds, and which can be recommended, are Roi d'Italie, Excellent, and Rose Perfection. The last I think very promising. Excellent will be well known by most of your readers. I do not like it myself so much as others of its colour. I forgot among the Nosegays to mention Pink Stella, which I am in hopes will be a good pink, and Lady Cullum, lilac Nosegay, which is good for variety, though many would say it has rather a washed-out look.

I will now conclude these notes, and send you, with your permission another time, some remarks on the Variegated Bicolor and Tricolor sections, and also on the winter management of bedding Pelargoniums, as I am sure much harm is done by the general recommendations which are so common in all gardening periodicals at this time of the year. "Keep all plants cold and dormant during the winter, giving no more water than is absolutely necessary." The consequence is, Pelargoniums lose all their finer fibrous roots in the winter, many damp off altogether from want of growth, and they are at least a month later in coming into bloom in the spring than they ought to be.

To sum up, the best Pelargoniums of those sufficiently long before the public to be well known, are Waltham Seedling, Lord Palmerston, Stella, Cybister, Violet Hill, Amy Hogg, Indian Yellow, Orange Nosegay, Rose Rendatler, Herald of Spring, Comte de Morny, Trentham Rose, and Madame Vaucher.

I have named one of each shade of colour sufficiently distinct to bed as a variety, the different shades of cerise differing only in tone.—C. P. PEACH.

greatly esteemed and more relished than the Morello Cherry, which it somewhat resembles. The fruit is also used for bottling, and for preserving like other Plums and Cherries. From one tree Mr. Matheson had increased the stock of this to ten or twelve, and by the Marquis of Exeter's desire many had been distributed amongst his tenants, so much are its qualities estimated in that district. As a simple ornamental flowering tree, this Plum, or Prunus, is generally to be met with. It is a distinct species. It is the first of all the Prunus family to blossom, in fact, the first-flowering tree of the season. It is frequently covered with its small but pretty white blossoms in the beginning of March as with a sheet of snow. Through this habit of early flowering, however, we generally lose the fruit by frosts, excepting in unusually open seasons, and in some favoured situations, as at Burghley, which is high and dry. The tree is of slender growth, but attains a great size—from 30 to 40 feet; the leaves are very small and rounded; fruit medium-sized, of a slightly oval shape, its colour pale red, with a long slender stalk like a Cherry. Indeed, when gathered, a dish of them more nearly resembles one of red Cherries than of Plums. The flesh is yellowish, sweet, with a slight acidity, and juicy. Ripe early in July, but will hang on the trees a long time. At Arundel Castle I recollect seeing some ripe fruit of it on a small plant in the beginning of March; this tree flowered in October. It was there called Roblet; but it has many synonyms, as Early Scarlet, Miser Plum, Virginian Cherry, &c.

As an ornamental early-flowering tree alone, independently of the fruit, the Cherry Plum is worthy of a place in every garden.—ARCHAMBAUD.

FLOWER-BEDS IN AUTUMN.

SILVER-EDGED *versus* TRICOLOR PELARGONIUMS.

BEFORE the lingering beauties of the past summer are too far injured by autumn dews and frosts, it would be well if everyone would note the merits of the different plants composing the summer display, and if such notes were coupled with others taken at various times during the year, there might be collected a large amount of information of greater value than the most careful description made from the appearance of a plant at one time only. Of course, where notes of this kind have not been commenced, it is now too late to do more than examine the condition of the plants at the present time (the middle of October); and calling to mind how they have behaved all the season, we may, from a plant's long or short continuance in beauty, give it a good or an indifferent character.

Generally speaking, plants presenting the greatest abundance of flowers at one time are not those likely to give a long continuance of bloom, and many plants having a tendency to ripen seed abundantly are also liable to go off, and blanks are the consequence; but I will not enter into these matters just now, but will simply look over the beds before they are disarranged, and see what plants maintain their beauties till the last, and on that account have a greater claim to our attention than those presenting for a shorter period a good or passable appearance.

Another circumstance must also be borne in mind—the distance from which a plant is viewed. Some experience in the latter respect has led me to form an opinion which I imagine will be pronounced heresy by the authorities in such matters at the present day; but I nevertheless assert it, and call on those having an opportunity to give an opinion, to do so. My idea is this, that a good Silver-edged Pelargonium looks better than the very best Tricolor one of the day at any distance exceeding 60 yards, nay, more than that, I may say that Golden Chain looks better than Mrs. Pollock at that distance, or beyond it. The reason is obvious, the eye cannot detect the beauties of the markings in the leaf, and the dark zone mars, rather than beautifies the foliage, while the best Silver-edged Pelargoniums present only two colours, white and green, and the green portion of the leaf is often much paler in the white-edged section than in any other, thereby helping to intensify the already prevailing white. The presence of dew, likewise, which at this advanced season hangs on plants during a great part of the day, gives a richness to the white-edged Pelargoniums rather than otherwise, while it clouds the Tricolors.

It may be asked why make the comparison now, why not go back to July? To this I am also agreeable. Inquire in what condition most of the Tricolor kinds were at that time, and in most cases the complaint would be, that the foliage was scorched and

THE CHERRY PLUM, PRUNUS MYROBALANA.

WHEN at Burghley Park Gardens, Stamford, last July, I observed several good-sized trees of this pretty little Plum, quite heavily laden with fruit. Mr. Matheson, the very excellent gardener there, informed me that it was very much used by the Marquis of Exeter's family, when quite ripe, for the dessert, but principally for tarts, for which purpose it was

disfigured by the sun, while the Silver-edged varieties seemed not to suffer much; that it was not until the middle of August, and later, that Mrs. Pollock (which I name as the best known of its class) presented foliage at all true to its character. Later in the season, however, it has been all that could be desired. Those who admire its fine foliage may not regard the appearance of the plant at a distance as of much importance; but they must have had to lament so much of the summer passing away before the leaves presented their markings in any degree of perfection. The appearance of a Tricolor Pelargonium in ill health, is, on the whole, worse than that of other kinds; for these reasons, therefore, I am disposed to place this class, as a whole, second in utility for flower garden purposes to the Silver-edged Pelargoniums, and I hope that in putting forth this view, I am not too late to enable those having both classes in good condition to make the comparison which I ask them to do between plants of each class at a distance as well as close to the eye.

Having said this much on the comparative merits of Tricolor and Silver-edged Pelargoniums, I will ask space for a few remarks on the appearance of some other plants at the present time. *Gnaphalium lanatum* looks richer when wetted with rain or dew than it does in hot sunshine, especially when it has been allowed to grow, and as it were throw its arms over its neighbours a little. An equally handsome plant with white foliage, is *Arctotis repens*, which with me has been much admired. This also looks well in autumn, or, in fact, at all times. The Golden Pyrethrum has likewise returned to its proper colour, which it partly lost in July and August. The reverse is the case with *Chrysanthemum Sensation*, which seems to lose its foliage.

Among dark-foliaged plants, the rich colour of the *Coleus* is beginning to bleach, and *Amaranthus* is in places showing signs of giving way, while *Iresine* is all that can be wished. Those who have a good-foliaged Beet will probably point to it as the most ornamental plant of the season, but as I have not grown it for decorative purposes I must confine myself to asking what it was like before the 1st of August.

The autumn also brings out the *Cuphea* to greater advantage, and I may mention, that for vases in shady places, I know of no plant more suitable than *Cuphea platycentra*, and its hardiness enables it to disregard slight frosts. *Nierembergia gracilis* was, perhaps, better covered with flowers prior to the heavy rains at the end of last month, than anything we had, and it would present a good appearance again if dry weather continued. The new hardy *Nierembergia rivularis* has not done well with me, and the foliage of *Wigandias* and *Solanums* has not been so good as in 1865. The Castor Oil plants, however, are quite as good, and some are perfecting seeds.—J. ROBSON.

PHYTOLACCA DECANDRA.

Your correspondent who was so surprised at seeing this plant growing out of doors at Brussels might see it flourishing like a weed in my garden at Guildford. A few years ago Mr. Weaver gave me a plant of it, which I took up and nursed in a pot for the first winter; as, however, I found that some bits of the root which I had accidentally sliced off with the spade sent up vigorous plants in the spring, and also that numbers of seedlings were appearing on all sides, I determined to coddle no more. My plants now remain in the open ground without any protection, and increase enormously in size. They are at the present time in great beauty. In the spring the spade comes into requisition for the purpose of slicing the plants into manageable size, and the Dutch hoe destroys hundreds of seedlings.—H. G. MERRIMAN, *Royal Grammar School, Guildford.*

This plant is perfectly hardy. It has stood for many years in the gardens of the Royal Horticultural Society, Chiswick, without any protection in the open border. Every autumn it is exceedingly handsome with its long spikes of dark purplish fruit, which are very striking. It seeds very freely—so freely that some seasons the young plants come up in spring as thickly as Groundsel. A still more pretty kind, however, which is also to be seen at Chiswick, is *Phytolacca villosa* (?), which is also hardy. Its large Dahlia-like roots require but a spadeful of ashes for their protection during winter. It grows very strong—to a height of about 6 feet, and branches much, forming a perfect bush of from 4 to 6 feet in diameter. Throughout the summer it is handsome as an ornamental-foliaged plant; and when covered, as it is from the end of July to the end of

the season, with its long drooping racemes of bright dark purplish fruit, it is decidedly one of the handsomest hardy plants to be seen. This plant is much more seldom met with than *P. decandra*. If I can recollect aright it is the same plant as used to be grown as a stove plant many years ago, at all events it is remarkably like it. Both of these plants ought to be grown in every garden.—B.

DESTROYING RATS IN GARDENS.

A most unsavoury subject, but, unfortunately, one which sore against his will, is often uppermost in the thoughts of the gardener. Most of his duties are labours of love; but the keeping of these pests at bay, and laying deep, dark plots for their destruction, can only be appropriately gone about with a slouched hat, a stern brow, and a great amount of deadly hatred in the not-otherwise-unkind heart.

It is said of a great General, that when he wanted a man capable of doing a daring deed, or executing a task where strength of purpose and great sagacity were indispensable, he always selected one with a long nose. Of this being an infallible criterion I have some doubts, and if I—not being a General, wanted a man possessed of these qualifications and several more equally serviceable, I should, in preference, certainly pitch upon a man capable of out-witting a host of those clever vermin—rats.

Our great enemy, the common brown rat, is supposed to have been imported into this country from India about a century and a half ago. Previous to its introduction, a smaller and less destructive race of black rats held undisputed sway, but are now almost, if not totally exterminated by their brown brethren. The latter have since been distributed all over the civilised world mostly by British shipping, so much so, that it has become a common saying among sailors, that "rats, Scotchmen, and bad weather are to be found everywhere."

In attempting to wage war successfully against rats, their habits must be closely observed, and their instinctive powers somewhat correctly estimated. It is well known that their sense of smell is very acute, and that they depend more upon it for guidance in their search for food and in avoiding traps than they do upon either their eyes or ears, and this circumstance is accordingly taken advantage of by the rat-catcher in many ways. They have also very retentive memories, so that if one makes a narrow escape to-day, he is not likely to forget it for some time to come. Owing, no doubt, to their eastern origin, they are very fond of warmth, and they do enjoy themselves immensely in running up and down among a lot of *Verbena* cuttings plunged in a hotbed, stopping now and then to nibble over a pot of the last new sort, just because they feel so happy. But over and above these traits, long years of conflict with man, through thousands of rat generations, have battered into their natures an amount of general cunning not easily over-matched.

Where rats are very numerous, and where they are at liberty to come and go when they choose, owing to the garden not being entirely enclosed by high, well-coped walls, the only efficient means of sensibly diminishing their numbers is by poison; trapping, as ordinarily practised, is little better than labour lost under these circumstances. From their extreme wariness, even poisoning them is no easy matter; but after much experience in this detestable business, I have found the following method very successful:—Select an empty quarter not far from their usual runs, on which to commence operations; on this place in heaps a few barrowloads of warm stable dung, spread it out in the form of slight hotbeds, and over each place a one-light frame, if such are to be had, if not, a few large hand-glasses. Procure some coarse suet, tallow, or any fatty matter, which, when melted down and mixed with oatmeal or bran, forms a pastry of which rats are very fond. Put a little of it into each frame, and shut it up, as if most anxious that no rat should enter. The first night after this is done will most likely be spent by the enemy in reconnoitring; the next in breaking in and discussing the savoury morsels. Fresh supplies must be put in every day, increasing the quantity each time if it is all eaten. This is what may be termed educating the "varmint," and may be continued for four or five successive nights, after which, by way of change, similar food well seasoned with arsenic may be substituted, and it will be eaten up as greedily as the rest. Some employ strychnine instead; but it renders its victims poisonous, and being thus additionally dangerous, I have never had the courage to use it. The poisoned food should only be supplied for two or three nights

at most, for by that time the survivors will have begun to suspect foul play, and will not eat, so that further education and stronger inducements will be necessary. For this purpose obtain from a chemist some oil of rhodium, aniseed, or musk; impregnate the food with one or other of these strong scents, also some cotton rags with which trails should be made from those parts of the garden most infested, towards the frames. The infatuation with which they follow these trails indicates a weak part in their crafty natures, and is often made use of to lure them into traps. Feed for two or three nights as before, then treat to another dose of poison, and by persevering in this course for ten days or a fortnight at a time, great numbers may be destroyed.

The great fault of most traps is, that in them is made no provision for hiding the fate of those caught, their inventors evidently greatly undervaluing the reasoning powers of the rat. Owing very much to this defect, no trap has yet been constructed the use of which will remain successful for any great length of time in one place, although a great amount of ingenuity has been expended in that direction. What is wanted is some engine that will admit all comers, and so effectually hide and imprison them, that they cannot communicate to outsiders the startling fact that they are in durance vile. I was recently told by a farmer how he used to capture a good many of them, and the plan is very simple. A sort of labyrinth was made—something, I suppose, in the style of the maze at Hampton Court, by setting boards upon their edges. In the middle, crusts of bread steeped in double-strength whisky were placed, and the whole covered over with a tarpaulin. Trails were then made to the door of this dram shop by dragging a roasted herring slowly over the ground. To those that entered and partook, intoxication, bewilderment, and capture would, no doubt, be the consequences; but I am afraid they would not be numerous. Grains of *Cocculus indicus* have also been recommended for that purpose.

Some affirm that rats may be banished from a place altogether by taking as many of them alive as possible in box traps, smearing them over with coal tar, and setting them at liberty; but such treatment seems almost too cruel, even for a rat.

To some it may be of service to know that rats may be prevented from burrowing under the front walls of vineries, which are generally built on arches, by laying common rabbit wire-netting flat upon the border close to the wall, and covering it with 2 or 3 inches of soil. Although the meshes should be so large that rats might easily pass through them if clear on both sides, as in a fence, yet they cannot remove the soil from underneath.

There is no evil so bad, however, but that it might possibly be worse. In some parts of India they have a rat, the *Mus giganteus* of naturalists, and a most gigantic nuisance it must be. It is said to weigh 3½ lbs., to measure 28 inches in length, and to earn a living by burrowing through solid brick walls and carrying off full-grown poultry. What a delightful companion he would be to our friends at the end of the Journal.—
Ayrshire Gardener.

MARÉCHAL NIEL AND ALFRED COLOMB ROSES.

THAT must have been a dazzling sight which your correspondent, "AN ARDENT LOVER OF THE ROSE," describes in the Journal for October 1st. I can well imagine the golden glory which 114 blooms of the loveliest of Roses would produce, and I can only express my regret that I was not one of the favoured few who participated in a sight which has such a fascination for rosarians. Such an exhibition tends to remove the doubts which have been freely expressed as to the good qualities of Maréchal Niel.

I am inclined to think that Maréchal Niel will prove of very vigorous growth, for during a visit which I have recently made to Yorkshire, I have seen it growing to perfection. In the garden of Mr. John Milne, of Hull, "an ardent lover of Roses" of many years' standing, may be seen a plant of Maréchal Niel on its own roots, which has this season thrown up a shoot now 9 feet high, and as thick at the base as one's thumb. It was still growing when I saw it on the 4th instant.

The suggestion made by your correspondent, that boxes of select varieties, such as Maréchal Niel, Gloire de Dijon, Charles Lefebvre, &c., should be exhibited, I cordially endorse. One of the most beautiful sights at our last Birmingham Show was

boxes of Alfred Colomb. The lovely form, full and graceful, the depth of petal and glorious colouring which this Rose uniformly presented, impressed me so favourably, that in my humble opinion Alfred Colomb must be allowed to take the foremost place in the list of Hybrid Perpetuals. It is unrivalled.—C. W. M., *Wylde Green*.

BATTERSEA PARK.

(Concluded from page 167.)

A SUBSEQUENT visit to the Park about three weeks ago, was chiefly devoted to what is known as the Peninsula garden, which lies to the left of the northern entrance to the subtropical department, and is for a considerable portion of its length skirted by the lake. Passing into this garden, the first feature that attracted attention was a cosy nook planted with tree Ferns, consisting of *Dicksonia antarctica*, *Alsophila australis* and *exelsa*, and a handsome specimen of *Cyathea dealbata*. Accompanying these were *Carludovica latifolia*, a dwarf *Pandanus* with plaited pale green leaves; *Philodendron crassinervium*, with pointed lanceolate leaves, of which the midribs form a very thick band, flat on the upper side; *P. macrophyllum*, with broad *Caladium*-like leaves; and *Pothos acaulis*, 4½ feet in height, and very luxuriant. The Stag's-horn Fern, *Platyceium alcicorne*, was also looking very healthy. In a corresponding shady nook on the lake side of the walk, there was a beautiful group of the Bird's-nest Fern, of which the lively green fronds indicated that the plants were profiting by the free air and liberty which they thus enjoyed. Associated with these we noticed *Philodendron Simsii*, *Cordylone indivisa*, which stands the weather well out of doors in summer and autumn; the *Loquat*; an *Alsophila exelsa*, spreading its fronds over a space 9 or 10 feet in diameter; *Latania borbonica*, and that graceful *Palm Seaforthia elegans*, which has been making fresh fronds throughout the season.

Facing the lake, but on the opposite side of the walk, an extremely effective oblong bed was planted as follows:—Along the centre were five circles, the two end ones filled with *Alternanthera amœna*; the centre circle with *Lady Cullum*, variegated *Pelargonium*, and the other two respectively with *Pelargonium Aureum*, and *Crystal Palace Gem*. These circles were surrounded with *Veronica incana*; a mass of *Alternanthera paronychioides* filling up the space between the circles and the edging of Mrs. Pollock *Pelargonium*, margined with *Sempervivum californicum*. In a trial bed of *Cannas* at the back of the oblong bed just mentioned, *Canna grandiflora floribunda* was remarkable for its dwarf habit and fine flame orange-coloured flowers, paler in colour at the base of the petals. Another variety called *Imperator*, in the same bed, was of extremely vigorous growth, having foliage not unlike that of a *Banana*.

The next beds were circles planted with *Caladium cucullatum*, and the handsome *Rice-paper plant*, *Aralia papyrifera*; the ground under the latter was carpeted with the well-known *Cyanotis vittata*, or *Tradescantia zebrina*, the whole being edged with *Vinca elegantissima*, surrounded with *Alternantheras*. Passing onwards we reached a panel bed similar in design to that already described, only the circles at each end, and that in the centre, were filled with *Gold* and *Bronze Pelargoniums*, *Arab*, *Zebra*, and *Egyptian Queen*, the other two circles being planted with *Snowdrop* and *Queen of Queens*, white-edged varieties. As before the circles were edged with *Veronica incana*, the panel was filled up with *Alternanthera amœna*, and the whole edged with the pretty *Sempervivum californicum*. This bed, like the other, had been very effective, but the *Pelargoniums* had lost much of their beauty.

A lunette bed next claimed attention. This was planted with *Polymnia grandis* forming a mass in the centre, with little blocks of the variegated *Japanese Maize* and *Amaranthus melancholicus ruber* in front, *Echeveria secunda glauca* making a beautiful edging. A similar lunette was filled with *Solanum laciniatum elegans*, with beautifully cut leaves, and large flowers, backed with *Encalyptus globulus*, and having *Wigandia urens* in front, the edging to the whole being *Veronica incana*.

We now come to a new feature—namely, a series of mounds on the shores of the lake, chiefly covered with alpine plants, plants for the most part of small and even minute growth, offering a marked contrast to the bold luxuriance of the tropical vegetation around. One of these mounds was carpeted with *Antennaria tomentosa*, and the silvery groundwork which it forms was studded with *Sempervivum phiboloides* and atro-

purpureum. On the next mound Golden Feather Pyrethrum was interspersed amongst *Echeveria metallica* and *Sempervivum Donkelaari*, and at the back there was a plant of *Sansevieria zeylanica* in quite as good condition as it is seen in the best collections of ornamental-foliaged plants, though not so large. A third mound was covered with the charming little buttons of *Sedum glaucum*, dotted with a very effective *Sempervivum* said to be new, *Echeveria metallica* beautifully coloured, and *Sempervivum phioloides*. On other mounds the above plants were repeated in various combinations with each other, and with several more plants of a similar character. Of these *Sedum virens*, *Gnaphalium dioicum nanum*, and *Sedum ochroleucum*, formed very pretty dense tufts, those of the last named, in particular, being almost like small berries. *Sedum brevifolium* is also pretty at the end of the season.

A bed of *Pelargoniums* occurred on the grass not far from the alpins. This was prettily divided into several compartments by a zigzag band of Silver Thyme, and in these were growing several *Pelargoniums* for trial. John Heaviside, scarlet, looked very well, and King of Nosegays had fine trusses of broad-petalled flowers. After passing a splendid bed of Castor Oil plants, and a very fine one of the variegated *Acer negundo*, edged with Golden Feather Pyrethrum, we reached a magnificent plant of *Musa ensata*, with leaves 12 feet long, in a sheltered nook at the junction of two walks. This was planted on a slight elevation above the surrounding turf, and the ground beneath carpeted with the frosty-leaved *Antennaria tomentosa*.

Near this point a large piece of rockwork is in course of formation, the ground has been thrown up so as to form a bold promontory at the head of the lake, facing the south and south-east, and judging from the work already executed, an excellent imitation of natural sandstone rocks will be produced. They appear as if there had been a "fault" near the lake, and the dip of the strata is seen to be inland. This rockwork is to have basins and ledges for the growth of alpine and other suitable plants, and there are to be some small waterfalls; but very judiciously no attempt has been made to imitate mountain scenery by representing a mountain by a molehill, and a lofty rock by a large stone. Rockwork is one of the most difficult forms to imitate, so as to produce a good effect in a garden, for on a large scale it is both expensive, and occupies a large amount of space, and if small it becomes ridiculous, unless of an unambitious character. At Battersea, however, so far as we can perceive, neither too much nor too little has been attempted, and when the work shall have been finished, and the various parts clad in their living garments, we have little doubt the effect will be very pleasing. Still many shrubs and trees will have to be planted, and some years must elapse before that effect can be fully realised, for it will be a work of time to shut out Clapham Junction, with its engines speeding in all directions, and the tall chimneys beyond—the outposts of an army ever on the advance. But even at this point, whilst looking at the many spires lighted up by the autumn sunset, one is reminded by the voices of thousands of starlings seeking their roosting places on the island in the lake, that though so near a great city, our wild birds have sought and found a home where the rich and varied vegetation of the far south is flourishing in a strange land.

Returning from the rockwork there still remains a long series of beds, but as it would be tedious to particularise the planting of each, we shall only notice some of the most effective of the plants employed. Of these *Solanum robustum* was one of the most ornamental. It is a tall-growing species, with large, very spiny leaves covered, like the whole plant, with cinnamon-coloured down, and has a noble appearance. *Solanum amazonicum* is of much dwarfer habit than the preceding, and its leaves are small, and have also a cinnamon tinge, but the flowers are large and ornamental, being blue with yellow stamens. Another *Solanum*, very dwarf in growth, and set with a multitude of spines, was interesting by its prettily marbled green and white fruit. *Cannas*, including the dark-leaved *C. rubricaulis*, *Wigandias*, *Castor Oil* plants, *Indiarubbers*, and *Nicotiana wigandioides*, were everywhere most luxuriant. Several kinds of *Senecio* were also noticeable, more particularly *Senecio Ghiesbreghtii*, with large and beautiful green leaves, and which in January produces enormous corymbs of golden flowers; and among *Abutilons* there were several pretty kinds, especially *A. sulphureum*, with yellow flowers. *Bocconia frutescens*, which was employed at one place as an edging, also deserves mention on account of its large and elegantly lobed foliage. From one point of the walk leading from the rockwork

to the entrance, a view is obtained across a smaller lake than that in which the starlings' island is situated, and the masses of dark and green-leaved *Cannas* backed up by various trees and shrubs, with a small bed of *Salvia argentea* on the margin, had a very pretty effect.

Before quitting the subtropical department, it must be mentioned that a terrace walk has been formed on a portion of the south and west sides, giving an elevation of 20 feet and from this a view can be obtained over those gigantic *Bananas* referred to in a previous number, and a large number of the beds. The whole of this has been raised since Midsummer, 1867, principally by means of the soil obtained from the excavations for the new metropolitan railways, and which, consequently, was of a very mixed character. Notwithstanding the heat of the summer, the *Hollies* and other shrubs, though only removed in June, exhibited no sign of having been transplanted, not even a withered leaf. Of course, little basins were formed round each to hold water, with which they were plentifully supplied.

Besides the subtropical garden, Battersea Park has presented during the season another great attraction in the bedding plants which have adorned the sides of the drives and walks, especially on the river side of the Park. A ribbon border in the American ground which had been very effective earlier in the season, was planted thus—edging blue *Lobelia*; 2, Flower of the Day *Pelargonium*; 3, a double row of *Christine*; 4, *Cy-bister*; 5, *Waltham Seedling*, backed with *Double White Pyrethrum*. In other arrangements, the dwarf *French Marigolds* had been very useful all through the dry weather, but the rains which succeeded rendered their growth rampant. The semicircle at the principal entrance on the north side afforded a brilliant display of colour up till very lately. Both of the quadrants were planted alike; it will, therefore, be sufficient to take one. In shape the beds were what may be called (to save the use of a less generally intelligible term) oblong, with the sides following the curve of the semicircle, and with the ends swept out to correspond with the curve of the small circular beds with which these oblongs alternate. The first bed was planted with *Lucius Pelargonium*, scarlet, and like all the rest was edged with *Golden Fleece*, and bordered next the grass with *Cerastium tomentosum*, cut closely to a regular width of 4 inches; bed 2, a circle, was planted with *Christine*; 3, oblong, with *Lady Constance Grosvenor*, scarlet; 4, with *Waltham Seedling*; 5, with *Excellent*; 6, with *Christine*; and 7 with blue *Lobelia* and *Mrs. Pollock Pelargonium* in alternate bands across the bed, the blue flowers of the *Lobelia* setting off to great advantage the tri-color leaves of *Mrs. Pollock*. At the back of these beds there was one long continuous bed, as it were embracing them. This was divided into triangles by zigzag bands of *Alternanthera versicolor* with similar bands of *Cerastium* on each side of it, the triangles being alternately filled with *Harry Hieover*, dwarf scarlet *Pelargonium*, and blue *Lobelia*. The whole was edged with *Golden Feather Pyrethrum*, and backed with two rows of *Golden Fleece Pelargonium*, then *Waltham Seedling*, and another scarlet variety of stronger growth.

The last arrangement which we shall notice, was one near the West Lodge, which continued in fine condition till very lately. Though simple it is not very easy to give an intelligible description of it without an engraving. It consisted of a circle bordered with *Echeveria secunda glauca*, within which there was a ring of *Alternanthera amena*. The large circle was centred with a small circle of *Gaiety Bronze Pelargonium*. Another circle was then described with a longer radius, filled in with *Coleus marmoratus*. The broad ring between the circumference of this second circle was then divided by segmental bands of *Alternanthera*, and the panels thus formed planted with blue *Lobelias* and *Pelargoniums* of the Gold and Bronze section. Radiating from the circle are seven somewhat club-shaped beds, the whole of which were bordered with the pretty variegated *Euonymus radicans*, very dwarf, compact, and forming an excellent permanent edging. The second rows in the different beds consisted of *Lobelia*, or *Alternantheras*; the third rows of *Golden* or *Silver*-variegated *Pelargoniums*; and the centres of rose-coloured and scarlet kinds, the beds on each side of the central one pairing with each other.

BELLE DE FONTENAY RASPBERRY.

THE Raspberry, useful as it is for jam and many other purposes, does not rank equal in importance with many other garden fruits, consequently but little attention is given to in-

creasing the number of its varieties; yet the superiority of Belle de Fontenay to most of the older kinds tends to show that the Raspberry is capable of improvement both in size and quality. Why should we not have our Cockcomb and Duc de Malakoff amongst Raspberries as well as in the family of its great rival the Strawberry?

Whether the present standard of excellence amongst Raspberries will ever be much improved upon is not of such importance as that all who care for this fruit should have the best kinds at present in cultivation; and amongst these I am strongly inclined to assign the first place to Belle de Fontenay, a sort possessing such great merit as to render it quite worthy of the certificate which was awarded it when exhibited at South Kensington, and which was my only guide in ordering it about three years ago. I am sure all who have grown it will agree with me as to its excellence both as a summer and an autumn fruit, for it is a double-fruited kind, producing its large dark-coloured fruit in large clusters on the tips of the current year's wood, which, when the autumn crop is gathered, is shortened to the usual length preparatory to yielding an abundant crop of fruit from side shoots in the following summer; after this the exhausted canes are cut away, just as is usual with those kinds which yield their fruit only in the summer.

As regards the habit of growth of Belle de Fontenay, nothing can be more healthy than its sturdy robust canes of about 5 feet in height. It is worthy of notice that, although this kind, in common with other late-fruited varieties, has produced but little fruit during the present autumn, yet what fruit has been obtained was very superior in flavour to that of ordinary seasons; for, generally speaking, the second crop of Raspberries, owing to its acidity, is only useful for tarts and creams.—EDWARD LUCKHURST, *Egerton House Gardens, Kent.*

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 20TH.

FRUIT COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. Prizes of £2 and £1 were offered at this meeting by the Rev. George Kemp, of Sevenoaks, for the best and second best six bunches of Grapes, grown in the open air against a wall without any protection whatever. The following are the names of the six exhibitors, who sent in all seven collections:—Mr. Lynn, of Hedor, who had Black Hamburgh; Mr. Booth, F.R.H.S., New Road, Hammersmith, sent Black Prince; Mr. Earley, of Digswell, sent well-ripened russet specimens of Royal Muscadine; Mr. Dewdney, of Dorking, large handsome bunches of Black Prince, and well-developed bunches of White Frontignan, which, however, were not sufficiently ripe; Mr. Charles Lee, of Hammersmith, and Mr. Jackson, of Titey Park, Godstone, Black Hamburghs; and Mr. Foster, of Leigh, Essex, who exhibited a basket of remarkably fine and well-ripened Muscadine Grapes, which obtained the first prize. The second was awarded to Mr. Lynn, for his Black Hamburghs, which were remarkably well grown, but were inferior in flavour to the Royal Muscadine.

Mr. Darlin, of St. Peter's Vineyard, Bury St. Edmunds, sent a collection of nine distinct varieties of Grapes, grown in his vineyard in the open air, which in some instances were very highly ripened. Among these were Black Hamburgh, White Muscadine, Black Muscadine, and Miller's Brandy. There was an immense bunch of a white variety called Miller's Royal Muscadine, but which was in reality White Nice. A special certificate was awarded for the collection.

Mr. Parsons, gardener to R. Attenborough, Esq., Acton Green, was the only competitor in the class for Muscat Hamburghs, and received the first prize.

G. F. Wilson, Esq., of Gishurst Cottage, Weybridge, exhibited examples of Black Hamburgh and Chasselas Musqué from a cold orchard house, the former well-ripened and well-flavoured, and the latter distinctly Muscat.

In the class for the best three dishes of dessert Apples, there were ten competitors, all of whom sent unexceptionable exhibitions, which on close examination resulted in the first prize being awarded to Mr. Whiting, of The Deepdene, for Sudbury Beauty, Cox's Orange Pippin, and Ribston Pippin. Mr. S. Ford, Leonardslée, Horsham, was second, with Blenheim Pippin, Cornish Gilliflower, and Ribston Pippin.

Mr. Robert Fenn, of the Rectory, Woodstock, exhibited thirty-six varieties of Potatoes, of which three of Mr. Fenn's selection were cooked for the judgment of the Committee. Of these, Almond's Yorkshire Hero was found to be of unusual excellence, and to it a first-class certificate was awarded, and Mr. Fenn received a special certificate for the collection.

In the class for the best three dishes of dessert Pears there were seven competitors. The first prize was awarded to Mr. Marcham, gardener to E. Oates, Esq., Hanwell, and the second to Mr. S. Ford.

H. Webb, Esq., of Redstone Manor, exhibited a dish of Brown Turkey Figs of the second crop, which were excellent in flavour.

Mr. Hill, of Keele Hall, sent bunches of Black Morocco, Champion

Hamburgh, and Black Barbarossa. Mr. Lovegrove, of Maidenhead, sent a bottle of English champagne wine made from Black Hamburgh Grapes grown out of doors. It possessed more of the character of a French than an English wine, and was so highly appreciated by the Committee as to receive a special certificate. Mr. Cox, of Redleaf, exhibited a dish of Benrre Clairgeau, which for size and beauty have been rarely surpassed, and to which a special certificate was awarded. Mr. Marcham, gardener to E. Oates, Esq., of Hanwell, sent a dish of Cox's Golden Drop Plums, which received the commendation of the Committee for the admirable way in which they had been kept.

John Cox, Esq., of Clinton House, Weybridge, sent samples of a thin-shelled Walnut, possessed of excellent flavour. Mr. Lannon, of Bourne End, Maidenhead, sent two varieties of Walnuts of a very large size.

Mr. Bains, of Thingwall Hall, sent a collection of Pears and two dishes of enormous Mère de Menage Apples, which received a special certificate. In the class for the best collection of Pearmain Apples, Mr. Cox, of Redleaf, received the first prize; and Mr. Chaff, gardener to Alfred Smee, Esq., F.R.S., received a special certificate for a fine collection. Messrs. Veitch & Son received a special certificate for a very complete collection of well-grown Endive. Messrs. Smart and Mein, of Kelso, sent a seedling Beet, said to be a cross between Dewar's and Pine Apple, but the Committee were of opinion that it was inferior in quality to either.

FLORAL COMMITTEE.—The awards made on this occasion were but few. The specimens sent were by no means inferior, but owing to the advanced season of the year they were not so numerous as usual. Mr. Earley, of Digswell, brought out specimens of an Ipomœa, raised from seed sent from India; the flowers about an inch in diameter, of a pale buff colour, with a purple centre; the foliage small and palmate; the plant of dwarf habit. Mr. Sherratt, gardener to J. Bateman, Esq., Knypersley, sent a beautiful and well-cultivated specimen of Pleione lagenaria, and a special certificate was awarded it. From the Society's gardens two hybrid Colchuses of great promise were awarded first-class certificates; their names were Princess Royal and Prince of Wales. A seedling variegated Fuchsia, named Regalia, was also exhibited from the Society's gardens; it has rich golden foliage, deeply veined with red; the mixture of colour has a very pleasing effect.

Mr. Church, gardener to J. Hodgson, Esq., sent seedling Variegated Pelargoniums—J. Hodgson, Golden Harvest, Golden Sovereign, Advance Guard, and Prince Arthur. The Committee unanimously agreed that it was too late in the season to judge of the merits of Zonal Pelargoniums. Mr. Walking, nurseryman, Lewisham, also sent two seedling Variegated kinds, named Miss M. Walking, a highly-coloured variety of great promise, and Viceroy of Egypt, too much like others of the Bronze Zonal section. Mr. Hill, gardener to R. Hanbury, Esq., The Poles, Ware, exhibited a fine specimen of Vanda cœrulea, which was awarded a special certificate.

Mr. Williams, of Holloway, sent a fine specimen of Aralia Sieboldi variegata, which in 1861 received a label of commendation in consideration of its great beauty and usefulness as a decorative plant, and its having proved to a certain extent hardy, surviving the last four winters in Battersea Park; the Committee decided that the label of commendation should be superseded by a first-class certificate. Mr. Williams also sent Aralia aureo-variegata, in the present condition not equal to A. Sieboldi; a second-class certificate was awarded it. A special certificate was given for his collection of Orchids.

Mr. Ford, gardener to E. Hubbard, Esq., sent a collection of seedling Zonal Pelargoniums. Mr. Parker, Nurseryman, Tooting, exhibited a beautiful specimen of Zygopetalum Gantieri, very distinct, and a first-class certificate was awarded. Mr. Green, gardener to W. W. Saunders, Esq., exhibited a small collection of curious and interesting plants, which was awarded a special certificate.

Mr. W. Paul, Waltham Cross, sent specimens of three of his well-known seedling Zonal Pelargoniums, Red Admiral, Prince Silverwing, and Silver Swan; the latter a white-edged plant, the flowers also white.

Messrs. Veitch sent a large specimen of Ampelopsis Veitchii, a useful climber for covering a wall, having small foliage not unlike Ivy; also Ampelopsis japonica, another climbing plant, with rich foliage of bright autumnal tints; it received a first-class certificate. Mr. H. Veitch brought out specimens of Abutilon Thompsoni from the open ground, showing no injurious result after the previous night's frost, thus proving the plant anything but a stove plant, as it was first supposed to be.

Mr. Green brought specimens of bright flowers of Begonia Martynia, grown in the open ground. The Chairman announced that J. Bateman, Esq., had sent thirty seedling plants of Rhododendron javanicum for the ballot. Mr. T. D. Fish sent leaves of the true Claret Vine, the deep yet bright ruby tints of which were much admired. The introduction of these highly-coloured leaves led to a suggestion, that an interesting exhibition might be made next October by the arrangement of many plants so beautifully variegated and ornamented by their rich autumnal tints.

GENERAL MEETING.—W. Wilson Saunders, Esq., F.R.S., in the chair. One new Fellow was elected, and the Birmingham Horticultural Society admitted into union. In reporting the awards of the Fruit Committee, G. F. Wilson, Esq., F.R.S., stated with reference to Walnuts, that when these were in a half-dry state they might be made almost as sweet and plump as when fresh-gathered, by soaking them

in warm water for half an hour and then placing them for six or seven hours in salt and water.

Mr. Wilson Saunders remarked, that the frost of the previous night had nearly stopped out-door gardening. In Surrey the thermometer had fallen 11° or 12° below freezing point, and all the half-hardy bedding plants had been destroyed, but on high and dry situations the frost had been so much less severe that even Dahlias had been scarcely touched. He, therefore, recommended those who wanted to preserve such plants to a late period, to choose for them situations as high and as dry as possible, and then the chances of keeping up a late display would be much greater than if the plants were otherwise placed. After noticing the variegated *Aralia Sieboldii* as a very desirable plant for winter decoration, as it had proved hardy at Battersca, Mr. Saunders referred to *Ampelopsis Veitchii* as a valuable addition to hardy climbing plants, though he would not venture to say that those who had an affection for the old English Ivy, with its glossy leaves and beautiful markings, would substitute the one for the other. The leaves of the Claret Vine were then pointed out as being very beautiful in colour when dying-off, but Mr. Saunders observed that those of another Vine that had been sent home from Malaga, but of which he did not then remember the name, were even more remarkable for the beauty of their colours when dying-off, being then yellow and red.

The proceedings closed with the announcement that the next meeting would take place on the 17th of November.

JERSEY AUTUMNAL FRUIT SHOW.

WEDNESDAY, October 14th, was one of those sunny autumnal days, so frequent at this season in favoured Caesarea, and on that day at two o'clock was opened the Autumnal Fruit Show of the Royal Jersey Horticultural Society. The spacious saloons of the Imperial Hotel—which, by-the-by, is admirably adapted for a show at this season, were crowded with the *élite* of the Island, who thronged around the tables covered with fruit of unusual excellence and beauty. The tables for the fruit measured about 150 feet in length, and 4 feet in width, literally covered with Pears, Apples, Grapes, Plums, Peaches, &c., and about 100 feet of table devoted to vegetables. What struck me forcibly was the number of varieties and the correctness with which they were named.

I will first notice the Chaumontel Pears, for which the Island is so justly celebrated. There were four classes for these—sixes, twelves, twenty-fives, and fifties, in all which classes the prizes were keenly competed for. The first prize fifty were truly magnificent fruit, of perfect shape, highly coloured, and of unusual size, as the weight—viz., 6½ lbs., demonstrates. Next came twelve Uvedale's St. Germain, here labelled Belle de Jersey, weighing 26 lbs.; twelve Pound Pears, weighing 15 lbs.; twelve Van Mons Léon le Clerc, 10 lbs. 12 ozs.; twelve Beurré Clairgeau, 16 lbs.; twelve Duchesse d'Angoulême, 15 lbs. 3 ozs.; six Maréchal de Cour, 6 lbs. 2½ ozs.

The above are the few of the crowded state of the rooms enabled me to take note of the weight of, but there were fine specimens among others of the following varieties:—De Tongres, an October fruit of great beauty and first-rate flavour; General Todtleben, good; Marie Louise; Beurré d'Arenberg (strictly Glon Morceau); Bergamotte de la Pentecôte, Passe Colmar, Winter Nelis, Beurré de Rance, Crassane, Pengetley (February to March), Soldat Laboureur, Beurré Flon, very large, resembling Duchesse d'Angoulême; Doyenné du Comice, very large and first-rate; Graoslin, good, but thick-skinned; Spring Beurré, Groom's Princess Royal, Swan's Egg, Grosse Calchasse, Columbia, 1 lb. 4 ozs. each, a good December fruit; Forelle, Beurré Gris de Lunan, very fine; Beurré Six, too green; Beurré Diol, fine; Vanquelin, Beurré Bachelier, very large and first rate; Colmar d'Arenberg, large and fine, but second-rate, besides many others.

One exhibitor showed a collection of sixty-seven varieties of Apples, and sixty-four varieties of Pears.

Apples were not unusually fine. The varieties most esteemed seemed to be Old Pearmain, Cornish Gilliflower, Ribston Pippin, Nonpareil, Golden Russet, Royal Russet, Hammond's Pippin, a Jersey-raised variety; Hooper's Seedling, also Jersey-raised; Guernsey Pippin, Guernsey-raised; Pigeonnet, Golden Pippin, Court of Wick and Lemon Pippin, much esteemed for culinary purposes on account of its long-keeping qualities.

I have refrained from giving your readers the names of the prize-winners, as this would render my communication lengthy, and they only possess a local interest; but the grower of the fifty Chaumontels, Mr. G. De Carterot, St. Peter's, and Mr. G. Thomas, the exhibitor of the collection of Apples and Pears, deserve the distinction of being named here.—*Veritas, Turf Bank, Jersey.*

SELF-SOWN PELARGONIUMS.

"A. R. C." wishes to know whether the seed of the Pelargonium has been found to sow itself in the open ground, and spring up like any common annual as it has done this year, and whether such self-sown seeds are not likely to produce more hardy plants than seeds sown under cover or than cuttings?

[This has been an uncommon year, and it has not been so

common for Pelargoniums to self-sow themselves in the open air hitherto. We are sorry to say that our previous experience tends to prove that plants so raised will not be more hardy than seedlings or cuttings of the same kinds raised under glass, and gradually hardened off. Little can be done to acclimatise in this way, but the little is worth trying, and you may be more successful than some.]

POMOLOGICAL GLEANINGS.

Nothing can show more plainly the climate that AMERICAN APPLES enjoy than the effect, on some of the choice varieties, of the past hot summer. Newtown Pippins are clear and spotless. Melon Apples are large and beautiful. Some little trees of this kind, only 2 feet in height, on English Paradise stocks, are staggering under a dozen each of very large fruit. The Washington, a very large early autumn Apple, melting like a Peach, so that the juice runs down the knife in cutting it, has also been very fine. A dozen other kinds of the American race of Apples have been equally fine. In ordinary seasons, unless in gardens in the south of England, with warm soils and aspects, these fine tender-fleshed Apples should be trained against walls or grown in orchard houses.

— "My attention was drawn to the LATE BLACK ORLEANS PLUM, a fine but neglected sort, by your mention of Sandalls Plum, which seems to be of the same race, and ripens at the same time—viz., about the middle of October. It is mentioned in the Catalogue of the Horticultural Society, 1831, but not described. It is round, sometimes a little inclining to oval, of a deep purple, with yellow flesh, and very rich and good. It is not such a wild grower as Sandalls, which forms a large tree, and comes earlier into bearing. On tasting and comparing it with the latter, it seemed a superior variety in size and flavour. Its designation in the above catalogue is 'Orleans Late or Black.' In the edition of the same catalogue for 1842, it is described as round, first quality, second size.—T. R."

— HEAT is the principal working agent in producing fruit as well as wood. We can approximate very nearly the amount of heat required to produce any given variety of Apple. Nearly all Apples blossom at or about the same time of the month in corresponding latitudes. In the latitude of Boston, the average season is near the 25th of May for the full blossom of the Apple, with a mean temperature of 54.1° Fahrenheit. The Early Harvest blossoms full on the 25th of May, having five days to grow in the month of May. Five days multiplied by 54.1° is equal to 270.5° of heat. The mean heat of June is 62.8° × 30 days = 1,884°. Twenty-five days in July to its ripening, with a mean heat of 69.1° 1,726.5°. By this estimate, we find that it requires about 270.5 + 1,884° + 1,726.5° = 3,884° of heat to ripen the Early Harvest. The Red Astrachan and the Sweet Bough, ripening about twelve days later, require those twelve additional days of heat more than the above variety. 69.1° of mean heat by twelve days = 829.2 + 3,884° = 4,713.2° aggregate amount of heat required to ripen the Red Astrachan or Sweet Bough. The Porter ripens about the 15th of September; requires in May 270.5°, in June 1,884°, in July 2,170°, in August 2,048°, fifteen days in September 93.9° = 7,313° of heat to ripen after its time of blossoming.

— THOSE pretty fruits, POMEGRANATES, are this season ripening in the open air at Droppmore. When we were there a few days ago our veteran friend, Mr. Frost, pointed out three beautiful fruits of a fair average size, colouring well, and almost ripe, growing on a fine old plant of the double scarlet variety against a wall near one of the houses. This plant, Mr. Frost stated, flowers most profusely every season, and nearly everyone knows how handsome the flower of the Pomegranate is, and when that is succeeded by the fruit, it is doubly interesting. There is another plant of the single variety, growing beside this one, on which there are no fruits. It is somewhat singular, and it has been observed before, that the double variety should be the freest-fruiting. The fruits themselves are more ornamental and curious than useful, more celebrated by their name in biblical history than they are for their wonderfully fine qualities as an edible fruit. Indeed, there is very little to eat about them, or rather in them; the numerous seeds are very prettily tinged with rose, and there is a slight but agreeably sweet perfume, but for taste, after sucking the seeds, there is a strange disappointment, for there is nothing better than sugar and water. Mr. Frost had also little half-standard plants of the dwarf Pomegranate (*Punica nana*), flowering most profusely in

small pots. They are used for decoration, and are very pretty. This is the most suitable kind for the purpose.

— At the meeting of the Fruit Committee of the Royal Horticultural Society on Tuesday last, Mr. Rivers, of Sawbridge-worth, exhibited some very remarkable examples of DWARF APPLE TREES on the English Paradise atock. These varied from 18 inches to 2 feet high, but one or two slightly exceeded the latter height. For such small trees the number and size of the fruit with which they were laden was most extraordinary, and when they had been dispatched from the nurseries there were many more fruit on them, which had been shaken off in the journey, so that it was impossible to say how many really belonged to each. Mela Carla, Cos's Golden Drop, and Stamford Pippin had each from six to eight fruits, without counting the "unattached;" Calville Blanche a dozen; and the beautiful Pomme d'Api, or Lady Apple of the Americans, nineteen, and there had been several more on the tree. What advantages such small trees offer to those having but a small extent of garden ground! Not only can a large amount of excellent fruit be secured from a small space, but the number of varieties that can be grown may be multiplied from ten to twenty-fold, thus securing diversity of flavour, successional ripening, and a vastly increased amount of interest to the cultivator. The collection received, as it well merited, a special certificate.

PEACH CULTIVATION.—No. 4.

ANOTHER mode of fan-training is that given below, and it is, perhaps, the best for long pruning; the branches are also originated with greater certainty. It is not, however, by any means a common mode of training—at least not generally practised; for Peach and Nectarine trees are too often trained on no principle whatever, only an attempt is made to cover the wall with branches and bearing wood, no regard being paid to the maintenance of an equality of vigour between all the branches. It is no uncommon occurrence to find trees with all the vigour on one side or in the few upright branches, the other side or the lower branches making hardly any growth.

By this mode of training the maiden plant is cut back to two or three good eyes or buds 9 or 10 inches from the ground, and in the course of the following summer we have two vigorous shoots, all others being rubbed off. We have thus the form shown in *fig. 5*, *a a* being the two side shoots, which are brought

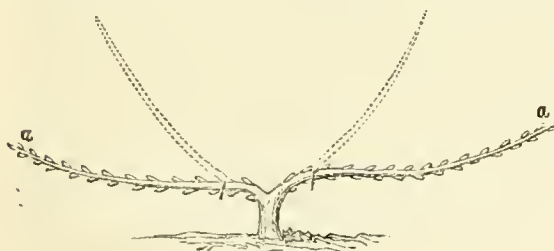


Fig. 5.

down to the horizontal line by degrees, but in summer trained more upright, so as to give them vigour, as is shown by the dotted lines.

In autumn the shoots *a a* should be cut back to three buds

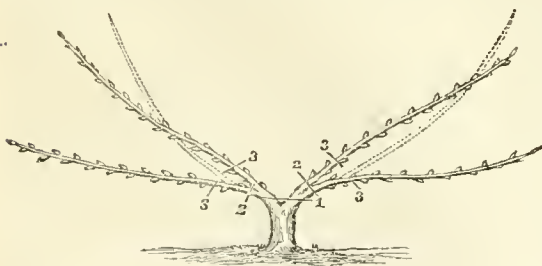


Fig. 6.

each, and not further from their respective bases than 3 or 4 inches. From each of these shoots two others will be obtained in the following year. The tree in autumn will be as

represented in *fig. 6*. The lower two shoots, in order to give them vigour, are to be trained more upright, as shown by the dotted lines; whilst the upper two shoots are trained more horizontally, so as to keep them from appropriating all the vigour of the tree or becoming more vigorous than the lower shoots, which ought to be the strongest. Unless the ends of the lower branches were thus turned upwards in summer, and those of the upper ones depressed, the latter would grow much stronger than the former, and this ought to be guarded against.

We have now four shoots, the maiden tree by the first cutting being divided into two branches, and by the second cutting it is divided into four; and these, being cut back at the winter pruning, are to be divided into eight, as shown in *fig. 7*. The figures opposite the bars correspond to the number of the pruning or cutting-back.

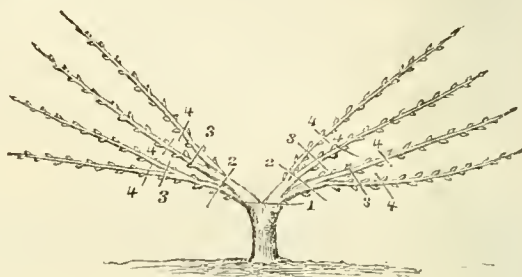


Fig. 7.

The four shoots on each side of the tree being cut for the fourth time to three eyes will produce two shoots each, or in all sixteen strong shoots. The lowest of these must be encouraged by training them during the growing season in a more erect position than the shoots from the upper branches, and whatever laterals they push must be kept closely pinched back to one joint.

By autumn the shoots will be strong, and must be put in their proper position on the wall. This will be done by drawing a semicircular line, taking as a centre the height of the lowest branches from the ground, and the centre of the stem at that height; then with a line 5 feet long describe the dotted line *a b*, *fig. 8*, and divide this into 1-foot distances, calculating from the lowest branches on each side, which should be 1 foot from the ground. This will give to the whole sixteen shoots a distance, where they cross the dotted line, of 1 foot each, and that number of shoots or branches will entirely cover the wall within the radius *a b*. These shoots will need to be trained straight from the divisional parts on the dotted lines, calculating from the lowest shoot on each side and then upwards, training each directly to its corresponding number of the divisional parts on the dotted line, shown to the left of *fig. 8*, from 1 to 8.

In autumn the shoots, if of equal vigour, will not need to be shortened farther than to secure for each a strong leader. This shortening, as to extent, will be determined by their strength. If strong, their length may be shortened one-third; if moderately strong, one-half; or if weak two-thirds, always cutting to a wood bud, or to a triple bud which will have two fruit buds, one on each side of the central one—a wood bud.

In the following spring the shoots pushing from those shortened will need to be regulated. One shoot must be trained from the end of each as a continuation of the shoot or branch, and below it others a foot apart along the branch, commencing at 6 inches from the rise of the branch. Take out the points of all other shoots at the second or third joint, and keep them closely pinched back to one joint throughout the season, all foreright shoots or brestwood being disbudded or rubbed off closely. The shoots left at 1 foot apart are not to be stopped until they have grown 10 inches, then take out their points, and stop all laterals at the first joint. The leading shoots must not be stopped unless they grow too vigorously, or more vigorously than the corresponding shoots on the opposite side; then by stopping and keeping closely pinched, also by depressing the over-vigorous shoots, a proper balance of vigour may be secured. The lowest shoots should, if anything, be more vigorous than the upper leading shoots; they must therefore have their extremities raised if inclined to grow less vigorously than the upper shoots, which, on the contrary, must be depressed.

When the shoots reach the semicircular line (for their annual treatment in respect of training does not vary from that of the previous year until they reach the dotted line), another leading

shoot or branch should be originated. This will be understood on reference to *fig. 8*. Each leading branch is to be there subdivided into two. An arc, *c d*, 20 feet in diameter, must then be described from the same centre as the first, with a line

10 feet in length. This is to be divided into 1-foot distances commencing from the lower branches, and there will be twice the number of divisions. By the dividing of the branches the wall will be furnished with branches at 1 foot apart. When

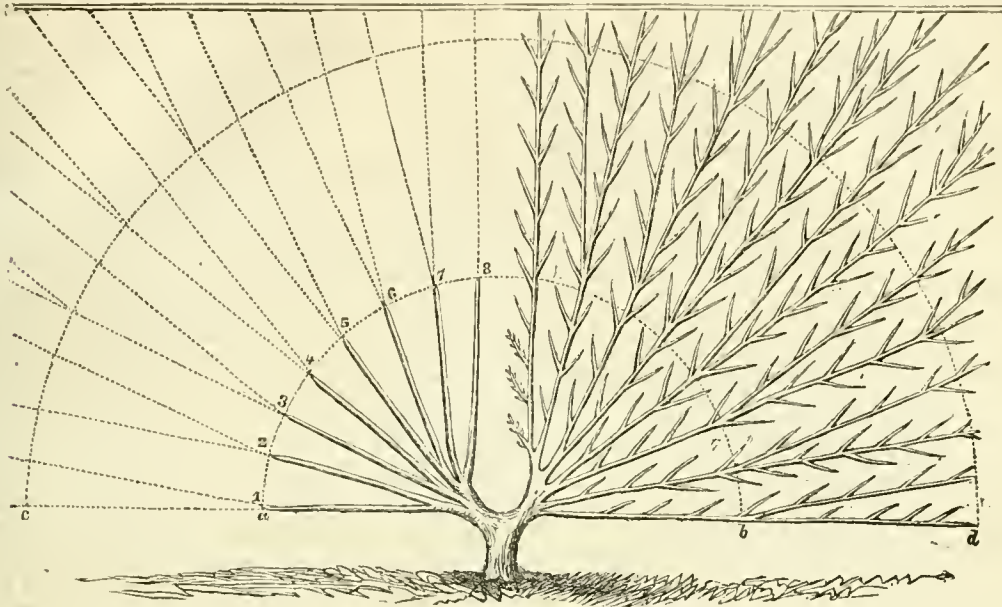


Fig. 8.

the branches are fully 1 foot from each other bearing shoots must be left on the under as well as the upper side of the

branches. The tree when full grown will appear as represented on the right of *fig. 8*.—G. ABBEY.

WORK FOR THE WEEK.

KITCHEN GARDEN.

ALL crops for winter storing should now be out of the ground and carefully packed in sheds, outhouses, and cellars. They will require to be looked over from time to time to see that there is no dampness amongst them. Onions are apt to rot about this time if too close together. When the ground becomes a little dry on the surface see that it is stirred among young crops of Winter Spinach, Onions, Lettuces, Endive, &c., and cut off any decayed leaves. If you are in the habit of mulching your beds of *Artichokes*, take care not to do more harm than good by covering the ground when it is too wet. Any time between this and Christmas will do when the ground is quite dry, and when it is in this state you may give a good earthing-up to the *Celery*; it will help to keep the frost from the plants. I would advise that *Shallots* and *Garlic* be planted now as a preventive against maggots. Some writers have maintained that the absence of all animal manures is the great secret, and that the bulbs can be safely planted in February or March if you choose for them a light rich border which has not been manured for a year or two; but when they are planted in the autumn they begin to form roots immediately, which extend widely before the tops begin to grow in the spring. There is then a great command of nourishment provided for the leaves as soon as they are ready to receive it. It is of great importance in the cultivation of all bulbs to let them, if possible, make a large portion of their roots before their leaves are excited. Again, when *Shallots* are planted out in the spring their roots and tops begin to grow simultaneously, and it sometimes happens that several weeks of favourable weather are then experienced, and the leaves in that case grow more rapidly than the roots, and exhaust the resources of the bulb faster than the roots can make up the deficiency.

FRUIT GARDEN.

I would urge the importance of early-autumn planting. If put off till December scarcely any advantage is gained over planting in March or April, but a great disadvantage will be experienced if severe weather should set in immediately afterwards. If the leaves are still somewhat greenish the check given by raising the plants will have a tendency to accelerate

the ripening of the wood; and if, after watering, the bark of the young wood shoots should present any appearance of shrivelling, hay or straw bands may be twisted round the stems of the trees, and the tops slightly shaded for a few days with fronds of Fern, &c. The straw bands should be twisted hard; and for tender trees they will be serviceable in moderating the rays of the sun in summer and in checking the severity of frost in winter. If, in addition, the roots are well mulched with dry litter they will grow all winter, and thus be well fitted to supply the expanding buds in spring. In many gardens the replacing of the old trees should be gradually effected. I say gradually, because frequently gardeners get themselves into trouble by clearing away too much at a time, and thus rendering the supply deficient until their young trees come into bearing. In planting care should be taken to select the most approved varieties. The improved varieties of Pears should be introduced into every garden either by planting or by grafting on established trees. In addition to their other good qualities most of them are great bearers and produce fruit when the trees are comparatively young. Such sorts are Marie Louise, Dunmore, Louise Bonne of Jersey, Duchesse d'Angoulême, Althorp Crasanne, Glou Morceau, Knight's Monarch, Passe Colmar, Ne Plus Meuris. These will supply the table with delicious fruit from September to the end of February, and in places at all favourable will succeed admirably as standards. The Easter Beurré and Beurré de Rance will furnish a supply until May, and even later if the fruit be preserved in jars. Both sorts will thrive in most places as standards, but well deserve an east or west wall. No Pears need be grown in favourable places on a south wall, with the exception, perhaps, of a Jargonelle to supply early fruit. This, along with the Citron des Carmes and one or two more varieties, will be quite sufficient for an early supply.

FLOWER GARDEN.

Those plants which require protection from frost through the winter should now have the framework of the protective structure put on, to be ready for immediate use in case of a change of weather. Mats are generally used for this purpose, but a good covering of reed or straw is preferable to them, and

not nearly so expensive. Plants in borders, such as tender *Lobelias*, *Tigridias*, &c., should be removed to a back shed and covered with sifted ashes or old tan, or the *Tigridias* may be placed thinly under the greenhouse stage. *Fuchsias* and *Salvias* in beds, if it is not intended to take them up, should have their roots covered with a thickness of 6 or 8 inches of dry peat earth or leaf mould, which in ordinary winters is quite sufficient for their preservation. *Fuchsias* more than almost any other plant deserve proper protection through the winter, for they make magnificent autumnal beds. Should the weather prove favourable the main bed of *Tulips* may be planted, though, in fact, any time between now and the second week in November will do. Where plants of *Polyanthuses* have been permitted to make three or four crowns standing high out of the ground (which they will do if not divided yearly), emitting from the neck of the plant roots that have assumed a green tint by exposure to the air—these, if worth the trouble, should be parted and reset without delay. *Auriculas* may now be placed where they are to winter. If protected by frames these should have bricks placed at each corner so as to raise them from the ground, to allow at all times a free circulation of air amongst the pots. Though *Pansies* when properly managed are seldom affected by cold, still beds of choice sorts intended for next year's blooming will be the better of having hoops stretched over them, on which mats may be thrown either in very wet or severe weather.

GREENHOUSE AND CONSERVATORY.

We must suppose the greenhouse now filled with all kinds of plants suited for nearly the same mode of culture. These ought to have as much air as the house and the state of the weather will permit. The inside should be kept as dry as possible, and the watering should be done early in the day. No plants should receive more water than is absolutely necessary, and the whole ought to be tidy, orderly, and free from dead leaves, insects, &c. The *Chrysanthemums* will have a superiority in the conservatory for some time, and well do they deserve it. The climbers must now be very gradually pruned as they go out of flower so as not to make any part too naked at once, and if the work is finished five weeks hence it will be time enough. Keep the house rather dry and close for the rest of the season.

PITS AND FRAMES.

These, now crammed with half-hardy plants, require the common routine of keeping them clean, sweet, and dry; even the night dews had better be kept from the plants after this time, but have the lights off all day when it does not rain. Close confinement is injurious to these plants at all seasons, and more so now when they are newly brought in from the open air. *Iridaceæ* require very little water after the first dose when they were potted until they appear above ground, and *Oxalises* and all bulbs newly potted require the same treatment.

—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Weeds.—Took the chance of dry days in the end of the week to run the Dutch hoe through all ground to which access could be had, as weeds were beginning to show after the rains, where not a vestige could be seen a few weeks ago. Used in time there is nothing like the Dutch hoe for destroying such weeds, when assisted with a few hours of bright sun. It is astonishing how long the seeds of weeds will preserve their vitality. We have been careful for years in preventing annual weeds from seeding, even when we could not well hoe, sending a lad with a basket to pull up *Groundsel* before the blooms opened; and yet after such hot weather and the warm showers we lately had, there will be no want of young plants coming up to prevent us ever arriving at that condition when we shall have to consider what we shall have to do by way of finding work. This season, for a fortnight, we could see clouds of *Thistle* down, and this, with the winged seeds of the *Groundsel*, will furnish occupation for weed-destroyers for many years to come. But for bird seed-eaters the case would be much worse. In many cases *Thistles* were cut down after the seed was dispersed. If cut before the plants bloomed, there would have been a better chance of injuring the old plant, at any rate the seeds would not have been carried into other people's ground. Cutting *Thistles* when young will at last destroy them; the root perishes when the top is not allowed to grow. Not long ago we saw a man laboriously digging and forking-up the huge roots of the *Cowthistle*, when the same object would have been attained by cutting the plant with a spud or hoe an inch or so below the surface. Some years ago we had a crop of this undesirable

weed, and among all crops, and it must either have been sown or waited to us from a considerable distance, as we could not find any plants in the immediate neighbourhood. Like the *Groundsel*, it seeds so quickly that it required two seasons to get rid of it, and we do not wish to see it again. It would well pay most counties to have an inspector of winged seed weeds, with the power to fine those who, choosing thus to injure themselves, also inflict a great injury on their neighbours. All seed weeds when allowed to reach the seeding state should, if possible, be burned. We have subjected *Groundsel* and *Thistles* to a burning heat from fermenting short grass, hot enough one would suppose to destroy the vitality of every seed; yet from the soil ultimately left from such a heap we have had multitudes of seedlings of these weeds. We could not have believed it if we had not carefully made the experiment. If such weeds with seeds on them are taken to the general rubbish heap the seeds will be brought back to the garden comparatively uninjured—that is, if such rubbish heaps are returned to the garden, as they generally are.

Cauliflowers.—Protected with their own leaves those coming in for use. Took up good strong plants with balls that had been planted or pricked out thickly, and transferred them to an earth pit, where protection can be afforded. If we can keep vermin away, these will be useful in winter and spring. Planted out small plants under hand-lights to stand the winter, having previously well dug, and turned, re-turned, and mellowed the soil. We put five plants of the largest into a hand-light to come in first, and for the bulk put in nine plants in each light, which will be thinned in spring to four or five plants. We generally leave five, as in earthing-up the four outside ones can be bent outwards to give the centre plant more room. We will either pot or prick out in a bed, or by the side of a wall, more to succeed those in glasses. We shall keep the tops of the glasses on for a few days, and then expose the plants fully until cold weather comes. Before planting we covered the soil within each light with rough road drift; this helps to keep the plants from damping-off in winter, and none of the slimy fraternity like crawling over such a rough, prickly surface.

Lettuce and Endive.—Tied up large plants in a dry day. If tied rather tightly across the top, the wet cannot well find its way in. Ten days before being wanted is a good time for such an operation. Slates, tiles, or boards laid over the plants do admirably for blanching *Endive*. Even straw or dry leaves do admirably, only rains will pass through and be apt to rot the blanched part. A few dry leaves, with a waterproofed covering, do well. We must soon raise some plants, and place them under protection; but we hope there will be no frost to injure them as yet. Hoed among young plantations, and planted out more by the side of fences, and on sloping banks, to come in in spring. Planted out a couple of rows of small plants of *Cos Lettuce* in front of the latest orchard house, as from the same place we had an invaluable supply last spring, before we could put them out of doors. Rather singular to say, the most exposed ground is more liable to the ravages of grubs than where it is more sheltered. On the open ground we have had to examine for grubs, and fill up frequently. Where we have planted several rows near a wall, not a plant has been touched.

Celery.—Earthen up a bed, after watering it well at bottom the day before. We shall want it in the beginning of November and later. What we have will last until then. We shall ere long earth up all our earliest, and will encourage the latest to grow until we have signs of frost.

Now is a good time to decide on the rotation of cropping, and for trenching, ridging-up, or digging all spare ground. As yet we have not a piece in fallow.

FRUIT GARDEN.

Much the same as last week. We have not quite housed all our fruit, and the quantity we obtain from *low bush trees* is astonishing. Some years ago we planted some common standards of Apples and Pears as a little orchard, but we rarely obtain anything from them, though generally the trees look well at this season, but the place is close to the farm, and some of the sheds being thatched, such clouds of birds visit these trees in the spring that not a fruit is left, and in some extreme cases the wood buds are so picked out that the trees make few leaves in the first part of the season. The low bush trees round the borders of the kitchen garden would share a similar fate, only the workmen help to keep the birds away, and a colouring of limewash early in spring helps to protect from the birds. We find this a great safeguard to the trees, and it is easily afforded these dwarfs. Had we our way, we would have some quarters of dwarf Apple, Pear, Plum, and Cherry trees. Nothing

would pay better, and it would be easy to protect them from early frosts and the attacks of birds. Some have wished we would give the size of a few of our trees, and the measure or weight of fruit obtained from them, but it is always unpleasant to do such things when the least suspicion can be created as to over-statements.

To all amateurs and the possessors of small gardens, growing trees in the bush or pyramidal style has this great advantage—that the trees can be examined, and have all that is necessary done without the operator needing to leave the solid earth, and steps and ladders are always inconvenient to those not used to them.

The next three weeks will be the best time for preparing and planting all such dwarfs. For first and ultimate economy no plan is better than station-planting. The spaces for each tree may be 4 feet to 6 feet square, or in diameter. In all cold clay soils it would be well to concrete the bottom for such a space, having that at least 15 inches below the surface, and the earth raised above it other 15 inches, but which will gradually sink. In planting, if the young trees have a tap root, either cut it off or bend it outwards, and the other roots should be neatly packed as much horizontally as possible, and from 6 to 8 inches from the surface. The chief use of concreting, or placing a flag-stone immediately beneath the tree, is that the tap roots cannot well go down, and if the tree grows too vigorously at first the roots can be cut as they extend beyond the concreting. Many would like to have these neat little fruitful trees, however, who do not see their way to obtaining stoness, lime, and gravel to make bottoms for the trees; and for their encouragement we would say they can succeed very well without them. Such stations may be made a little larger and well trenched, and the subsoil well stirred, but left at the bottom. Then borrow enough from the neighbouring soil, if at all good, or a little fresh soil if to be had, so as to raise the centre of the stations fully 18 inches above the neighbouring ground; plant as above stated, and secure with a stake, and then mulch over with rotten dung—a much better plan than mixing the dung with the soil.

If you obtain an early crop you may never need to resort to root-pruning; but if the tree become too strong you will require to cut the roots that run downwards, and the more horizontal ones will then take the growth. Two things will ensure success. A good crop will lessen mere luxuriance of growth, and if the roots are encouraged to keep near the surface they will have less inducement to run downwards. The chief attraction to go down is to obtain moisture. Let the trees have that at the top, and the inducement is removed; and the simplest way to give them this requisite is to mulch during summer with rotten dung, however thin the covering. All extra nourishment we would thus give from the surface. We just reverse the plan we would pursue if our object were the greatest amount of timber in a specified time. We do not here want timber so much as the greatest amount of eatable fruit in a small space, and therefore the more the nourishment, and the more the moisture absorbed by the roots is thoroughly oxygenated by free access of the air, the greater the fruitfulness of the plant. Allow a tree to grow a little freely at first to form itself, arrest mere growth by root-cutting or a heavy crop, and then entice the roots to keep near the surface by a little manuring on the surface, and such trees will bear heavily for years without needing any root-pruning, and no great amount of top-pruning, except a little pinching and nipping of the summer shoots in summer. Orchards are all very well, but these little fruitful trees will afford continual interest to the enthusiastic amateur, and even a lady can do all the work they need, except, perhaps, giving a barrowload of dung to two or three trees when young, and a barrowload to each when well established.

One circumstance, so far as we know, has militated against their more frequent use, and that is something like a dread and a hazy conception of the necessity of root-pruning. Now, frequently there need be none at all. Plant on raised platforms, plant shallow, give surface-waterings if necessary, keep the roots near the surface by mulching, and yet, by deep stirring at first where there is no concreting, allow the surplus water to pass freely where there is no regular draining; obtain a good crop, and keep the roots near the surface as above, and you may never need to cut a root. If necessary, however, to arrest growth, it is just as simple to cut a strong leading root as it is to cut or stop an over-luxuriant shoot, and thus obtain from that which otherwise would have produced nothing but wood buds and mere strong shoots, several shoots that would produce fruit buds. In a few words, had we our will, and gar-

dening to commence, we would have all our fruit trees in small compass and thoroughly under command; and as we delight to see the possessors of small gardens acting on this principle, and would delight still more to see, in many such gardens, the huge Apple trees that now shade the ground devoted to vegetables exchanged for our favourite dwarfs, we would wish all aspirants to success in this direction just to bear in mind a simple fact, to which we believe we were the first to draw prominent attention—that the deeper the roots go, and the richer the material on which they feed, the greater will be the bulk of timber produced by the tree; whilst, on the other hand, the nearer the roots are kept to the surface, the more nourishment is given from the surface, the more the moisture and the nutriment is thus in contact with air, the more shall we promote the fruiting, and so far discourage the mere growing and extending processes. It would be easy to make a tree all fruit and but little growth; but that is not pleasing even to the eye, and a certain amount of vigour is necessary to keep the tree continuously fruitful, as well as to give size to the fruit. What we contend for is, that all that can be given, not by digging-in manure, but by applying it to the surface. Do not be driven from such a simple proceeding by being laughed at for thus wasting the little manure you give. "Why," says an elbow friend, "you are as great a spendthrift as Mr. Wurzel there, who carts out his manure for Turnips and Cabbages, and lets it become as dry as hay before he covers it in." Well, not quite. For all mere bulk of produce the manure cannot be too soon covered up from the air and its wasting decomposing powers; but our practice may well be different when we aim at obtaining flowers, seeds, and fruit, and not mere bulk of roots and leaves. If we wished to obtain the largest Cabbages we would dung well, stir the ground, water—do everything to encourage growth. If we wished a Cabbage plant to flower as soon as possible we would give no manure, keep the soil about it hard—in fact, encourage the throwing-up of the flower stalk instead of abundance of succulent leaves. We wish our small fruit trees to bear fruit and yet have enough of growth to continue fruitful, and therefore we prefer manuring chiefly from the surface. We adopt the same plan with flower-garden plants frequently. If we enriched the beds and manured deeply we would have too vigorous growth to ensure free blooming. By giving a little help to growth, and then surface-manuring, we secure enough of growth and free-blooming, whilst otherwise we would have too much growth and too few flowers.

ORNAMENTAL DEPARTMENT.

Never did we see the lawns more rich and beautiful. The drought destroyed many of the weeds, and the grass looks all the more beautiful without them. After the rains very little rolling is necessary to keep them smooth, and for this purpose under such circumstances nothing is better or more easily applied than a wooden roller with a light handle—say the roller a foot in diameter, and from 3½ to 4½ feet in length, as then a lad can easily go over a large piece of ground. When mowing has to be done a day or two afterwards, such a light roller is better than a heavy one, and it always leaves the gloss and polish of a fresh-ironed garment behind it.

We have had a few slight frosts, but with us neither Coleus, Perilla, nor Heliotrope, is greatly injured, and we are unwilling as yet to take up some small favourite plants, and a few large ones for the centres of beds next season. We must keep watch, and only hope that the first sudden frost will not come on a Sunday evening.

Took in most tender plants in pots under glass, or under protection, as what is in pots will suffer more easily than what is growing in the ground. Some plants, as Salvias, are quite a thicket of bloom, and the beds in general, though not brilliant, are still fair.

As to propagating, we have made a commencement with Calceolarias. As previously described, our pit is too deep for our purpose. We therefore put some dry litter in the bottom, a few leaves on the top, and trod firm; next a couple of inches of half-rotten leaf mould, mixed with a little lime; then 3 inches of soil, fresh sandy loam, the roughest riddings at bottom, the finest at the top, well trod, and levelled, and then a quarter of an inch of road drift sand, and in that placed the cuttings in rows 2 inches apart, and 1 inch from cutting to cutting in the row.—R. F.

TRADE CATALOGUE RECEIVED.

William Chater, Saffron Walden.—Catalogue of Hollyhocks and Roses.

COVENT GARDEN MARKET.—OCTOBER 21.

THE cold weather has somewhat checked our supplies, but prices have not advanced. A fair amount of business has been done during the past week, and we may look forward to some improvement. Dutch Hamburgh Grapes are still very good, and good samples of bothese Grapes are easily to be obtained; out-door Grapes have also been well-ripened this season.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	1	6	2	0	Melons..... each	2	0	6	5
Apricots doz.	0	0	0	0	Nectarines..... doz.	0	0	0	0
Cherries lb.	0	0	0	0	Oranges..... 100	8	0	12	0
Chestnuts bush.	10	0	16	0	Peaches..... doz.	10	0	15	0
Currants..... ½ sieve	0	0	0	0	Pears (dessert) .. doz.	2	0	6	0
Black do.	0	0	0	0	Pine Apples lb.	4	0	7	0
Figs doz.	0	0	0	0	Plums ½ sieve	4	0	6	0
Elberts..... lb.	0	9	1	0	Quinces doz.	0	9	1	6
Cobs lb.	0	9	1	0	Raspberries..... lb.	0	0	0	0
Gooseberries . . quart	0	0	0	0	Strawberries... per lb.	0	0	0	0
Grapes, Hothouse. lb.	2	0	5	0	Walnuts..... bush.	10	0	18	0
Lemons..... 100	10	0	16	0	do. per 100	1	0	2	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	3	0	6	0	Leeks bunch	0	4	6	0
Asparagus 100	0	0	0	0	Lettuce.... per score	2	0	4	0
Beans, Kidney ½ sieve	3	0	4	0	Mushrooms.... pottle	2	0	3	0
Beet, Red..... doz.	2	0	8	0	Must.& Cress, punnet	0	2	0	3
Broccoli bundle	1	0	2	0	Onions per bushel	5	0	0	0
Brs. Sprouts ½ sieve	2	0	0	0	Parsley..... per sieve	8	0	4	0
Cabbage doz.	1	9	2	0	Paranips doz.	0	9	1	0
Capiscums..... 100	3	0	0	0	Peas per quart	0	0	0	0
Carrots..... bunch	0	4	0	8	Potatoes..... bushel	4	6	6	0
Cauliflower doz.	0	0	0	0	Kidney do.	4	0	7	0
Celery bundle	1	6	2	0	Radishes doz. bunches	1	6	0	0
Cucumbers..... each	0	4	1	0	Rhubarb bundle	0	0	0	0
Endive doz.	2	0	0	0	Saa-kale basket	0	0	0	0
Fennel bunch	0	8	0	0	Shallots lb.	0	8	0	0
Garlic lb.	0	8	0	0	Spinach bushel	2	0	3	0
Herbs bunch	0	8	0	0	Tomatoes.... per doz.	1	0	2	0
Horseradish . . bundle	3	0	5	0	Turnips bunch	0	6	0	0

TO CORRESPONDENTS.

•• We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

CYCLAMEN CULTURE (*Edmund*).—In Nos. 297, 298, and 299 a full detail is given. You can have them free by post from our office if you enclose twelve postage stamps with your address. You can also have "In-door Gardening" and "Out-door Gardening" for forty postage stamps. They contain a full calendar for every week in the year.

REMOVING TREES (*G. H.*).—You cannot legally remove the fruit trees; but as you say "the landlord does not oppose" the removal, why ask the question? If you merely mean that he does not know you wish to remove them, you had better ask his permission.

TRICOLOR PELARGONIUM CUT DOWN (*J. M.*).—The Tricolor Pelargonium will very likely break, but not so freely as it would have done had the top remained on it. If the top exhibits any symptoms of variegation, if the cutting is struck it will be sure to throw out variegated breaks. Even if there is no sign of variegation, it may throw off variegated breaks towards the middle or end of next summer, if the plant from which the top has been taken shows any variegation at the base.

PEARS AS PYRAMIDS (*An Amateur*).—As you wish to grow your Pear trees in the pyramid form, procure them grafted on the Quince. By this way you will have good specimens of the varieties you mention. The Morello Cherry budded on the Mahaleb makes a pretty tree, and produces splendid fruit.

BLACK HAMBURGH GRAPES (*Kate*).—The bunch of Black Hamburgh Grapes you have sent is of excellent quality, and the flavour of the berries is very good.

GLADIOLUS SPAWN (*An Old Subscriber*).—The spawn about the size of peas may be taken up, dried, stored in dry sand, and kept in a dry cool place free from frost until planting time in March. Or the spawn, on taking up, may be potted in small pots, plunging these in a cold pit in coal ashes, and keeping them dry and from frost ever winter. We think the latter the better plan.

SHEFFIELD (*Fair Play*).—We are very glad that you find Sheffield is not "the horribly dusty and smoke-begrimed place," which Mr. Willis represented it to be; and we shall be very pleased to insert a communication showing how well plants can be made to grow there, but we cannot spare a column merely to testify that Sheffield is not so smoky and dirty as are Manchester and the Staffordshire Potteries.

PELARGONIUM CUTTINGS (*J. G. D.*).—Cuttings strike more safely and speedily if inserted round the sides of the pots than when placed in the centre. The cuttings when struck succeed better potted-off in small pots; and when these are full of roots repotting in others of larger size as often as the roots fill the pots, will produce fine plants. Only a small shift should be given each time. The plants and cuttings taken into your sitting-room will winter more safely if potted in sandy peat soil rather than in rich compost. They should be kept dry, no water being given so long as the leaves keep from flagging, and in spring when they begin to grow repot in richer compost, and encourage with liberal waterings. It is not advisable to encourage growth in winter, for that is the

period of rest. To insure bushy plants you must stop them in spring when they begin to grow, or cut them down to within 3 or 4 inches of the soil, though the plants are better if merely the points of the shoots are taken out when they are young to induce the production of side shoots near the soil.

SOEWING PELARGONIUM SEED (*E. McDonnell*).—Having no better place than a small frame which you can place in a south window, you will not do any good by sowing the seed now, but will probably lose the plants from damp in winter. We advise you to sow the seed next March, in a small pot—say, 6 inches in diameter, or one that the glass will cover, and place the seed-pot in a pot of larger size, filling up with crocks so as to bring the rims to one level. Fill the space between the pots with small crocks, and at the top with silver sand. The glass should then be set on the saud between the pots, and the soil being kept moist the plants will soon appear. To keep them dwarf they must have air by raising the glass a little on one side, increasing the opening as the plants increase in growth, and removing the glass by degrees. This will give you plants earlier than by sowing in the frame out of doors; indeed, by sowing in the window the plants will be fit to pot-off by the time the seed should be sown in the frame—namely, in May.

WINTERING VARIEGATED PELARGONIUMS IN AN OUTHOUSE (*E. M. B.*).—Your house will answer for wintering all the Pelargoniums you name, except Cloth of Gold, which we fear will not winter safely. The plants should have poor light soil, and no water should be given except a little occasionally to keep the wood from shrivelling. In mild weather and fine days open the doors wide, but shut up before the air becomes cold. It would be very desirable to hang in front of the plants mats from the roof to the ground when severe weather occurs. The plants should not be taken out until May; but when they begin to grow they ought to be placed nearer the door and have water, increasing it in proportion to the growth. The door should be open, after the plants begin to grow, whenever the atmosphere is not frosty, for they must then have light and air.

SHRUBS AND TREES FOR A STRUBBERY (*Belinda*).—We suppose you wish for evergreen shrubs, and we recommend *Aucuba japonica*, *Berberis aquifolium*, *Berberis Darwini*, *Cotoneaster Simonsii*, *Ilex ferex* (gold and silver variegated), *I. balearica*, *I. angustifolia*, and the gold and silver-edged *Hollies*, *Double-blossomed Furze*, and *Viburnum tinus*. Of trees, such as *Pines*, have *Hicoria austrica* (the best of all for shelter), *P. combra*, and *P. excelsa*; *Juniperus virginiana*, *J. chinensis*, *Cupressus Lawsoniana*, *Thuja borealis*, *Thuja Lobbi*, *T. plicata*, *Taxus adpressa*, *T. baccata fructu-lutea*, and *Abies Douglasii*. If you wish for deciduous shrubs or trees we shall be glad to assist you.

SELECT CAMELLIAS, HEATHS, AND EPACRISSES (*Subscriber*).—*Camellias*: *Alba plena*, *Augustina superba*, *Carletta Papudoff*, *Benneyi*, *Fimbriata*, *La Pace*, *Leopold I.*, *Perfection*, *Mrs. Cope*, *Prince Frederick William*, *Steryi*, and *Valtevarado*. *Heaths*: *Hymalis*, *McNabiana superba*, *Massoni major*, *Wilmorei superba*, *Scabruscula*, *Rubracalyx*, *Sprengeii*, *Shannoniana*, *Hybrida*, *Fairriciana*, *Gracilia vernalis*, and *Andromedaeflora*. These will be likely to serve your purpose. *Epacrisse*: *Lady Panmure*, *Rubella*, *Viscountess Hill*, *The Bride*, *Hyacinthifera*, and *Grandiflora rubra*. Other plants for winter and spring blooming are *Correa Brilliant*, *Speciosa major*, and *Hartrei*; *Cytisus racemosus*, *Coronilla glauca*, *Cyclamen persicum*, *C. Atkinsi*, and *C. com*; *Acacia armata*, *oleifolia elegans*, *longiflora magnifica*, and *Drummondii*; *Linum Macraei* and *L. trigynum*; *Epiphyllum Russellianum* and *E. truncatum*; *Luculia gratissima*, *Monochætum enserifum*, and you can hardly dispense with *Azaleas* and bulbs, as *Hyacinths*, *Narcissus*, *Tulips*, and such plants as *Dielytra spectabilis*, and *Deutzia gracilis*. Nothing can be finer for spring than *Rhododendrons*; they are very easily forced, and are very useful for planting out afterwards in the borders.

LUCERNE CULTURE (*An Amateur*).—It may be sown in April, in drills 1 foot apart, in clean, well-manured ground, and should be kept clean and well manured. It succeeds best on dry, sandy, or calcareous soils. Guano water would suit it, providing you give good soakings. It may be cut twice or thrice the first year, but is not in perfection until the second year, when it may be cut four or five times. It will last many years if well-maured after cutting.

MILDEW ON ROSES (*Idem*).—We never knew vitriolised water (blue vitriol or sulphate of copper), to fail. We know of no other remedy beyond dusting with flowers of sulphur the parts affected, keeping the plants well fed with bone dust, superphosphate, and dung, and well supplied with water in dry weather, both as to the roots and foliage.

DWARF PEAS (*Idem*).—The best very dwarf Peas are *Advancer*, *Bishop's Long-podded*, and *Yorkshire Hero*.

STONEMASON'S CHIPS FOR FERNS (*C. T. P.*).—The sand and waste from the stonemasons will do for mixing with the compost for large, and also small-growing Ferns.

SCALE ON AZALEAS—WINTER-DRESSING PEACH TREES AND VINES (*J. B.*).—The compound you name is not safe to apply to Azaleas, but you may destroy the scale by syringing or dipping the plants in a solution of Clarke's insect-destroying compound, 2 ozs. to the gallon, and at the same strength it will be a good dressing for your Peach trees, also Vines. Though this is the proper strength for plants in leaf, it may as a winter dressing be used stronger—say 3 ozs. to the gallon, and is then safe, and better than the customary coating with sulphur, &c. It will not injure the buds or eyes.

REMOVING VINE LEAVES (*Idem*).—You must not remove the leaves until they are yellow or brown, and have begun to fall. They may then be removed. Bear with the Vines, cleaning the house, however, as well as you can for the reception of the plants. It is very desirable to clean the house before the plants are housed. It is necessary the Vines should go to rest of their own accord. The foliage is of value to them so long as there is greenness in it. It is a month or more too soon to remove it.

GRAPES SHANKING (*W. H. L.*).—The bunches have shanked. This is usually caused by a deficiency of sap, and that may be occasioned by the roots being deep and in a cold wet border. The want of a sufficiency of foliage also tends to cause shanking. We know of no remedy except securing efficient drainage of the border, and the encouraging of more foliage, which will give a more healthy root action, and a more plentiful supply of sap.

PRUNING BLACK CURRANT BUSHES (*Burton*).—In pruning the old wood should be cut out, leaving sufficient bearing wood, and the young shoots will, therefore, be encouraged, and these give the finest fruit, but unless

they are shortened the bushes become bare; to rectify which the long young shoots should be shortened about one-third their length generally, but if you wish for shoots from the base of the bush they must be shortened two-thirds, and if very close together they will require thinning. Keep them dwarf and plentifully furnished with young wood, but not very close together.

POTTING ZONAL PELARGONIUMS (*Idem*).—Your Pelargoniums, hard-cut for cuttings, would be all the better of being potted when they have made young shoots an inch or two long. The pots should not be larger than those in which the plants have been growing, but, if anything, of less size. The old soil should be picked away, and good drainage, fresh compost, and clean small pots would make your plants more healthy than they would be in the old soil and larger pots; besides, they will be in fine condition to put into their blooming-pots in spring, potting them then with the ball entire. If left over winter as they are you must in spring disroot, and some delay will be the consequence.

PEACH AND PLUM TREES UNFRUITFUL (*A Young Gardener*).—The slate coping from its drip on the Peach tree will be more injurious than beneficial. The water ought to be conveyed off, and not allowed to drip on the tree. From the wood dying back we should think the soil wet, and the roots deep. We would advise you to take up the tree carefully and replant it, keeping the roots near the surface. It should be done as soon as the leaves begin to fall. The Plum tree we would treat in the same way. Syringing the Peach tree whilst in blossom with sulphur and tobacco water, would be injurious to the blossom if the mixture were strong, but not if the petals had begun to fall and the tobacco water were used weak, that of the shops being diluted with six times its bulk of water.

WINTERING BEDDING PELARGONIUMS (*Idem*).—Your old plants should, if you can afford space, be potted singly, but if they are at present in pots no good would result from potting them new unless they were in large pots, in which case they may be turned out of the pots and put into those of smaller size, the old soil being in a great measure removed and fresh employed. The plants in this way will be wintered in less room, and will be all the better of being transferred to larger pots in spring, cutting them down and inserting the parts taken off as cuttings. These will strike freely in a gentle heat, and will be very useful, especially as you are short of young plants. They will be good plants by bedding-out time, and excellent for mixing with old plants.

WINTERING CALLAS (*Idem*).—The Callas should have a light airy situation in your greenhouse, and sufficient water should be given to keep the soil moist and prevent the leaves flagging. It is not necessary in winter to set the pots in saucers full of water, though desirable when the plants are in active growth and the weather hot. They ought not new to be repotted. Repeat in spring when they begin to grow.

REPOTTING ORANGE TREES (*An Old Subscriber*).—The best time to repot Orange trees is at the end of February or beginning of March, and in doing so remove as much of the old soil as possible without injuring the roots, and afford good drainage to the new pot. As your tree has the branches partly naked, it may be cut-in a few days after potting, and if you can give it a temperature of from 60° to 55° at night, and a moist atmosphere for six or eight weeks it will push freely, and speedily make a fine plant. The Orange bears cutting well.

VALLOTA PURPUREA and EUCHARIS AMAZONICA NOT FLOWERING (*Idem*).—Keep your plants dry during the winter, giving no more water than sufficient to keep the foliage tolerably fresh; though they droop a little no harm will result. Afford all the light possible. Keep the drainage free, but do not repot, for the plants flower best when the roots are confined. When the plants commence growing freely, encourage them with an abundant supply of water, and weak liquid manure once or twice a-week, and having secured a good growth expose them fully to light and air on a shelf near the glass, and lessen the supply of water, merely giving enough to keep the foliage from flagging. When the spikes appear water plentifully to insure their development, also when they are in flower. The first requires a greenhouse, and the Eucharis a cool stove temperature.

POTTING LILIUM LANCEFOLIUM (*Idem*).—As soon as the leaves fall and the stems are yellow, it is time to repot. They will stand the winter if plunged in coal ashes, and protected from frost by a covering of litter varying in thickness according to the severity of the weather, removing it in mild periods. Myrtles may be wintered safely in an orchard house, the pots being plunged, and the soil kept dry, and a mat wrapped round them in very severe weather, not removing it until the frost is completely gone.

TRICOLOR PELARGONIUM FREAKS (*Titania*).—Remove the preternatural white excrescences from the stems of your Tricolors at once; they only weaken the plants, and will, if allowed to remain, soon injure their health.

SEEDS OF RICINUS (*Idem*).—Allow the plant to die down and the seeds to remain in the husks. These should be kept in a dry place during the winter.

VINES IN AN ORCHARD HOUSE (*J. G. H., Amateur*).—There can be no question that by having a glass division in your orchard house you can, merely by different management as respects ventilation, keep that part warmer than the other. By moving the glass end to the north for this purpose, and having a brick end there instead, you will also make your house warmer at the loss of so much light. As to the question of heat, you are right; but we do not think you will obtain early Grapes against that wall after your twelve Vines have taken possession of the 12 feet in length of the span-roofed house. When that is the case we think very little direct sunlight will fall on this wall—that is, if the Vines go up near the apex of the roof. If a space were left there Vines against the wall would do well, but then a part of the roof would be lost. We would chiefly value your wall for the greater warmth it would give. It will not look so well as the glass.

VINES IN A GREENHOUSE (*E. W.*).—You can have Vines in your greenhouse without being interfered with by your bedding plants, if you force the Vines little or not at all. The lean-to form, with a stage at back and a wide shelf in front, will be as useful as any, with the heating medium below that shelf. As you wish to have no border in front to interfere with your lawn, you might keep your pipes nearer the passage, plant your Vines close to the front wall inside, and allow the roots to run inside, where a border would be made for them; and if the front wall were on arches or piers the roots could also go out beneath the lawn, and good soil could be obtained for them and the turf replaced. This would do

admirably for Vines not to be forced. On the plan proposed your other best mode is to make the border inside the house, obtain strong long-rod Vines, plant them against the back wall, and as they grow train them down the roof. In such a case, with plants, &c., on the stage, they will do little good till they are near the top of the back wall; and therefore when planting, the buds might be nipped out, except two or three near the top of the cane or shoot.

HEATING A SMALL GREENHOUSE (*J. D.*).—For such a small house as yours we think a good-sized paraffin lamp would keep out frost; but we are afraid of explosions, and we fear that the products of combustion would injure the plants, unless you had a large concave reflector of tin suspended over the glass funnel, and a hole in the upper end connected with a small gas pipe going into the open air. A tube from a quarter to three-eighths of an inch diameter would do for this purpose, and the pipe when passing outside could be bent down to prevent the external air acting on the burner to any extent. Paraffin gives a clear light and a strong heat, but even in a sitting-room the fumes that escape become oppressive unless fresh air is admitted to the room once or twice in the evening. If you have any doubts as to the paraffin you need have none as respects a small iron stove, and you would require only a small iron funnel from it to the open air. A friend of ours, who disliked the trouble of lighting a small stove, had a small pipe placed at top instead of a funnel, and put a good-sized lamp inside the stove, and it gives to the stove all the heat he wants.

FLUE IN A VINERY (*J. K. L.*).—Order the "Vine Manual," which you can have from our office by post for thirty-two postage stamps. The best bricks make the best flues, and should be well set with lime putty. We prefer they should have no plastering inside, but be roughly plastered or heavily limewashed outside. As fine Grapes have been grown with flues as with hot water, but flues require more care, and are more liable to do mischief if not sound, or the stoker careless, or if they are allowed to get filled. If we wanted a strong heat from flues we would make a part next the furnace brick-on-bed instead of brick-on-edge. Mr. Robson had good flues formed of wide tubes of Portland cement.

CONSTRUCTION OF A VINERY (*W. J. S.*).—For sash-bar rafters 12 feet 3 inches long, you should not have them less than 1½ inch wide and ¼ inch deep; and for 2½-c. glass you would need a slender iron bar longitudinally about the middle of the roof, fixed to the two end rafters, and two pillars at equal distances apart. This would keep the rafters firm and in their places. For such a width of 12½ feet and a height at back of 11 feet, from 3½ to 4 feet in height in front would give you a useful slope of roof, and one-third or one-half of that height in front might be glass. At the above height in front you would have to steep a little to reach your greenhouse plants there in winter. Then we presume you mean to use heat to keep out frost; the heat will not interfere with your Vines if you do not let it rise higher than 45°. A flue along the back wall would be sufficient to keep frost out; but so placed, a flue has less effect in a house than if placed along the front.

WATERPROOFING CALICO (*C. G.*).—Tack the calico loosely on the frame, and then paint over with the following when hot. Take one pint of linseed oil old and pale, half an ounce of acetate of lead (sugar of lead), and one ounce of white resin. Grind the acetate with a little oil, add to the rest, and the resin bruised, incorporate thoroughly in an iron pot over a slow fire, and apply with a brush when hot. Next day fasten tightly with tacks, and rub the brush round the sides where tacked. This does well when the cover can be lifted off and on like a sash of a frame, but the waterproofing is apt to crack when rolled, and in that case would be better without the resin. A flexible cloth for rolling, and tolerably waterproof, is made by a weak solution of glue, just so strong as to stick between the fingers a little when it begins to cool. Add to it as much alum as will enable the taste of alum to be discernible, then a little linseed oil, and a little soap beaten up into a lather, and when well mixed apply to the cloth, when the mixture is warm, with a brush. For mere waterproofing, when light is no object, nothing is better than a mixture of boiled oil and tar, which when dry is pliable. We have found, however, that waterproofed calico does not last so much longer, and that common calico strained tightly throws off water like an umbrella.

PLANTATION FOR SHELTER AND ORNAMENT (*W. T. Conifera*).—In your sheltering boundary it would be well not to plant more than from thirty to forty intended to be permanent, and fill up with a few Scotch Firs and Spruce, but chiefly with the common Laurel, which you can cut as you like afterwards. For fine specimen plants we would plant such as the following—viz., Pinus pinaster, P. austriaca, P. cembra, P. strobus, P. excelsa; Abies alba, A. Smithiana, A. Douglasii, A. cephalonica; Picea pinaster, Picea Webbiana, Araucaria excelsa, Cryptomeria japonica, Taxodium sempervirens, Wellingtonia gigantea, Cedrus Libani, Cedrus deodara (if something like a fourth should be Deodara you will not regret it), with three or four Araucarias, and at least a couple of Wellingtonias. These should be from 40 to 50 feet apart. Most of these, and especially Araucarias and Deodaras, may be had well rooted and of a large size at from 10s. 6d. to 2ls. 6d. each; but if the carriage must be long we would prefer for such specimens good strong plants from 18 to 30 inches in height, and which, if well treated, will grow better every day after they are planted, whilst large expensive plants are apt to stand still for a time. However, if you wish for a few fine specimens, have them by all means, and most of our respectable nurserymen would be able to supply you with plants of almost any size, according to prices.

CULTIVATING MUSHROOMS ON A GRASS PLAT (*Delta*).—Mushrooms are always uncertain in the open air. You may have them on the grass plat just as well as in a grass field; but it is rather late to insert spawn below the turf now. It would have been better if you had spawned your ground in August, inserting pieces about the size of a walnut every 18 inches or so apart, and from 1 to 2 inches below the surface. The spawn is not so much injured by cold as by wet and cold combined. We would never advise making a Mushroom bed of a lawn, as if the spawn take possession, farewell to the soft elastic head and the smooth surface of the lawn; but a small corner might be tried. Recollect that that will be exposed to the same casualties as spawn in grass fields. We have marked places plentifully supplied with Mushrooms, and found the ground permeated with spawn, and yet for years afterwards not a Mushroom was seen in the same place. In other cases we have found Mushrooms appearing on the same pasture at the same place year after year. This has been a fine season for spawn spreading under ground.

SELECT VARIETIES OF GLADIOLUS (*C. B., Birmingham*).—*Red*: Meyerbeer, Falton, Ensign. *Pink*: Adolphe Brongniart, Milton, Felicien David.

Lilac, &c.: Thomas Moore, Adèle Senchet. *Various*: Ophir, Earydice, Reine Victoria, Belle Gabrielle.

Kew (X. Y. Z.).—You have imagined a prejudice which does not exist. MUSA CAVENDISHII (*A Constant Reader*).—The fruit you enclosed is of *Musa Cavendishii*, or Cavendish's Plantain. The Bread-fruit is quite a different plant, *Artocarpus incisa*. If you cut off the flowering stalk entire and hang it up in a warm dry place, the fruits upon it may ripen. NAMES OF FRUITS (*T. W.*).—1, Laure de Glymes; 2, Belle de Noël; 4, Glon Morcean. (*H. M.*).—1, Hampden's Bergamot; 2, Beurre d'Aremberg; 3, Vicar of Winkfield; 4, St. Germain; 5, Emerald; 6, Duchesse d'Orléans. (*Centurion*).—1, Nonveau Poiteau; 2, Doyenné Defais; 3, Yellow Bellefleur; 6, Drap d'Or; 7, Braddick's Nonpareil; 8, Enster Beurre; 9, Nonpareil; 10, Hereford-hire Pearmain; 11, Red Doyenné; 12, Boston Russet; 13, Royal Russet; 14, Brown Beurre; 15, Cellini. (*J. Metcalf*).—Vicar of Winkfield. (*C. Hamilton*).—1, Stirling Castle; 2, Not known; 3, Your Winter Peach is Winter Hawthornden; 4, Warner's King; 5, Your

Soldat Laboureur Pear is Hampden's Bergamot; 6, Your Joséphine de Malines Pear is Fondante de Malines; 7, Not known 8, Beurre Nantais.

NAMES OF PLANTS (*G. S.*)—1, *Cratægus macrantha*; 2, *C. sanguinea*; 3, *C. ovalifolia*; 4, *C. punctata*; 5, *C. orientalis*; and *Cicuta virosa* is found in ditches and by the sides of rivers, but we cannot give you such a description of it as to enable you to find the plant if you do not already know it; ask some botanical friend near you if he knows where it grows. (*E. L.*).—We cannot determine species from leaves. (*M. D.*).—*Aranja albena*. (*Mrs. Sartoris*).—*Canavalia turgida*. (*Polystichum*).—1, *Selaginella Kraussiana*; 2, *Aspidium trifoliatum*; 3, *Elechnum occidentale*; 4, 5, *Polystichum aculeatum*, young fronds. (*J. S.*).—1, *Asplenium trichomanes*; 2, *Polypodium vulgare*; 3, 4, 5, *Lastrea Filix-mas*; 6, *Ruscus aculeatus*. (*A. M. C.*).—*Cassia levigata*. (*H. T. W.*).—*Pteris sulcata*. (*An Old Subscriber*).—*Trichomanes radicans*. (*A. L. H.*).—*Datura stramonium*, a very dangerous plant. (*J. Scott*).—1, *Aster kevis*; 2, *Potentilla nepalensis*, or a hybrid from it.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending October 20th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 14	30.066	30.000	60	32	53	52	N.W.	.00	Fine; very fine; fine, very dark, frosty air.
Thurs. 15	29.929	29.760	69	39	52	53	S.E.	.09	Cloudy; overcast and hoistrous; fine at night.
Fri. .. 16	29.681	29.556	65	36	52	53	W.	.16	Cloudy; fine, strong wind; heavy showers; slight rain.
Sat. .. 17	29.558	29.531	63	31	52	53	S.W.	.00	Heavy clouds; very fine; clear and fine.
Sun... 18	29.620	29.596	58	23	52	51	N.W.	.00	Cloudy and cold; overcast; fine, sharp frost.
Mon... 19	29.732	29.650	56	23	43	51	N.W.	.03	Fine, frosty; clear and fine; cold wind, sharp frost.
Tues. . 20	29.868	29.832	52	33	45	50	N.W.	.20	Clear and fine; very fine; fine, heavy rain in night.
Mean	29.779	29.681	60.43	31.55	51.57	51.71	..	0.35	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

POULTRY AT THE APPROACH OF WINTER.

THERE is something cheerful in the first approach of frost, and in the disappearance of the hot, unseasonable muggy weather. The animal world seems to share the feeling; at least, we thought our fowls did. They were brisker, they bustled more about, and when let out at daybreak, instead of listlessly wandering in front of their house, they spread all over the grass. The younger ones seemed to view the white frost with wonder, akin to that expressed by natives of hot countries, who for the first time in their lives see the landscape covered with snow.

We do not believe the relaxing weather we have had has been healthy for fowls. Without serious ailment we do not know we ever saw our fowls at all places so entirely out of condition; many sneezing, and with slight discharge from the nose, while others have shown a decided tendency to mope. Our treatment has been camphor in their water, and bread and ale for food. This has kept disease from breaking out, and the cold weather has had a most salutary effect.

The approach of anything like winter generally brings us the question—"What is the best way of providing artificial heat for my poultry?" Some talk of hot-water pipes; some of cold conservatories; some would devote an attic to early chickens; and others are willing to give up the back kitchen. Nothing of the sort is required. Increased heat must be given by generous feeding. The most important points are to feed the last thing before dark, and the first thing at daybreak. Kitchen pot liquor is now a good thing to use for mixing meal, and use it warm. Let the fowls have bones to pick. Scatter fresh mould on the floors of their houses. See that no draught blows on them in their roosting place. Begin to think of your runs. In most places men are now trimming the sides of the roads, and the cuttings that are made in making the road straight can be had for a trifle. We know nothing so good for pens; it is capital stuff for fowls to bask and dust in; it is full of grass, and affords food, and does not held wet. Two hours after a hard shower it is dry. A few shovelful of this thrown now and then into a pen keep it always fresh.

SUBDUING BROODINESS.

In your number for October 8th you say, in answer to "H. E. N.," that "there are no means of preventing a hen being broody, and it is very cruel to try. It is simply her nature, and a little patience will survive the annoyance." Now it is, of course, impossible to prevent hens of particular breeds from manifesting symptoms of broodiness; but I think it is quite possible, without cruelty, to cure them of these symptoms. I

have kept Buff Cochins for more than 2 year, and by the adoption of the plan mentioned below, have constantly succeeded in preventing them from persisting in their desire to sit.

The plan is simply this. I have two hen houses, situated at a considerable distance from each other, and whenever one of my hens manifests any desire to sit, she is forthwith deported to the reserve hen house, which contains no nests. Here she remains by herself for two or three days, having a full allowance of food and water provided, and then she is returned to her old quarters. This plan has never failed to be successful, and the hens subjected to the experiment have always begun to lay again within a fortnight of ceasing to lay. The philosophy of the matter seems easily explicable. The female mind is very susceptible to the influence of change of scene, and just as prudent parents send their daughters to the seaside when they are brooding over some undesirable attachment, with the view of distracting their attention from the beloved object; so I carry off hens brooding over eggs, in order to divert their attention by presenting new objects of attraction to them.

Another simple precaution is to remove the eggs from the nests twice each day.

By these means Cochins may be made nearly as profitable as egg-producers as Hamburgs or Polish.—F., *Westmoreland*.

THE SORROWS OF A POULTRY-FANCIER.

THIS morning, as I sat in my study preparing for the labours of the day, I heard an unusual knock at the door. In came my poultryman, looking very serious. Something evidently was wrong.

"I am sorry, sir, to say that the hen which was ill yesterday is dead."

"Dead!" said I. "Why, she seemed as if there was very little the matter with her yesterday."

"She is dead and cold this morning," replied my man. Alas! for my poultry yard. The best pullet (a Coloured Dorking), that I had, one with the best blood in England flowing in her veins, my hope for this and other years, has been suddenly taken from me, and I hardly know how I can supply her place.

Her history is as follows, and I recite it that others may avoid the rock upon which my hopes have been wrecked.

About ten days since she returned from a show, where, in a close competition, she had been crowned with honours, so that I hoped she would win her way on many another field. Alas! for human hopes. She was fed, I fear, too well, although with soft food only. Upon her arrival home there did not, however, seem anything the matter with her until yesterday morning, when my servant, missing her at feeding time, found her, after a search, concealed beneath a tree. She was evidently ill; her crop contained no food, and when pressed threw out watery matter, that seemed to speak of roup. She was immediately brought in-doors, placed in a hamper near the fire, and

a dose of castor oil administered. At the same time some bread soaked in warm ale, with a little cayenne in it, was given her. These seemed to do her good; at all events, she ate the soft food placed for her in the hamper. At night she was taken to an outhouse with the floor well covered with straw, and a pill administered, made according to the directions in Mrs. F. Blair's "Henwife:"—"Dried sulphate of iron, in powder, half a drachm; capsicum, in powder, one drachm; extract of liquorice, a sufficient quantity to make a mass, which is to be divided into thirty pills."

This morning she was stiff and cold. Now, did she die of roup, or of the pill?

In three years' experience of Coloured Dorkings I have lost three birds; one in my absence, another, a cock, which died in March, and so spoiled my hopes for the brooding season, and the pullet mentioned above. To the cock I administered the following pill, also recommended in the "Henwife:"—"One grain of calomel, one grain of antimony, made into a pill; one to be given every evening."

I have now hurled all my pills into the fire, and shall for the future invest in nothing but Baily's Roup and Condition Pills.—E. M. B. A.

LONG SUTTON POULTRY SHOW.

THE Show held on the 14th and 15th inst., was larger and better than in previous years, and as the weather was very favourable there was a great attendance of visitors. Not having been able to obtain a catalogue, our remarks must be much briefer than they otherwise would have been.

The poultry was ranged in two very excellent tents, and there was a superior collection of Pigeons. We regretted to find that long after all the awards were completed, some thirty pens or more of really excellent specimens were delivered at the Show, and consequently were entirely thrown out of competition. We have again and again guarded exhibitors against trusting to the last train. The *Grey Dorkings* were remarkably good as a class, and Mrs. Arkwright's triumph was gained in a very large and severe competition. In *Cochins*, the Buff and Partridge-coloured were decidedly the best; but the cup, competed for alike by all *Cochins* or *Brahmas*, fell to a pen of the Dark-feathered *Brahmas*, belonging to the Duke of Newcastle. The cockerel was indeed a magnificent bird. *Spanish* fowls have been shown at former meetings of better character than on this occasion. *Hamburghs* were good and numerous. The Black-breasted Red *Game* cup birds, belonging to the Duke of Newcastle, were excellent, and shown in the very height of good condition; and Mr. J. Fletcher's *Duckings* were also most praiseworthy. The *Game Bantams* were mostly quite overshadowed, lacked condition, and some, we believe, were actually removed, they appeared so thoroughly prostrate. Some of the best *Silver-spangled Poland*s we have seen for years were shown. In the class for Ornamental birds, Golden and Silver Chinese Pheasants, and a very handsome hybrid between the English Pheasant and Black Bantam hen, had hosts of admirers. The Selling Class was remarkably large; and as a sure corrective of the deception, now so common, of entering highly valued poultry at a ridiculously low figure, and instantly claiming them, all prize or commended pens were sold by auction, and the excess on the entered price was given up to the Society. This keeps out all sharp practice.

The Honorary Secretary showed a very good collection of poultry in the local class, and was most assiduous in promoting the comfort of every one.

(From a Correspondent.)

Of *Pigeons* there was a very strong show, many very good birds only receiving high commendations. First on the list were *Carriers*. The first prize for Black cocks went to Mr. Wiltshire for a cock that did not prepossess me, being sadly short of carriage and neck. In Black hens Mr. Crossley took first and second with birds of superior style. In cocks of any other colour he was first with a Dun cock with a deformed foot. In hens of any other colour Mr. Fulton deservedly won the cup for the best Carrier of any colour with a magnificent Dun hen, late the property of Mr. Hedley, that has taken a prize wherever shown. I would throw out a hint here, that Judges are too prone to give prizes to Carriers that are sadly too coarse, in preference to such birds as those shown here by Mr. Walker in cocks, and Messrs. Crossley and Fulton in hens, which possessed plenty of style and carriage combined with head and beak. In *Pouter* cocks, Red or Blue, Mr. Fulton was first, but not with, in my opinion, his best birds. He also took first in Red or Blue hens, and the same in both classes for any other colour.

In *Almonds* Mr. Wiltshire took the cup with a pair that had been overtrimm'd in the beak, but nevertheless good birds. In *Tumblers* of any other variety Mr. Fulton was first with a good pair of *Agates*, and Mr. Crossley second with a good pair of Blacks. For *Cochins* Mr. Horner was first, and Mr. Fulton second, with Reds. *Fantails* were fair. In *Orels* Mr. Fielding was first and second. *Turbits* were a fair, and *Barbs* a good class, Mr. Wiltshire taking the cup, and Mr. Crossley being second. *Dragoons* were a strong class, Mr. Horner taking

the first prize. For "any other variety" the first prize went to a very good pair of Yellow Magpies and the second to *Hyacinths*.

Of *Rabbits* there were many good specimens, and the prizes were justly awarded. The following is the prize list:—

DORKINGS (Coloured).—Cup, Mrs. Arkwright, Etwahl Hall, Derby. Second, Duke of Newcastle, Clumber. Highly Commended, D. Gellatly, Meigle, N.B.; Mrs. Arkwright; B. Dawson, Leybourne; Dr. Campbell, Brentwood; Hou. H. Fitzwilliam, Wentworth Woodhouse; J. Clift, Dorking; H. Pickles, jun., Earby. Commended, J. Vorley, Ifoibeach; H. Lingwood, Barking, Needham Market; G. Clarke, Long Sutton.

BRAHMAS (Any other variety).—First, Mrs. Arkwright (Silver-Gray); Second, Dr. Campbell (White). Highly Commended, O. E. Cresswell, Hanworth (Silver).

COCHIN-CHINAS (Buff).—First, W. A. Burnell, Southwell. Second, C. Sidgwick, Ryddlesden Hall, Keighley. Highly Commended, L. H. Ricketts, Barrowell; H. Lingwood.

COCHIN-CHINAS (Any other colour).—First, J. K. Fowler, Aylesbury (Partridge). Second, W. Warren, Godney Dyke. Highly Commended, T. M. Derry, Godney (Partridge). Commended, Mrs. J. Clarke, Long Sutton (White); Rev. R. Hallis, Whaplode Drove (White).

BRAHMAS (Dark).—Cup, Duke of Newcastle. Second, E. Alder, Derby. Highly Commended, E. Alder; H. Saville, Rufford Abbey, near Ollerton. **BRAHMAS (Light).**—First, H. Dowsett, Pleshey, Chelmsford. Second, G. Hustler, Stillbugfleet, York. Highly Commended, J. Pinos, Postford, Guildford.

SPANISH.—First, H. Snushall, Godney. Second, A. Cole, Long Sutton. **HAMBURGHS (Golden and Silver-spangled).**—Cup, J. Laming, Cowburn, Spalding (Golden). Second, H. Pickles, jun. Highly Commended, J. Walker, Hays Park, Knesborough; Ashton & Booth, Broadbottom, Manchester (Silver); S. & R. Ashton, Mottram, Cheshire (Golden). Commended, W. McMellon, Glossop.

HAMBURGHS (Golden and Silver-pencilled).—First, J. R. Jessop, Hull. Second, A. Cole (Golden). Highly Commended, J. Webster, Whitby (Golden). Commended, J. Walker.

GAME (Black-breasted and other Reds).—Cup, Duke of Newcastle. Second, J. Fletcher, Stoneclough, Manchester. Highly Commended, J. Fletcher; F. R. Hall, Cambridge; W. Goose, Long Sutton (Brown-breasted); G. R. Smith, Scarborough.

GAME (Duckwing and other Greys and Bloos).—First, J. Fletcher (Duckwing). Second, T. Robertshall, jun., Illigworth, near Halifax (Duckwing).

GAME (Any other variety).—First, E. Crawford, Long Sutton (Black). Second, W. Dale, Weston-super-Mare (Pile).

FRENCH FOWLS (Any variety).—Cup, Col. Stuart Wortley, Grove End Road, London. Second, Hon. C. Fitzwilliam (La Flèche). Highly Commended, J. O. Hobson, Long Sutton (Crève-Cœur); J. K. Fowler (Crève-Cœur and La Flèche). Commended, T. Fox, St. Catherine's, Lincoln; Hon. H. Fitzwilliam (La Flèche).

GAME BANTAMS (Black-breasted Reds).—Cup, Rev. C. H. Crosse, Cambridge. Second, J. Crosland, jun., Wakefield. Highly Commended, W. F. Entwistle; J. W. Morris, Rochdale; W. Adams, St. Clements, Ipswich. Commended, W. F. Entwistle; J. Crosland, jun.

GAME BANTAMS (Any other variety).—First, T. Whittaker, Melton Mowbray (Pile). Second and Highly Commended, J. Crosland, jun. (Duckwing). Commended, W. F. Entwistle (Duckwing); J. M. Morris (Duckwing); Mason & Charlesworth, Chesterfield.

BANTAMS (Any variety except Game).—Cup, G. Clarke (Black). Second, H. Draycott, Humberstone, near Leicester. Highly Commended, Mrs. Woodcock, Leicester (White Japanese); H. Pickles, jun. (Black); E. Cambridge, Stowpore near Bristol (Black); J. W. Morris (Black); H. Draycott. Commended, T. C. Harrison, Hull; R. B. Riley, Oveuden, near Halifax; W. H. Tomlinson, Newark (Black).

ANY OTHER VARIETY.—First, J. K. Fowler (White Frizzled). Second, J. Laming. Highly Commended, G. W. Boothby, Louth (Silver Polish); S. S. Mossop, Long Sutton (Buff Polish). *Chickens.*—Cup, H. Pickles (Polish). Second, C. Sidgwick (Black Hamburgs). Highly Commended and Commended, H. Saville.

ORNAMENTAL (Any breed).—First, J. Mayes, Long Sutton (Golden-Pheasants). Second, H. Bates, Spalding (Silver Pheasants). Highly Commended, H. Perry, Long Sutton (Piping Bullfinch); G. Clarke (a cross between a Black Bantam and a Pheasant); G. Lee, Davesmers, Long Sutton (Silver Pheasant). Commended, G. Clarke (Common Pheasants).

TURKEYS.—First, Mrs. Harris, Sutton, St. James. Second, S. H. Slott, Quarry Hill, Rochdale. Highly Commended, W. Sanday, Holme Pierrepont, Nottingham; W. Wright, Long Sutton; Mrs. Harris.

DUCK (Aylesbury).—First, J. K. Fowler. Second, S. H. Slott. Highly Commended, Mrs. Goodliif, Conington Lane, Sutton; J. K. Fowler. Commended, G. Hustler.

DUCKS (Rouen).—First, J. J. Slott, Quarry Hill, Rochdale. Second, J. White, Whitley Netherton, near Wakefield. Commended, Mrs. J. A. Clarke.

DUCKS (Any other variety).—First, T. C. Harrison. Second, H. Saville (Carolin). Highly Commended, T. C. Harrison; Mrs. Goodliif (White Call). Commended, S. Burn, Whitley (Black East Indian).

GEES (Any variety).—First, J. K. Fowler (Toulouse). Second, G. Instur (Toulouse). Highly Commended, S. H. Slott; Mrs. Euffham, Lofus, Saltburn by the Sea. Commended, Mrs. Goodliif.

SELLING CLASS.—First, Dr. Campbell (White Dorkings). Second, W. A. Burnell (Buff Cochins). Highly Commended, J. Laming (Silver-spangled); P. Hutchinson, Spalding (Buff Cochins); C. W. Gibbs, Long Sutton Marsh (Golden-pencilled); Mrs. J. A. Clarke, Long Sutton (Rouen Ducks); S. S. Mossop (Partridge Cochins); J. Webster (Golden-pencilled). Commended, H. Sunshall (Coloured Dorkings); C. W. Gibbs (Aylesbury Ducks); Mrs. J. Clarke, Long Sutton (Light Brahmas); G. T. Peel (Game); A. Cole (Spanish); Rev. F. Tearle, Nowmarket (Silver-spangled); S. S. Mossop (Buff Cochins).

LOCAL.—First, H. Snushall (Black Spanish). Second and Third, A. Cole (Golden-pencilled and Black Spanish).

BANTAMS (Any other variety).—First and Cup for greatest number of points, G. Clarke (Black Bantams). Second, S. S. Mossop (Polish). Third, J. O. Hobson (Crève-Cœurs).

PIGEONS.

CARRIERS (Black).—Cock.—First, F. T. Wiltshire, West Craydon. Second, R. H. Artidale, West Derby, Liverpool. Highly Commended, F. T. Wiltshire; E. Walker, Leicester. *Hen.*—First and Second, E.

Crossley, Elland, York. Highly Commended, R. H. Artindale; E. Horner, Harewood, Leeds; R. Fulton, Deptford, Commended, R. Fulton.

CARRIERS (Any other colour).—Cock.—First, F. Crossley. Second, R. Fulton (Dun). Highly Commended, L. Wren, Lowestoft; E. Walker (Dun); E. Horner; R. Fulton (Dun). Hen.—Cup, R. Fulton (Dun). Second, F. Crossley. Highly Commended, E. Horner; R. Fulton (Dun).

POUTERS (Red or Blue).—Cock.—First and Commended, R. Fulton (Blue). Second, A. H. Stewart, Birmingham. Highly Commended, F. Crossley. Hen.—First, R. Fulton (Red). Second, F. Crossley. Highly Commended, A. H. Stewart; E. Horner.

POUTERS (Any other colour).—Cock.—First and Second, R. Fulton (Black and White). Highly Commended, A. H. Stewart. Commended, A. Heath (White). Hen.—First, R. Fulton (Black). Second, A. H. Stewart.

TUMBLERS (Almond).—Cup and Second, F. T. Wiltshire. Highly Commended, F. Crossley; R. Fulton.

TUMBLERS (Any other colour).—First, R. Fulton (Agate Mottles). Second, F. Crossley. Highly Commended, J. Thomson, Bingley (Yellow Mottled and Blue Beard); E. Horner; R. Fulton (Agate Mottles).

JACOBSINS.—First, E. Horner. Second, R. Fulton.

FANTAILS.—First, H. Draycott, Humberstone, near Leicester. Second, W. H. Tomlinson, Newark. Commended, H. Yardley, Market Hall, Birmingham; W. R. Park, Abbot'smeadow, Melrose; E. Horner.

OWLS.—First and Second, J. Fielding, jun., Rochdale. Highly Commended, F. Crossley.

TURBITS.—First, W. R. Park. Second, H. Yardley. Commended, J. Thompson.

BARBS.—Cup and Highly Commended, F. T. Wiltshire. Second, F. Crossley. Commended, E. Horner.

DRAGONS.—First, E. Horner. Second, G. Louth, East Acton. Highly Commended, R. H. Artindale; H. Yardley; E. Horner. Commended, Mrs. Arkwright, Edwall Hall, Derby; F. Crossley.

ANY OTHER VARIETY.—First, E. Horner. Second, J. Barnes (Hyacinths). Highly Commended, Mrs. Woodcock, Leicester (White Trumpeters); H. Yardley; H. Draycott (Tays); E. Horner. Commended, J. Thompson.

SELLING CLASS.—First, W. Massey, (Fantails). Second, F. Kay, Beverley. Commended, H. Snushall, Gedoey (Blus Turbits); H. Yardley; F. Clarke, Long Sutton (German Ice); J. Thompson; T. C. & E. Newbitt, Epworth.

RABBITS.—Any Pure Breed.—First, M. Millington, York (Black and White Doe). Second, A. H. Easton, Hull (Yellow and White Lop-eared Buck). Highly Commended, J. T. & R. S. Codling, Whaplode (Lop-eared Buck); M. Millington (Fawn Doe). *Haredest*.—First, P. Booth, Spalding. Second, W. Jeffrey, Long Sutton. Highly Commended, T. Taylor, Sheffield.

The Judges for Poultry were Messrs. Edward Hewitt, of Birmingham, and Richard Teehay, of Preston; and Mr. W. B. Tegetmeier, of London, awarded the Pigeon prizes.

WOLVERHAMPTON POULTRY SHOW.

The prize schedule was very liberal, and was well responded to by exhibitors generally. The Agricultural Hall at Wolverhampton is well adapted for a show of this description, and the arrangements connected with the poultry and Pigeons were complete. There is one arrangement, however, that might be altered to meet the views of owners of exhibition poultry. Exhibitors do not seem to approve of the birds being confined from Saturday afternoon until Monday morning before being judged. Perhaps the Committee, who are most desirous to meet the wishes of every one, will at least give this due consideration when arranging their next prize schedule. If, too, a little more time could be given to the judging it would prove an advantage.

The *Dorkings* were far better than was anticipated; whilst, strange to say, the *Spanish* class, which last year was the pride of the Show, was this year comparatively meagre. It would seem as if the great superiority of last year's Spanish class prevented many from making entries this year, considering their chances of success as hopeless. *Cochins* were, as usual here, very good; and the *Hamburgs* were beyond a doubt far superior to those hitherto shown in this district. The Black *Hamburgs* were peculiarly good, and several very good pens of dark-feathered *Brahmas* were well shown. *Guncs* proved very fine and numerous. The class for *French* fowls was a complete success. The *Bantams* were not so good as these classes were last year. More than forty pens competed in the selling class, and numbers of these pens were claimed. The classes for pairs of pullets, the *Geese*, the *Turkeys*, and the *Ducks* were admirable.

It is long since so excellent a collection of *Pigeons* was shown at Wolverhampton, and the condition of most of the birds was faultless. The weather proved most satisfactory, and the number of visitors showed that poultry-culture is becoming even more popular than ever.

DORKINGS (Any colour).—First and Third, Mrs. Arkwright, Edwall Hall. Second, J. L. Lowndes, Hartwell. Highly Commended, Countess of Dartmouth, Patshull Hall (Grey); Hon. H. W. Fitzwilliam, Rotherham. Commended, Hon. H. W. Fitzwilliam; Mrs. Bailey, Shooter's Hill; J. L. Lowndes, Hartwell (Silver-Grey).

SPANISH.—First, J. Walker, Wolverhampton. Second, J. Smith, Keighley. Third, M. Eggington, Wolverhampton. Commended, T. Bamfield, Clifton.

COCHIN-CHINA (White).—First, Cochin Cup, and Third, R. Chase, Rallsall Heath. Second, Mrs. A. Williamson, Leicester. Highly Commended, G. Lamb, Compton; Mrs. A. Williamson.

COCHIN-CHINA (Partridge).—First, R. Story, Derby. Second, E. Tudman, Whitchurch. Third, Hon. Mrs. Sugden, Wells. Highly Commended, J. K. Fowler, Aylesbury. Commended, S. Wilcox, Oswestry. R. Story.

COCHIN-CHINA (Buff and Cinnamon).—First, Hon. Mrs. Sugden. Second, J. Lee. Third, A. Darby. Highly Commended, E. Brindley; C. Sidgwick, Keighley; W. A. Burwell, Southwell; J. H. Dawes, Moseley Hall; H. Mapplebeck, Woodfield. Commended, C. Banbery, Penn Fields;

J. N. Beasley, Brampton; T. Groves, Shrewsbury; A. De Metz, Compton; G. Lamb; Rev. S. C. Hammerton, Warwick; J. Cattell, Birmingham; H. Mapplebeck.

HAMBURGS (Golden-spangled).—First, J. Walker, Hays Park. Second, I. Davies, Harborne. Third, T. May, Wolverhampton. Highly Commended, H. Beldon, Goltstock; E. Brierley, Heywood. Commended, T. Bolton, Hanford; J. Chadderton, Hollinwood; T. C. & E. Newbitt, Epworth.

HAMBURGS (Silver-spangled).—First and Hamburg Cup, also extra Two Guinea for the best pen of *Hamburgs*, Duke of Sutherland, Trent-ham Hall. Second, J. Walker. Third, H. Beldon. Highly Commended, Mrs. Flynn, Kildgrove; Ashton & Booth, Mottram; J. Robinson, Garstang.

HAMBURGS (Gold-pencilled).—First, W. R. Park, Melrose. Second and Third, H. Beldon. Commended, F. D. Mort, Stafford; J. Walker; W. Parr, Patricroft.

HAMBURGS (Silver-pencilled).—First, Duke of Sutherland. Second, T. Hanson, Keighley. Third, H. Beldon. Highly Commended, H. Beldon; W. & J. Bairstow, Fearncliff. Commended, J. Robinson.

POLISH.—Prize, H. Beldon. Highly Commended, R. P. Williams, Dublin.

BRAHMAS.—First, R. W. Beachey, Newton Abbot. Second, L. Pointon, Biddulph. Third, C. Layland, Warrington.

GAME (Black or Brown-breasted).—First and Two Guinea Victualers' prize, also the President's Cup of Five Guinea, G. Bentley, Stone (Black Red). Second, J. Fletcher, Stoneclogh. Third, J. Platt, Winsford. Commended, W. H. Cadwallader, Compton; W. Dunning, Newport; G. Lunt, Adderley (Brown Red); E. Brough, Leek (Brown Red); J. Platt, Winsford; J. Fletcher; G. Swift, Fulford.

GAME (Any other variety).—First, J. Fletcher (Duckwing). Second, T. Dyson, Halifax (Duckwing). Third, W. Dunning, Newport (Duckwing). Commended, R. B. Riley, Ovenden (Duckwing); R. Swift, Southwell.

FRENCH FOWLS.—First, Hon. R. W. Fitzwilliam (Crève-Cœur). Second, W. A. Burnell (La Flèche). Highly Commended, W. Butler, Wolverhampton (Houdan); J. K. Fowler, Aylesbury (Crève-Cœur and La Flèche). Commended, W. R. Park (Crève-Cœur); R. B. Wood, Uttoxeter (Crève-Cœur); Mrs. M. Seamons, Hartwell (Crève-Cœur).

BANTAMS (Black Red).—First, J. Crosland, jun., Wakefield. Second, W. Griffiths, Nantwich. Third, J. J. Cousins, Allerton. Highly Commended, J. Adkins, jun., Walsall; J. J. Cousins.

BANTAMS (Any other variety).—First, W. H. Tomlinson, Newark (Black). Second, Mrs. Woodcock (White Japanese). Third, S. & R. Ashton, Mottram (Black). Commended, H. Draycott, Humberstone.

ANY OTHER VARIETY NOT PREVIOUSLY MENTIONED.—First and Second, Mason & Walker, Denton (Black Hamburgs). Third, Rev. A. G. Brooke, Ruyton-XL-Towns (Malaya). Highly Commended, Rev. W. F. Story, Davenport (Silky Niggers); J. K. Fowler (Silky Japanese); W. Parr, Patricroft (Black Hamburgs). Commended, W. A. Burnell, Southwell (Andalusian); E. Geary, Brierley Hill (Pea Fowl).

SELLING CLASS.—First, J. Walker (Black Spanish). Second, C. Banbery (Buff Cochins). Highly Commended, Rev. P. W. Story (White-feathered-legged); H. Yardley, Birmingham; J. Dewhurst, Chltheroe (Dark Brahmas); H. Bagnshaw, Uttoxeter (Golden-spangled Hamburgs); Rev. W. Serjeantson, Acton Burnell (Black Hamburgs); A. De Metz (Black Spanish); G. Lamb (Partridge Cochins); G. Lunt, Adderley (Game Piles); J. Robinson; T. Blakeman (Gold-spangled Hamburg). Commended, Rev. P. W. Story (Japanese Bantams); R. P. Williams (Golden Polish); L. Pointon (Dark Brahma); J. Platt, Winsford (Brown Red); T. Peake, Compton (Duckwing Bantams); T. Grove (Cochin-China); Bowman & Fearon; J. Walker (Hamborgh); Mrs. A. Williamson (White Cochins); Rev. S. C. Hamerton, Warwick; W. Nottage, Northampton (Spanish.)

SINGLE PULLETS.

DORKINGS.—First, Countess of Dartmouth. Second, Mrs. Arkwright. Highly Commended, Hon. H. W. Fitzwilliam; E. Shaw. Commended, Rev. E. Bartrum, Great Berkhamstead.

COCHIN-CHINA.—First, J. Robinson. Second, G. A. Crewe, Etwall. Highly Commended, Bowman & Fearon; Capt. D. Lane; G. Lamb; J. Cattell, Birmingham; H. Vaughan; Mrs. Woodcock. Commended, Hon. Mrs. Sugden; W. A. Burnell; J. H. Dawes; G. Lamb; J. Stephens, Walsall.

HAMBURGS.—First, J. M. Kilvert, Ludlow. Second, T. Blakeman. Highly Commended, Rev. W. Serjeantson, Acton Burnell; J. Walker. Commended, G. F. Whitehouse, King's Heath; B. Waterhouse; E. Brierley; J. Robinson.

GAME.—First, J. Mason, Worcester. Second, H. C. & W. J. Mason, Leeds. Highly Commended, W. H. Mitchell, Moseley; G. Bentley, Stone; E. Brough, Leek. Commended, Capt. D. Lane; W. Bradley, Worcester; G. Clements, Birmingham; G. Swift, Fulford.

PRESIDENT'S PRIZES.—First, T. May, Bloombury, Wolverhampton. Second, J. Walker, Wolverhampton. Third, W. Smallwood, Wolverhampton.

TURKEYS.—First, S. H. Stott, Rochdale. Second, F. E. Richardson. Highly Commended, F. E. Richardson, Uttoxeter. Commended, J. K. Fowler, Aylesbury.

GEESE.—First, Mrs. M. Seamons, Hartwell. Second, J. K. Fowler. Highly Commended, J. Timmins, Prestwood; S. H. Stott.

DUCKS (Aylesbury).—First and Commended, Mrs. M. Seamons. Second, J. K. Fowler. Highly Commended, E. Leech, Rochdale. Commended, R. P. Williams, Dublin.

DUCKS (Rouen).—First, G. Bagnall, Chadds. Second, J. White, Wakefield. Commended, J. Robinson.

DUCKS (Any other variety).—First, R. P. Williams (Ruddy Shelducks). Second, Rev. W. Serjeantson, Acton Burnell (Black East Indian). Highly Commended, Sir J. Morris, Kt., Elmsdale (Summer or Carolina); R. P. Williams Dublin (Brahmas).

PIGEONS.

TUMBLERS.—First, J. Hawley. Second, J. Fielding, jun. Highly Commended, W. Choyce, Sibson. Commended, H. Yardley, Birmingham.

CARRIERS.—First, J. C. Ord, London. Second, H. Yardley. Highly Commended, E. Horner, Leeds; H. Yardley; J. C. Ord. Commended, J. Hawley.

POUTERS.—First, J. E. Breward, Great Barr. Second, J. Hawley. Highly Commended, H. Yardley. Commended, J. E. Breward.

FANTAILS.—First, J. E. Breward. Second, H. Yardley. Highly Commended, F. H. Paget, Leicester; J. Hawley; H. Draycott, Humberstone; W. Choyce; H. Yardley; J. E. Breward. Commended, W. Choyce.

ANTWERPS.—First and Second, J. Cox, Wolverhampton. Very Highly Commended, J. W. Wilkinson, Bradford. Highly Commended, —Hnnter, Wolverhampton; J. Hawley; H. Acntt, Wolverhampton; W. Butler, Walsall; T. A. Dean, Hereford; H. Yardley; J. Thompson, Bingley; J. Crossland, jun.; J. W. Wilkinson; W. Hughes, Wolverhampton. Commended, H. Yardley; W. H. Mitchell, Moseley; H. Allsopp, Birmingham; B. Benton, Wolverhampton.

DRAGONS.—First, H. Allsopp. Second, E. Butterworth, Nantwich. Highly Commended, E. Butterworth; D. Bromley, Over Hulton; H. Yardley; H. Vaughan, Wolverhampton. Commended, H. Yardley; J. Thompson; A. Beote, Creve.

ANY OTHER VARIETY.—First, H. Draycott (Frillbacks). Second, H. Yardley. Third, J. Fielding, jun., Rochdale (White Owls). Highly Commended, H. Yardley; H. Draycott (Toys); T. Bywater, Wolverhampton; T. H. Frean, Liverpool (Black Barbs); J. E. Broward (Black Swallows); W. Choyce (Magpies); E. Horner, Leeds. Commended, W. Price, Handsworth (Blue, and Yellow Owls); F. H. Paget; T. Booth, Church Lawton (Blue Chequered Owls); J. Thompson.

The Judge was E. Hewitt, Esq., of Sparkbrook, Birmingham.

NATIONAL PERISTERONIC SOCIETY.

UNION is strength, if we may judge by the last Exhibition of this Society at the Freemasons' Tavern, Great Queen Street, London. As our readers are, no doubt, aware, this Society consists of the Philo-peristeron and the National Columbarian Societies amalgamated, and we are happy to learn that the Society will hold a show at the Crystal Palace in January next. We would be glad to see it extended to two days instead of only one day, and such an extension of time we think the promoters would do well to consider.

Carriers were shown in large numbers. Mr. Hedley having a very good pair of Duns, Mr. Else some good Blacks, Mr. Ord a very good Black hen, and Messrs. Feltham and Maynard some very good specimens. Mottles and Beards came from Mr. Esden, and amongst them was a very good Black Beard. Jacobins and Fantails were shown by Mr. Maynard, and Barbs by Messrs. Maynard and Hedley.

BLACK-LEGGED FOWLS.

I HOPE you will aid me in an attempt to break through a prejudice which tends to keep "poultry meat" at a higher price than necessary. Few persons have any idea of the extent to which we are tyrannised over by our cooks and the poultrymen. The former say, "Oh, white-legged fowls look so much better on the table than these with dark legs;" and the latter, of course, meet the views of their patrons—the cooks, by offering for sale only those with white legs, to the exclusion of the far more numerous class with dark legs. Dark-legged poultry is so tabooed, that it is not to be found in the shop of any English poulterer. Now, I must beg attention to a little common sense in this matter. In France the favourite fowls are of the following breeds:—La Flèche and Crève-Cœur, the legs of which are as dark as can be, the legs of the Houdan are not quite so dark; these three classes are now conspicuous in our poultry shows, and might be imported advantageously, but the poultryman knows the prejudiced English cook looks to what she considers appearance, and will not buy them. The Spanish fowl is one of the most common in all parts, thriving equally in town as in country; it is a most excellent table fowl, but it, too, has dark legs.

New English cookery books, written more for sale than for information, pander to the well-known and absurd prejudice; but all the old books, under the heading "To Choose Poultry," say, "Dark-legged fowls are the most juicy and best flavoured." Evidently the French are of that opinion. My family, as well as myself, prefer dark-legged poultry, as sweeter and more nourishing; but my object is not to disparage one description of fowl at the expense of the other, but rather to remove disabilities which prejudice has thrown over the appearance in the kitchen of one highly-deserving class—viz., the dark-legged.

In rearing I have found the dark-legged hardier than the white in the proportion of four to three. Consult a knowing person in the country on what fowls to keep, and the first question asked will be, "For your own consumption or market?" And then the secret comes out—"White legs for market, their appearance fetches top price; but give me dark legs for a nice fowl at home."

We live in thralldom under our cooks' ideas of the elegant; get rid of this, and home and foreign poultry will be more plentiful in our markets, and prices lower. I venture to say, from practical experience, the pair of fowls now purchased in London for 8s. has not cost more than 5s., and that out of the 3s. difference as much as 1s. 6d. is for the appearance of the legs.

Claiming for dark legs the honours of *la cuisine*, so richly their due, I am, the Gallic cock—LA FLÈCHE (*Times*).

A MICROSCOPICAL INVESTIGATION INTO THE NATURE AND ORIGIN OF FOUL BROOD.

I HAVE much pleasure in laying before the apian readers of "our Journal" the following translation of a very interesting paper which appeared in the last number of the German Bee Journal, and shall be glad if "R. S." and other observers who are interested in the subject, will favour us with their opinions upon the theory which is therein promulgated. Its author, Dr. Preuss, of Dirschau, is a physician of great eminence, and wide-spread reputation, "Sanitätsrath," or Sanitary Councillor, being an honorary title conferred by the Prussian government only upon distinguished members of the medical profession; and whatever we may think of the fungoid theory which he advances, it must be conceded that he is tolerably correct in his treatment of the disease, and that we have to thank him for a painstaking and laborious effort to dispel the mystery which has so long enshrouded its origin, as well as the mode in which, under certain circumstances, it becomes so rapidly developed and propagated.—A DEVONSHIRE BEE-KEEPER.

THE EXISTENCE OF VIRULENT FOUL BROOD DEPENDENT UPON A MICROSCOPIC FUNGUS, *CRYPTOGGOCUS ALVEARIS*.
IT CAN BE PREVENTED AND CURED.

Although I have seen bee-keeping carried on from my earliest childhood, and have myself pursued it during seventeen years, in Dzierzon and straw hives, with German, Italian, and Egyptian bees, and have taken occasion to examine numerous apiaries in the valley of the Vistula from Dantzie to Ploek, in Poland, it was not until 1866 that I anywhere met with foul brood.

Bee-keeping in the Vistula valley is generally carried on in straw hives, and is very prosperous owing to the rich pasturage furnished first by the extensive fields of rape seed, then by the white clover, and in the autumn by the wild mustard. In the neighbourhood of Dirschau and Dantzie there are, indeed, numerous apiaries of Dzierzon hives, and at Gutland, one mile from Dirschau, my friend Wannow keeps bees entirely in hives of this description.

Two years ago, whilst he still possessed a magnificent apiary of seventy hives, mostly in bee-houses, he called my attention to the fact that foul brood had made its appearance among them. We did not at that time lay any particular stress upon it, and this is an error against which we can scarcely warn bee-keepers sufficiently. When I visited him again shortly afterwards, I was astonished at finding this beautiful apiary dwindled to one-half its former number, and still continuing diseased. I immediately purposed to devote myself to the investigation of this horrible malady, especially to the microscopical examination of the foul-broody substance, and I here communicate the result.

The statement of Von Molitor-Mühlfeld, of Mannheim, that a saw-fly is the cause of this disease, we have not found confirmed in a single instance, the minute perforations which sometimes exist in the cell-covers being made by the bee. Never have we, either with magnifier or microscope, found in the cells the eggs or maggots of saw-flies; never have we found in the hive even the saw-flies themselves. Neither can we indere the theory of Dr. Assmuss, that the disease is produced by the larva of *Phera incrassata*.

Foul brood, as is well known, has a viscous, gelatinous, and yeast-like appearance, and an unpleasant odour. Foul-broody cells may be recognised by their sunken covers.

In order to be able to set about the microscopical investigation of this disease, it is necessary to possess a microscope which has a magnifying power of at least 200 to 400 diameters. Mine is an excellent instrument by Brunner, of Paris, and my observations have been made with a magnifying power of 600 diameters. It possesses also a micrometer which will measure to the ten-thousandth part of a millimetre, or the twenty-thousandth part of a line.

It is also essential that we operate very neatly and with as little contamination as possible. The investigation is best conducted when the blue sky sheds its light on the field of the instrument—not the direct rays of the sun, or a reflected light from a building or such like. A retired room that is unshaken by passing vehicles, and a firmly-fixed table are also required. The instrument itself should be levelled in a horizontal plane.

A great many observers as well as beginners commit the mistake of placing too great a body of matter on the glass slide,

in which case nothing can be seen but a chaotic mass. It was against this error that my respected and highly-honoured preceptor, Ehrenberg, of Berlin, warned his scholars the most.

When the microscope is properly adjusted, we dip the end of a clean and very slight rod, either of glass or wood, into a foul-broody cell, and by this means deposit a particle of the matter about the size of a grain of sand (a portion even of the size of a millet grain would be too large), upon a very perfect glass slide scrupulously cleaned by means of wash-leather. We then dip another fine rod in freshly-distilled water, or in fresh rain water caught in a clean porcelain vessel (if the water be not quite fresh it becomes impregnated with organic matter, whilst spring water would deposit crystals and thus vitiate the operation), and by means of this perfectly clean rod dipped in absolutely pure water, we deposit a drop of the size of a millet grain, and no more, on the particle of foul brood of the size of a grain of sand, which by this means diffuses itself a little in the water. The whole being covered with a thin glass about the substance of a poppy-leaf, we have a preparation by means of which long and careful studies can be made. If we place it under the microscope we see a thousand dust-like bodies which are known to the microscopist as fungi, and which belong to the species *Cryptococcus* (Kützing). These are best seen at the edges of the mass where they are scattered singly; but if the observer has neglected the precautions before indicated he will not be able to detect the fungi singly, nor will he indeed see anything of which he can undertake the examination. If we find different-sized bodies, the larger are fatty particles, the remains of the bee chrysalis, and those which are smallest of all and dust-like are the fungi.

The foul-brood fungus, which I have named *Cryptococcus alvearis*, belongs to the smallest of fungoid forms. It is round and dust-shaped, and has a diameter of 1-500th millimetre, or 1-1095th line. Consequently 1095 can lie side by side within a Rhenish line, but within a square line 1095×1095 —that is, 1,199,825, or in round numbers, 1,200,000. The cubic line according to this would contain 1,440,000,000,000 fungi; and a cubic inch of foul brood, which consists of 1728 lines, would contain 2,488,320,000,000,000. If we reckon further that a cubic inch of comb contains 50 cells, the contents of each cell would be 49,766,400,000,000—in round numbers, fifty billions, or, deducting one-fifth for wax, forty billions of fungi.

It is only this enormous capability of increase which renders foul brood so dangerous, as is, indeed, the case with the cholera, typhus, and small-pox fungi, &c.

Foul brood is no more a poison than is any strong rank-growing weed: it merely supplants that which otherwise would live and thrive. It is closely allied to the fermentive fungus *Cryptococcus fermentum*, which by its rapid increase in fluids capable of fermentation, transmutes them, and, after it has consumed all the elements which are capable of serving for its reproduction, precipitates itself in the form of lees. Beer and wine lees are in like manner a conglomeration of microscopic fungi.

The actual nature of foul brood being clearly defined, everything else follows of itself. The extraordinary facility with which it may be communicated must be indubitable; so long as it lies jelly-like and covered in the cells it is perhaps the least dangerous; but when it reets dry, and like a black crust on the edges of the cells, or falling down within the hive is scattered abroad like dust, then billions of sporules are sown broadcast. They adhere to the feet of the bees, enter the cells filled with young brood, become transferred to other hives through resting on flowers, &c., and thus the disease may be spread in a thousandfold manner.

It is well known that it is not the larva, but the sealed chrysalis that first dies of foul brood and is then consumed by it. The fungus, however, first attaches itself to the larva, but in trifling quantity, for some thousand sporules cannot injure it; so pass the six days of its larval life. It has within itself the germ of death, but yet it lives. When in the nymphoid state it is killed by the fungus multiplying prodigiously in geometrical progression, which also continues to increase after the death and at the expense of the chrysalis, which it ultimately changes entirely into itself.

I should define the distinction made by Dzierzon between non-contagious and virulent foul brood as consisting in this—that non-contagious foul brood means the death of the larva from other causes, and virulent foul brood the death of the larva from foul brood fungus.

With respect to the origin of foul brood independently of infection, we have seen above that the foul brood and fermentive

fungi are of the same species, and it is also known that fungi, especially the microscopic kinds, change and transform one into the other, according to the different substances upon which they alight.

It is in this way highly probable that the fermentive fungus, *Cryptococcus fermentum*, may, when it comes in contact with, or when as food it enters the body of, the bee larva, change itself, under peculiar conditions of temperature and moisture, into *Cryptococcus alvearis*, or foul brood fungus.

All practical bee-keepers complain of feeding with fermentive honey as the principal cause of foul brood; and fermentive honey arises in the first instance if, when the honey is taken possession of, the sealed or open combs containing brood are not carefully separated from the honeycombs, in which case the honey becomes mingled with albumen, and is useless for feeding. We cannot, therefore, be too careful in using honey for bee food.

Mr. Wannow, of Gütland, a very assiduous and intelligent apiarian, always asserted, long before I had begun my microscopical investigations, his conviction that foul brood had arisen with him through giving his bees meal as food, or that it had at any rate been greatly increased by it. Although no other similar observation has reached me, I yet esteem this experience of a thoroughly practical man as well worth notice. Meal is an exceedingly favourable soil for the propagation of the fermentive fungus, as is proved by the abundant fermentation which follows the addition of yeast to dough. It may, therefore, be advisable, at least in hives which are already diseased, to eschew the use of meal as food.

As the fermentive fungus is very much diffused throughout nature, and as countless multitudes of its sporules float in the atmosphere, so they, without being greatly assisted in their increase by fermenting liquors, when they have the opportunity of establishing themselves on a soil which agrees with them, contrive to carry out their propensity for multiplication. A particularly favourable soil is found in dead and mouldering larvæ or chrysalids; and for this reason, if brood which has died from cold or other causes be permitted to remain in the hive, it may occasion virulent foul brood without feeding with deleterious honey or such like.

The removal of a hive, by which too many bees are lost, and those remaining are unable to foster the brood, may promote foul brood. The multiplication of stocks by artificial means, by which, when the proportion of bees to the brood is too small, the latter may readily be chilled to death, is more favourable to the outbreak of foul brood than natural swarming. I have on a former occasion advised for the prevention of chill, the warming of artificial swarms by means of corked bottles filled with hot water—a practice which I have found very beneficial. We are, therefore, very careful that dead brood, especially such as is sealed over, should be removed as soon as possible from the hive and buried deep underground, since the fungus, which may perhaps be already on it, readily grows luxuriantly in the open air. We should never throw out dead bees near an apiary, but bury them, as the dead bodies of bees are also soil in which fungi will thrive. As a corpse, if permitted to lie unburied, might infect a whole town and engender within it a fatal epidemic disease, so may a few putrefying maggots poison a whole apiary.

Should the disease have already broken out, it may be asked, What farther is to be done? In the first place, let us not take it easily, but view it with the same serious attention as is wont to be bestowed upon glanders among horses. That we must avoid all the before-mentioned food, either fermentive or capable of fermentation (among which meal should be reckoned) is, of course, self-evident. Medicaments for the extirpation of foul brood there are none. It is, as with the diseases of men, important to know this, lest time should be wasted in useless quackery. But as there are no medicaments for the disease, the maxim of Hippocrates must needs be valuable:—*Quæ medicamenta non sanant, ferrum sanat; quæ ferrum non sanat, ignis sanat*. We also pass quickly to the iron—i.e., we examine the hives diligently, and as soon as foul brood appears in the apiary, cut out every comb in which are foul-broody cells. If this is of no avail, the court of third instance—the fire, comes in its turn. We do not spare our apiary, but remove each foul-broody comb, disdaining to take from it either honey or wax, with which we should reap billions of foul-brood fungi, but throw it into the fire, wherein the fungi are effectually disposed of, and hang the healthy combs in pure hives. We do not deem it necessary to burn the infected hives, but wash them inside and out with diluted sulphuric acid (one part acid

to ten parts of water, by weight), and some time afterwards with boiling water, by which means the fungi are destroyed. If we prefer a self-acting process, we place the hives in an oven, and keep them there for some hours exposed to a temperature equal to that of boiling water; here the heat penetrates into all the crevices and pores, and effectually destroys the fungus. When, thirty-five years ago, I walked the hospital in Berlin as a young medical student, puerperal fever and hospital gangrene prevailed to a fearful extent, and the women and the wounded perished from ulceration, after enduring the most horrible sufferings. All remedies and precautions having proved futile, we emptied the different wards, keeping them for weeks with closed windows, heated to a temperature of 40° (123° Fahrenheit), and when they were again tenanted by the sick it was found that the epidemic had vanished. Here, then, also we may presume that a fungus was destroyed by the heat.

The site of the apiary should be repeatedly moistened with diluted sulphuric acid, and the earth around it dug over. After all the hives are purified, we should, if possible, remove the apiary to a new position. The conveyance of the disease by the bees themselves is perhaps less dangerous, if we only diligently examine their hives; and for this reason we only kill them when everything else fails. Their establishment in new, or at any rate clean, hives, is best effected about the middle of June, because they are then able to build sufficient combs and store them with food for the winter. *But all foul-breeding colonies should be transferred as nearly as possible at the same time, lest the healthy stocks become contaminated by the diseased ones.* For this reason also we examine all the combs weekly and remove such as are infected, and in this way it is quite possible to conquer the disease.

As in medicine the most distinguished practitioners generally discovered the right mode of treatment before the actual nature of the disease was determined, so also Dzierzon, von Berlepsch, and others have already promulgated many of the above rules for the treatment of foul brood, and have especially warned us against losing time in worthless quackeries, a warning which we cannot here repeat too forcibly. If, however, the instructions which we have given above be scrupulously and energetically followed out, no one need despair of curing the most virulent foul brood.—Dr. PREUSS, *Sanitätsrath.*

BEEES IN SOMERSETSHIRE.

THE experience I have gathered in sixteen years, though much of it of an old-fashioned sort, may interest some of your readers; my failures also may possibly prevent one or two from being disheartened, and encourage them to try again.

To begin at the beginning of my bee-keeping. The previous tenant of the premises, to which I came in 1852, left me a stock of bees in a very good Nutt's collateral hive of three boxes. They had occupied this hive for three or four years, and had never done more than fill the central box and build a small piece of comb in one side box. I found that the slides between the side and central boxes had always been open, and thinking that the temperature of the hive had been thus kept too low, I closed them, and the bees at once began to work in a glass super, in which during the July of the same year they stored 16 lbs. of honey. They gave me the same, or perhaps a rather heavier quantity in the following summer; but directly side communication was opened work in the super ceased, and they never showed any disposition to avail themselves of the additional room afforded by the side boxes.

During the years 1854 and 1855 these bees neither worked in the super as before, nor gave any promise of swarming; and as they seemed dispirited besides, and growing weak in numbers, in April, 1855, I turned them out of their box into a straw cottage hive partly filled with comb, and fed them liberally with the little honey that remained in their own stores and with sugared beer. They thrived very well in their new abode, and having, I suppose, reared for themselves a new queen, became very strong before the winter. In 1856 they threw an early and large swarm, which I secured in one of Neighbour's improved cottage hives. In the autumn I drove the old stock and added the bees to the swarm, and so made a very strong hive. I thus obtained the stores of the old stock without using brimstone, much to the surprise of many of my neighbours, and did not scruple to take also three glasses of honey from the cottage hive. My plunder amounted to more than 30 lbs. of beautiful honey.

I may just notice here that the transfer from wood to straw

had a wonderfully beneficial effect on the temper of these bees. So long as they were domiciled in Nutt's box hive they would allow no one to go near them, and many a time my gardener might be seen with his head sheltered in a bush, waiting patiently till his tormentors left him. After, however, they had been removed to the straw hive a total change came over them; they seemed to have lost their former irritable temper, and even children might play close to their hive unmolested.

The spring of 1857 found the inmates of Neighbour's cottage hive strong and active. They yielded me four small glasses and one large glass of honey, in all upwards of 40 lbs. The whole of this honey had a very strong flavour of rosemary. A very large plant of this shrub had blossomed profusely, and so strongly was all the honey which I took this year impregnated with it, that many persons found it very disagreeable to their palates.

In 1858 I purchased a strong stock and had another given to me, and, with the addition of these, and a splendid swarm from my own bees, my number of hives was now four. All of these I placed under a shed, and obtained several small glasses of honey, but on the whole the year was not to me a good honey year; still the stocks were all of them strong in the autumn and passed the winter well.

In the summer of 1859 three of my four hives swarmed twice each. One sent out one large swarm, and this latter another. Thus my total number of hives mounted up to twelve, all the bees worked well throughout the summer, and from some I took bell-glasses of honey, of the weight of which I have no memorandum. Why I acted as I now did I cannot tell. I did not, as I ought to have done, drive any of my bees; but over-persuaded by my gardener and an old parishioner, I was foolish enough, and mad enough, and cruel enough to destroy four stocks by the brimstone match, and so I received more than 80 lbs. of honey, for which I obtained a good price, besides a considerable quantity of wax.

In 1860 the tide turned—what else did a bee-destroyer deserve?—no swarms, no honey, and in the spring of 1861 every stock died. My vexation and grief may be more easily conceived than described. I could not but feel that my losses arose from my own stupidity and carelessness, and that if I had but used my own experience and a little common sense the case might have been very different. My garden did not seem the same with its flowers almost beardless. The loss of the cheerful lively hum took away from the brightness of many a gay spring and summer day. I was thoroughly cured of bee-destroying, I hope for ever, and so, I believe, was my gardener factotum.

So passed 1861 and 1862; but in 1863 a neighbour, to whom I had been able to render a little service, most kindly sent me what he knew I would value—a strong and early swarm housed in one of my flat-topped straw hives. This stock did well and passed the winter safely. My previous experience had quite convinced me of the advantages which must arise from the use of some form of hive which would allow more complete control of the bees, and more easy inspection than is possible with the straw hive of the usual shape. The best I could hear of was the American bar hive, and I therefore procured one from a very respectable and worthy old man named Downie, at New Barnet. I afterwards procured others from him, but, as will subsequently appear, inconvenience arose from their not being all made to scale, and also from the width of the bars being slightly too great. This, however, was my first acquaintance with the moveable-bar system; and when in 1864 my bees swarmed, I at once introduced them into the American box. The swarm had settled on a Currant bush. I placed the hive, removed from its floorboard, above them, and they at once ascended into it. This swarm was a very strong one, and worked better than any other I ever had. On the twenty-first day from that on which they were hived I removed a super of 16 lbs. nett of beautiful honey, and afterwards they filled a smaller glass, which I allowed them to keep for their own share. The parent hive also gave me a glass of 14 lbs. in weight.

In 1865, I had no swarms, but a very large supply of honey, nearly 50 lbs. from the two hives, and all this of the most beautiful description. Many of my parishioners now began to take much interest in the way in which my bees were worked, and would frequently ask to be allowed to look into the window at the back of the American box, though they could see very little there, and the sight of the bees at work in one of the glass supers never failed to afford the liveliest pleasure. I was also very glad to show some who were anxious to try the plan, how to place a bell-glass on the top of their own hives, by simply

cutting out part of the hive with a sharp knife, and either placing the glass directly on the hive, or, as is better, using a small adapting-board, with a hole in its centre, between the hive and the glass, by which means the glass when filled is removed with the greatest ease, and without any risk of breaking down the comb.

I began 1866 with two stocks, both of them very strong. I had procured, as already mentioned, other two hives from Mr. Downie, on what he called the American-bar principle, unfortunately not made exactly to the scale of my first one, in preparation for the swarms which I anticipated from my stocks. When the looked-for swarms issued I was travelling with two pupils, who used to accuse me of always being on the look-out for bees, and of wanting to enter every cottage garden where we saw any. [We were walking through Normandy, and saw some wonderful stores of honey, and very neat cottagers' apiaries], and on our return home, I found my new swarms housed in the old straw hives, with plenty of cross sticks stuck through them. My factotum, not, alas! the one who had been with me in my former bee experiences, did not feel equal to doing anything with the new-fangled boxes, though he had received full instructions as to what he was to do, and a villager, great about bees, to whom he applied for aid in the emergency, condemned them *in toto*, put plenty of cross sticks into the old hives, and so lived the swarms. Of these swarms two issued on one day, and went together, and so made one monster swarm, so large that it filled not only a large stock hive, but also the greater part of the super hive which I use to cover the bell-glasses with. The second swarm from one hive was also unusually strong.

A few days after my return home early in June, I had my second bitter experience, from the perpetration of a stupid blunder. A strong swarm issued from the large swarm which I have mentioned above, and which I had immediately on my return confined entirely to the stock hive, allowing only a large bell-glass, and not the whole super for them to work in. I took this swarm into a common straw hive, since it was not convenient to place the bar hive above it, as I had done on a former occasion. In the evening I placed the bar hive on a clean cloth, propped with two or three pieces of wood, and dashed the bees out on the cloth in front of it. In a short time they were all quiet in their new home; indeed, when once the ascent began, it was interesting to notice the regularity of their march.

So far well. Now followed my blunder. As soon as the bees were settled and quiet, I placed perforated zinc ventilators on the top of the box, and closed the entrance also with a perforated zinc slide. I did this from a wish to prevent the bees from flying back, as many usually do in the morning, to the place where they have alighted, an object, which as I now know, is accomplished by placing a new swarm in its intended position as soon as possible after it has been hived. After thus shutting in the bees in order, as I hoped, to cause them to settle to work more readily, I placed the box in its intended position, and did not visit it again till nearly twelve o'clock on the following morning. I then opened the entrance with all due precautions against a fierce outrush of eager multitudes, but there came no rush, only a feeble stagger of about a dozen dripping bees which fell to the ground at once, utterly unable to fly. I had wanted to be wiser than Nature. I hope for the future to follow, not to seek to direct. Immediately I took off not merely the zinc ventilators, but the whole top, and then I saw a miserable sight indeed. Between the moveable bars the bees were lying dead in a mass, and that mass nearly 4 inches deep. They had been stifled in a worse than black hole of Calcutta. Here was an evidence, the strongest possible, of the intense heat engendered by bees at swarming time. When I had removed all the bees I found the whole box apparently saturated with moisture, dripping with wet, and yet there was more than double the ventilation there was in the hive from which the swarm had issued. I suppose from crowding round the exit in the morning, and being unable to pass out, they had choked the entrance, and so vitiated the air more than the little circulation at the top only could purify it. With much self-reproach and many resolutions of letting well alone for the future, I buried the victims of my ignorance, and I watched all the more anxiously my surviving stocks, all of which did well, and passed the winter unharmed, so that I have now to begin upon my Ligurian experiences, which date from 1867.—A SOMERSET VICAR.

HOMINO PIGEONS.—On Thursday morning, Mr. Popplestone, station-master at Starcross, received from London per rail in a

tin box six Carrier Pigeons, which had been sent by a member of a London Pigeon Club, with the request that the birds might be set at liberty the same morning at 9.30. The request was complied with. The birds hovered over the Exe estuary, flying round and round for the purpose of ascertaining their whereabouts, and whither to direct their flight. At the end of that time they seemed to have satisfied themselves of their position, and darted off in the direction of Woodbury Hill, across which they were seen winging their rapid flight. Mr. Popplestone, we are informed, received a letter from the sender of the Pigeons on Friday morning, stating that one bird returned to its loft at Clerkenwell at 1.35 P.M. the day before, four others were found in the loft at two o'clock, and the last made its appearance a few minutes later. The Pigeons were only six months old. Between London and Starcross the distance by road is about 180 miles, which one of the Pigeons must have accomplished in little over three hours and a half.—(*Exeter Gazette*.)

OUR LETTER BOX.

BOOKS (Brahma).—You can have "The Poultry-Keepers' Manual" at our office. It contains sound information from none but practical men. You will see an answer about roup given to-day to another correspondent.

SILVER-SPANGLED HAMBURGS' FEATHERS (J. W.).—The feather you sent is a foul one, and does not belong to a Spangled Hamburg. It is the result of some distant cross, or of breeding out for want of fresh blood. On no account breed from such a bird. We would not use a wry-tailed cock. We have long known that defects are more certainly and more easily transmitted than merits or virtues. Wry-tail and crooked backs are among those that are certain to be reproduced.

WEIGHT OF BUFF COCHIN COCKEREL (Lenon Duff).—Ten and a half pounds at seven months old are more than a good weight, it is uncommon at the age, being growth at the rate of 1½ lb. per month. Cockerels still grow after that age if they are kept from the hens; but if they run promiscuously they furnish, but become little larger or heavier after eight months.

BREEDING AGE OF A GANDER (H. F. C.).—The gander of last May should be all you require for next season. They are capricious birds, and will not sometimes take to their Geese. Where that is the case get rid of the offender, and buy or borrow another.

FARNWORTH POULTRY SHOW (F. E. R.).—We printed the entire prize list. If you write to the Secretary he might tell you about the Turkeys.

ROUP (G. H.).—Wash the head daily, or twice daily, with tepid water; Sulphate of copper, one grain, daily, mixed in oatmeal mashed with ale, and plenty of green food. Separate the fowl from all others. If not better within a week kill the fowl.

DUCKWING GAME BANTAMS (Cousin Ada).—Look to the prize list of the Chelmsford Show in our last number. Prices vary with the degrees of excellence.

BRAHMA FOOTRAS NOT ROOSTING (J. M.).—The run you describe is an excellent one. The birds you have bought, have probably been accustomed to roost on the ground. They will take to the perch siter a time. They do not require straw, it only serves to harbour vermin. The only nest they will require are some square pieces of plank nailed to the wall. The earth will form the bottom of the nest while the hen lays, and it should be the same when she sits. The piece of wood to form the nest may be 12 inches every way; such pieces nailed to the wall at distances of 12 inches will make the nests; a little straw should be put in the nest, and it is well to have a head to prevent the eggs from rolling out.

FOWLS TRESPASSING (J. H. P.).—Your Bantams going into your neighbour's garden and scratching there, or even going there without scratching, commit a trespass; and if sued in the County Court you would be liable to a fine and the costs. You must either confine your Bantams, or have a wire-net fence so high that they cannot fly over it.

MR. PETTIGREW'S LARGE HIVES (C. M. Major).—Twelve inches deep by 15 inches, 18 inches, and 21 inches in diameter, according to circumstances. We hope shortly to be enabled to give some details of his mode of managing these apparently huge hives from Mr. Pettigrew's own pen.

BEES IN STEWARTON HIVE (A Subscriber).—If the bees did not extend into the second box, and that not having any comb in it, remove it for the winter. If the upper box, even, has not been filled with comb, the swarm could not have been "a strong one," as supposed, and we would advise feeding.

CANARIES' TAIL FEATHERS BENT (T. C. C.).—The tail can be brought straight again by dipping it in hot water; but it will in all probability assume its proper shape as it grows to maturity. When a young bird damages any portion of its tail, pull the latter entirely out. If the birds be kept in a large cage, three sides wood, with the perches screwed to the back, and not touching the wires, they will not rub their tails.

FOOD FOR EXHIBITION CANARIES (Idem).—Canary seed, 1 lb.; Summer rape seed, 1 lb.; linseed, ½ lb.; groats, about 2 ozs., mixed, and chopped egg twice a week, are all that are required for conditioning birds.—W. A. BLAESTON.

COUVE TRONCHUDA.—"E. D." wishes to be told how to cook the mid ribs of the large leaves of Couve tronchuda. His cook cannot make them tender, and especially asks, Are they to be peeled?

POULTRY MARKET.—OCTOBER 21.

	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls.....	3	0	3	6	Pheasants	2	6	2	9
Smaller do.....	2	6	5	0	Partridges	1	6	1	9
Chickens	1	9	2	0	Hares.....	2	6	2	9
Geese	6	0	7	0	Rabbits.....	1	4	1	5
Ducks	2	0	2	6	Wild do.....	0	8	0	9
Pigeons	0	8	0	9	Grouse	3	0	3	6

WEEKLY CALENDAR.

Day of Month	Day of Week.	OCT. 29—NOV. 4, 1868.	Average Temperature near London.			Rain in last 41 years.	Snn Risos.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
29	F		53.7	35.3	44.5	19	51 a f 6	37 a f 1	19 a f 4	8 a f 4	14	16 12	303
30	T		55.0	38.0	46.5	21	53 6	35 4	44 4	15 5	15	16 15	304
31	S	Royal Horticultural Society, Promenade. 21 SUNDAY AFTER TRINITY.	53.7	40.0	46.9	21	55 6	33 4	10 5	24 6	0	16 17	305
1	SUN		54.0	37.9	45.9	21	56 6	31 4	39 5	31 7	17	16 18	306
2	M		54.3	37.6	46.0	19	53 6	29 4	14 6	44 8	18	16 19	307
3	TU		53.5	35.6	44.6	19	0 7	27 4	59 6	52 9	19	16 19	308
4	W	Meeting of Nottingham Horticultural [Society.	52.0	36.6	44.3	21	2 7	26 4	49 7	55 10	20	16 18	309

From observations taken near London during the last forty-one years, the average day temperature of the week is 53.7°; and its night temperature 37.5°. The greatest heat was 64°, on the 2nd, 1857; and the lowest cold 22°, on the 1st, 1866. The greatest fall of rain was 0.98 inch.

MARKET GARDENING ABOUT LONDON AND PARIS.—No. 1.

I REMEMBER, in my former parish, a poor widow once consulting me with regard to a proposal she had had from a neighbour, who bore an indifferent character, and was reputed to be a drunkard. She spoke very wisely and well on the subject; she told of the comfort it would be to her to have a home, if it were a respectable one, and to have a protector for her children; "but, then, you see," she said, "W——'s character is a bad one. I know him to be a tippler, and there's no reason if there's a fire in the grate that I should put my head into it." Need I say what my strong advice was? and need I add that like most good advice it was set at naught, and that years of wretchedness and misery have resulted from "putting her head into the fire?" I was similarly situated when I saw the discussion going on in the horticultural journals relative to the market gardening about Paris as compared with that in the neighbourhood of London. I very wisely determined to keep clear of it. I thought that I was not altogether ignorant on the subject, and had some opportunities of judging as to the correctness or otherwise of some of the statements made, but the fire was "vara hot," and I did not fancy putting my head into it, and so I kept clear, gave the combatants a wide berth, and held my peace. Why, then, have I done otherwise? Why, like my poor friend, am I now about to put my head into the fire? If I have done foolishly, the saddle must be put on the right horse—viz., the Editors of THE JOURNAL OF HORTICULTURE.

It fell out on this wise. I was paying my annual visit to Paris in June last, a little later than usual, when, one afternoon calling at Vilmorin's, and inquiring for M. Henri Vilmorin, I was told he was gone to see one of the Editors; through their kindness a message was sent to him, and the next morning I found him in the courtyard of the Hotel de Saxe. We had much discourse together, and, naturally, it turned on those subjects dear to all readers of the Journal; amongst other points talked upon was the stir that had been made on the subject of market gardening in England and France, or, rather, in and about the metropolitan cities of both countries. The upshot of it was that I was asked, as I had a few days on hand, to employ a week in visiting especially those places of culture most likely to be interesting to us, and report accordingly. The task was a congenial one, the work pleasing, and I entered upon it *con amore*; if, in so doing, I bring down evil upon my own head, I must ask my good friends the Editors to help me to bear the blows. In so doing, however, I must beg it to be distinctly borne in mind that I enter not on it in any controversial spirit; I have but one object in view, and that is the good of horticulture. I have no theories to uphold, and, I hope, no prejudices to overcome. Such are my credentials, and now as to my qualifications.

The readers of THE JOURNAL OF HORTICULTURE know tolerably well that I am no tyro in gardening; that although I have mainly given my attention to florists' flowers, I

have also made myself acquainted with most branches of gardening; and that for many years I have been in the habit of visiting all the gardens, both public and private, which I was enabled to do in my frequent wanderings through England. I have seen in the gardens of our nobility and gentry, and in the well-ordered establishments of our public growers, the various plans and methods of cultivation adopted. During the past ten or eleven years I have also visited the Continent annually, have seen what gardening is in France and Belgium, and have been enabled to form some notion of its merits. I have not thus to contend with the difficulty that often surrounds a person who makes a first visit to a new country, who either goes with the belief that nothing is good but what is English, and who grumbles and growls to his heart's content over these "furren" ways, or who is prepared to see everything *couleur de rose*, and to come home with the idea that in everything they "do these things better in France."

I was not, however, satisfied with my previous knowledge, but felt that in writing on such a matter I ought to be as much at home as possible; and so, immediately on my friend's suggesting this, I started off to Vilmorin's, and told them my object, asking them where I should best see the various objects of culture which I desired more especially to report upon. With that urbanity and kindness which I have always experienced in France, and almost always in England, from members of the gardening profession, they not only offered me every information, but in order to place me more *au fait*, they put at my disposal one of their *employés*, who accompanied me on my visits, found out, as I could not have done, the readiest ways of access, and to the intelligent guidance of M. Viret, I owe a great part of the information which I obtained. When I say that, amongst other places, we visited together the establishments of L'Herault at Argenteuil, Lepère at Montreuil, Froment at Montrouge, Dupont at Clichy, &c., it will be seen that we went to head-quarters at once for our information, for each in his particular line is unsurpassed. I found the workmen generally intelligent and ready to give information; although amongst the *champignonistes* I do not think I should have got quite so ready an access to their places of cultivation if it had not been for my companion, and this I could well understand, for it involves considerable time and trouble. On my return to England I thought I should make myself more acquainted with the market gardening about London, and on applying to one whom I thought ought to be able to give me information, I was told that I should find the growers not nearly so willing to give information as their French brethren; that they thought more of their time, &c. I am bound to say I found it the very reverse, they were exceedingly kind, and gave me every information in their power. Here, too, I went to head-quarters—Mr. Dancer's fruit garden at Chiswick, Mr. Myatt's at Deptford, the Fulham grounds, &c., have all been visited by me, and I have been enabled thus to institute comparisons between the most eminent growers in both countries. Whatever errors, then, I may fall into, and whatever incompleteness of information I may be

guilty of, must arise from my own stupidity, and not because the sources of information have been unvisited, or those who were able to give it churlish in so doing.

I have felt it necessary to make these few preliminary remarks as due to the readers of THE JOURNAL OF HORTICULTURE and myself. There are some other preliminary observations which I must make as bearing generally on the subject of market gardening in England and France, but I would rather reserve them for my next paper, and I shall be then more ready to enter into the details of the various "cultures" on which I wish to report.—D., *Deal*.

A SELECTION OF ROSES.

As the catalogues of Roses are generally long and bewildering, and as the new Roses sent out annually are to a great extent worthless, it may be of service to persons unacquainted with Roses to give a selection of the best, and of such as are good growers, of hardy constitution, and free and constant bloomers. I am now about to speak of Roses on the Manetti stock, unless otherwise specified.

HYBRID PERPETUALS.—For beginners—Achille Gonod, Alfred Colomb, Anna Alexieff, Antoine Ducher, Baron Adolphe de Rothschild, Baronne Prevost, Caroline de Sansal, Charles Lefebvre, Comte de Nanteuil, Duc de Cazes, Exposition de Eric, John Hopper, Jules Margottin, La Ville de St. Denis, Lord Clyde, Madame Alfred de Rougemont, Baronne de Maynard, Madame C. Crapet, Madame Clemence Joigneaux, Maréchal Vaillant, Madame Bantin, Marguerite de St. Amand, Maurice Bernardin, Prince Carille de Rohan, Sénateur Vaisse, Souvenir de Dr. Jamain, Triomphe de Paris, Victor Verdier, and William Griffiths.

The preceding are beautiful Roses, and, if beginners cannot cultivate them successfully, the sooner they take to cultivating something else the better.

For older hands I add Abel Grand, Alpaide de Rotalier, Baronne Pelletan de Kinkelin, Black Prince, Charles Bonillard, Charles Verdier, first-rate, Comtesse de Chabillant, Dr. Andry, Duchesse de Caylus, Duchesse d'Orleans, Empereur de Maroc, Eugène Verdier, François Lacharme, Gloire de Ducher, Gloire de Vitry (on its own roots), a noble Rose; Jean Rosenkrantz, John Keynes, Monsieur de Montigny, a noble Rose; Lady Suffield, La Duchesse de Morny, Leopold Premier, Lord Macanlay, Madame Alice Dureau, a beautiful first-class novelty in the title of Lælia, Madame Rolland (not the same as Madame Belsud), Madame Charles Wood, Madame Emile Boyau, Madame Freeman, Madame Julie Daran, Madame Knorr, Madame Victor Verdier, first-rate; Pierre Notting, first-rate; Prince de Portia, Sœur des Anges, Souvenir de Comte Cavour, superb, but not full; Souvenir de la Reine d'Angleterre, and Vicomte Vigier.

I now put down two unsurpassed Roses, but they are delicate, and require genial situations and first-class loam—they are Madame Rivers and Madame Vidot.

I am very averse to recommending Roses that I have not fully proved, but I fancy we shall eventually find some good Roses among the following:—Paul Verdier, Monsieur Noman, La France, Marie Cirodge, Prince Humbert, Reine du Midi, Felix Genero, François Treyve, Marie Baumann, Mlle. Jeanne Marix, Madame Martine de Besse, and Merveille d'Anjou. I also fancy these three of this year's novelties—Monplaisir (Tea), and Hybrid Perpetuals Madame Jacquier and Thyra Hammerick.

BOURBON AND CHINA ROSES.—These are scentless Roses, and I will only put down distinct and essential ones.

BOURBON.—Acidalie, Baronne Gonella, Souvenir de Malmaison; and for poles, Sir J. Paxton.

CHINA.—Mrs. Basanquet.

PERPETUAL MOSS.—Madame E. Ory.

TEA-SCENTED NOISSETTES, a noble class.—Solfaterre, south wall; Gloire de Dijon, Céline Forestier, Triomphe de Rennes, Maréchal Niel, a noble Rose, requires a south wall. For beginners Gloire de Dijon is best.

TEA SCENTED ROSES.—For beginners Sombrenil, Devoniensis, and Rubens. For others, Adam, Homer, Madame Margottin, Madame Willermoz, Souvenir d'Elise, first-rate; Bouton d'Or, first-rate for button-holes, and Souvenir d'un Ami. For glass, Elise Sauvage, Madame Bravy, and Vicomtesse de Cazes.

Tea Roses are in their proper place when under glass. No Roses are superior to them for this purpose. They may be grown under a south wall. They require but little pruning, good drainage, high cultivation, plenty of water, and great heat.

Hybrid Perpetuals, Tea-scented Noisettes, and Tea-scented Roses are the best three families, and they are rapidly and justly superseding all others.

We have had a trying season, and it may help purchasers if I give the names of those Roses that have beaten everything here this year. These are:—Charles Lefebvre, Jules Margottin, Duchesse d'Orleans, Sœur des Anges, Baronne Prevost, Monsieur de Montigny, Marguerite de St. Amand, Madame Knorr, Gloire de Vitry, Isabella Gray; in the open ground, Gloire de Dijon, Céline Forestier, Triomphe de Rennes, Sombrenil, Elise Sauvage, Devoniensis, Rubens, and Souvenir d'Elise, a most beautiful Rose. Others have done well. On the whole I have had a splendid season. It is almost impossible to conceive or describe the magnificence of the first series of flowers.

I advise persons about to commence Rose-purchasing to find out what are really good, and accumulate them rather than heaps of Roses erroneously termed varieties. The variety consists in the name. Begin with fifty or a hundred each of Charles Lefebvre and Jules Margottin. These are every-day and all-the-season Roses. They always open, and never have a defective bloom. The same may be said of Gloire de Dijon, Céline Forestier, and Triomphe de Rennes.

I have discarded some Roses here, but I have filled up their places with well-known good kinds rather than with unproved novelties. The best novelties that I have had of late years are Alfred Colomb, Charles Verdier, Antoine Ducher, and Prince de Portia.

One more word and I have done. I expect a severe winter. It generally is the case that the winter is cold in proportion as the summer is hot, for the going-out of heat is equal to its going-in. All my Roses are mulched with stable litter or straw; and by November 8th they will be earthed over the straw or litter, and present the appearance of plants in molehills.—W. F. RADCLIFFE.

FIG TREE CULTURE.

The past summer in England so closely resembled in its high temperature the south of Europe, that it was peculiarly favourable to the development of such a crop of Figs as is very rarely to be seen in our changeable climate. Nor has the abundance of this singular fruit been confined to one or two favoured localities, but wherever the trees escaped injury from the severe frosts which occurred during the winter of 1866, or rather in the early months of 1867, fine crops of well-ripened fruit have been produced, and in some gardens having one or two of those enormous old trees which are occasionally to be met with planted in the most sheltered corner, the ripe fruit has been gathered by bushels. In these cases how little has science to do with the matter. I once saw some very fine fan-shaped trees beautifully trained, and most rigorously pruned on the spur system, and I was curious to know whether trees so treated in the open air would produce fruit in any quantity; but on making inquiry, I was told that but little fruit was ever ripened, certainly nothing ever approaching what might be considered a full crop. Since then I have met with several instances in which close pruning had been practised, and in every case the result was the same—but little, if any, fruit. From my own experience, I should say that moderate pruning, just sufficient to keep the trees within bounds, is by far the best plan, and even this may be effected in a great measure by pinching during the growing season. Trees so treated, and planted in a somewhat poor and shallow soil, will generally produce a fair crop of fruit.

Perhaps the most tantalising thing in connection with Fig culture in the open air, is that second crops are always most abundant and full of promise, but never coming to perfection, or at all events but very rarely. How it makes one long for the sheltering roof of an orchard house! What dishes of the luscious fruit could then be had for the dessert at this dull season of the year, when anything affording variety is so much appreciated!

It would be interesting to know how far the second crop has been affected by the heat of the past summer. The only instance in which I have heard of the second crop coming to maturity, is at Provender, near Faversham, the residence of the Dowager Lady Knatchbull, whence Mr. Maxted, the gardener wrote to me on October 15th, saying, "We have a fine second crop of the little Early White Fig, just fit for table." This is all the more interesting, as the trees are not on a wall but are bush-shaped, about 10 feet high. They are growing in a warm sheltered position facing the south. I believe I am right in stating that these trees are never pruned, but as they have no

protection whatever during the winter, the tips of the young branches are frequently killed by severe frost. This causes the buds at their base to start into growth, and the trees consequently become more bushy and compact.—EDWARD LUCKHURST, *Egerton House Gardens, Kent.*

FUCHSIA RICCARTONI.

AMONGST the plants whose growth or flowering has been interfered with by the heat of the past summer, the useful, hardy *Fuchsia Riccartoni* is one having a sturdiness of habit and deep-rooting propensity which would seem to render it safe from drought; but such has not been the case here, for some large old plants, of which the last year's stems had not been injured by the winter's frost, and with roots occupying a border that has been worked upwards of 6 feet deep, being, in fact, part of an embankment of that height, nevertheless showed signs of distress much sooner than might have been expected.

The plants flowered much earlier than usual, but the amount of bloom, and the length of time they continued in flower, fell far short of what might be expected of bushes upwards of 6 feet high, and as much in diameter. Their flowering seemed to be quite over by the middle of July, and by the 1st of August the foliage had assumed quite an autumnal appearance; but some rain which fell about the middle of August infused new vigour into the plants, fresh foliage was produced, and although much growth has not been made from the middle of September up to this time (the middle of October), the plants have been a mass of bloom. The flowers appear to be produced at every eye of the shoots made prior to July, rather than on those of recent growth. This is certainly an unusual case, but it might have been explicable enough if the plants had not had a sufficient amount of room for their roots, but as they had a depth of from 6 to 8 feet of soil, and that mostly of a suitable kind, I can only conclude that the extreme heat, and the deficiency of moisture in the atmosphere, caused the premature ripening of the shoots, which afterwards broke forth in flowers much in the same fashion as Potatoes have produced a second crop of tubers from the first. The situation was dry, and no water was given, but surrounding the *Fuchsias* was a carpeting of seedling *Petunias*, which did not seem to suffer, neither did the edging of *Centaurea gymnocarpa*. Doubtless, the *Fuchsias* require more moisture than either of the latter: hence the failure of the *Fuchsias* at the time they are usually at their best; but I am by no means dissatisfied with the result, for an autumn display is as useful as an August one, and they promise to supply that as long as the weather will permit.

Notwithstanding all that has been done in supplying our plant houses with improved varieties of *Fuchsias*, it does not appear that any one approaches *Riccartoni* for out-door display. The raiser of this old favourite has, therefore, something to be proud of, if he is yet alive; for a plant maintaining its position for thirty years in an age when the most approved variety of one season is superseded the next, is seldom met with among garden flowers. This old *Fuchsia* seems likely to continue for many years at the head of those for out-door cultivation, for if there is a better, it seems not to be generally known, and those possessing such would do good service by stating its name and merits.—J. ROBSON.

A GRAPE VINE AFTER TWENTY YEARS ON THE EXTENSION SYSTEM.

IN the spring of 1848 I put in some cuttings, from 15 to 18 inches long, of Sweetwater and Black Hamburgh Vines at the bottom of a south wall and round the borders of the kitchen garden, my employer being sanguine of carrying out the idea of growing Grapes here (West Kent), as well as on the Continent.

Along with the cuttings put in at the bottom of the wall, there were two small rooted plants. One, which proved to be a Black Hamburgh, was trained as a single rod, between two Peach trees, to the top of the wall, then along under the coping, where, in 1851, it ripened partially about a dozen bunches of Grapes. I then took the Vine from the wall, and layered it across the border into a turf pit, covered with glazed sashes, that had been used to winter bedding plants. There, in 1862, the Vine ripened nearly a hundred bunches with sun heat only. The place then passed into other hands, and I had the space between the pit and the wall covered with glass, thus giving the Vine room to extend itself, and it now covers about 300 feet

of glass surface, and but for the limited space allotted it would have covered a much larger extent. It bears annually good crops, which ripen about the first week in June.

I would observe with respect to layering, that the thickness of the stem, or rod, has increased very little. Where it enters the ground it is only 3½ inches in circumference; where it rises it is 10¼ inches.—PRACTICUS.

MUSHROOM CULTURE.

I HAVE frequently read with much interest the directions, hints, &c., on Mushroom-growing contained in "our Journal," and have, to the best of my ability, followed those instructions, but never with success. When I first commenced attempting to grow Mushrooms I felt certain of succeeding, having all things necessary, as I thought, immediately at hand. I have abundance of horse droppings, loose straw or litter, spare cellars of both dry and moist atmospheres, and good dark sheds, and I have tried spawn from several principal seedsmen in London, but my efforts have never resulted otherwise than in failure. If I could, through the medium of "our Journal," receive plain instructions from any amateur grower who has been successful, I might be better able to follow them than the course pursued by professional gardeners, and the first two dishes of Mushrooms I grow shall be distributed, one to the amateur, and the other to yourself, carriage paid.—R. J. R.

[We are very sorry that you have been so unfortunate in your Mushroom-growing, and the proffered reward is irresistible, but we are also sorry that you give us no information to enable us to be sure as to where the cause of want of success is to be found, and all the more, as you seem to have tried all that has appeared in our columns, and carried out all the instructions given, and yet without avail. As we would wish to have a fine dish of Mushrooms ere long, we will say a few words, first on the chief causes of failure, and then give a simple outline of one of the modes to be adopted to ensure success.]

The want of success is sometimes owing to bad exhausted spawn. The spawn when broken should be whitish inside, but the filaments should resemble the finest gossamer, or silky hair. If they are as large as a common sewing thread they are too far gone. It matters little about the age of the spawn if it is good, and has been kept dry. We have used it seven years after making without any diminution of the produce.

Good spawn is often destroyed by being put into a bed of wet material, or into a bed too warm, or that becomes too warm after the spawn has been inserted. A bed over-dry is safer than a bed over-wet. In the first case you can water, or ease with a somewhat moist substance; in the latter case it is safest to wrap the spawn in a handful of loose broken dryish litter, and when it gets through that the dampish material will give substance to the Mushrooms.

The spawn will not stand long a higher temperature in the bed than from 70° to 80°, and an atmospheric temperature of from 55° to 60° is what it delights in, though with heat in the bed the fungus will grow freely at a lower temperature than that. The high temperature in the bed is one chief cause of failure. Another cause, sometimes, is mixing with the dung and soil something inimical to fungus growth. A friend of ours, to guard against slugs and worms finding their way into his beds, mixed quicklime with the fermenting material and soil; but if he destroyed the invaders he also destroyed the spawn and Mushrooms. We are not so sure of alkalis generally; but lime when hot is most effective in destroying all the fungus tribe. In earthing-up we prefer a loamy soil, even a stiff clayey loam, to one chalky or calcareous.

Mushroom beds fail, also, owing to want of patience in the cultivator. Sometimes they will produce in a few weeks, but from six to eight weeks is a very common time after spawning and earthing-up, and during all that time the more regular the temperature of the bed, and the less it is muddled with, the better for the coming crop. We have known beds spoiled by pulling them about, drenching them, and roasting them with heat either from fires or warm coverings, although they would have done well if merely let alone. The quickness of growth depends more on the condition of the materials than upon any other treatment that can be given. Patience must be exercised.

Now for a short outline of culture. We will not enter into various modes, nor dwell on the treatment in various places. We will fix on your cellar, and as winter is coming on, we will fix on the dry cellar, whilst in the summer we would have

chosen the moist one, for it will be easy to give what moisture would be necessary in winter; and as you want Mushrooms as soon as may be, to save time, we will only have a small bed at first, making up a piece at a time as you have the materials ready. Our bed we should propose to be 4½ feet wide, and from 15 to 18 inches deep, and if we could do no more we would begin with 2 or 3 yards in length at a time.

The first work to be done is to collect as many droppings, of which you have plenty, as will make a small bed. Add to them about one-fourth of the shortish litter. If the droppings are in the least too damp, spread them out, if convenient, in a shed to dry; whether convenient or not, ere long throw them into a heap, where they will heat violently, lose nutritive properties, but become sooner fit for your purpose. When heating, spread out again for a day. Add about one-sixth of bulk of rough fibrous loam, which is not absolutely necessary, but useful in preventing the mass heating too violently, and, therefore, losing heat altogether sooner. Throw all together into a heap again, and as soon as it heats begin to form your bed. We should, however, state here that during the summer droppings thus treated will be sure to heat themselves dry enough; and, as already stated, provided the strength is not wasted, it is safer to have them rather dry than rather wet. As October and November come on, even throwing the droppings into a heap will sometimes leave them too wet, which they always will be if you can squeeze moisture out of them. In such a case the evil may be remedied by chopping up a bundle of dry straw or litter, and mixing it with the droppings so as to dry them.

The droppings being all right, proceed with making the bed, and it will be best to put on a layer about 8 inches in depth at first, which will beat down to 5 or 6 inches, the firmer the better; and if well firmed it will not heat so strongly but that you may add another layer in a few days, treating that in the same manner, and then a third, reserving the best and shortest for this last layer, and making firm as before. The use of the beating is to keep out the air, and thus prevent rapid decomposition; and to insure this, in other words to prevent the dung being wasted before the Mushrooms feed on it, we frequently throw a little soil over the surface before the final beating, as there will be enough of air enclosed with the dung to keep up a long but slow decomposition, and therefore a somewhat low but regular temperature, instead of a great heat, soon gone.

After thus finishing off the dung bed, it wants watching with trial sticks every day. It is next to impossible, if thus formed, that it should not become warm enough—from 80° to 90°—and it will be better if the heat rise no higher. Even now you must not think of spawning, you must wait until the heat is on the decline, and when you find that every day it becomes a little lower, until your trial sticks are no warmer than new milk, or the thermometer plunged in the bed is scarcely above 80°, you can then spawn the bed. We prefer using pieces of spawn rather larger than green walnuts as they hang before falling from the tree, and we insert these just below the dung, and if we are sure there will not be too much heat, we scarcely cover them; these for a general bed we place about a foot apart. When we wish a quick return we place them more closely together.

If properly watched as above, there will generally be little danger after spawning, but a sudden change in the weather will often act on the bed, causing it to heat again more than we wish, and in other cases to cool more rapidly than we like. In the first case, the putting the spawn near the surface preserves it from danger. In the second place, being near the surface, we can add a couple of inches or so of nice hot droppings, which when beaten will cause the bed to heat gently again. As soon as danger from overheating is past, the sooner the bed is earthed the better. When we can obtain it we prefer fibrous loam beaten firm next the bed, and then a layer of finer-riddled soil on the surface. We use that rather damp than dry, and when all is well beaten we water the surface of the bed, and draw a clean spade firmly over it, which leaves a clean smooth surface. In general we use rather more than 2 inches of soil when loose, which when beaten will be from 1½ to 1 inch in thickness. In such a place as your cellar, we should let the bed stand as left for a day or two that the surface may become a little dry, feeling the trial sticks every day. In general the earthing-up causes the heat to decline, because the air cannot find its way into the bed.

When the heat falls a little, say 3° or 4° lower than when you spawned, cover the bed over with 2 inches or so of old hay or short dry litter, which will prevent the bed losing heat from the surface. If the heat still decline add a little more

covering, and this in general may remain for two or three weeks, but it must frequently be examined, for in the course of a month or so, if the spawn is working freely, so as to permeate the whole mass of the bed, that process will always be attended with an increase of temperature, and, therefore, that covering may require to be reduced. At any rate it would be advisable as soon as the first spawn begins to peep through the soil to remove all the covering, sweep the bed all over with a hair broom, and place fresh covering, or merely the driest of the old covering, over the bed. Under such circumstances we have always found that a little covering kept the temperature of the bed more uniform, and even the atmosphere about the Mushrooms on the bed was kept more genial as respects moisture and temperature than when the bed was fully exposed.

Thus treated the surface of the bed will often become warm when the spawn works, and whilst it should not be suddenly cooled, neither should it be allowed to become so warm as to injure the spawn. We believe many beds are injured by too much warmth and too much covering at such a time. We can scarcely dispense with this covering where no means are resorted to for regulating by artificial means the atmospheric temperature of the place.

Sweeping the bed, and using dry material as the spawn comes to the surface, are necessary to prevent the spawn running and exhausting itself in the damp covering. In winter it is safer for beginners to secure moisture by damping the covering, the walls, and the floor, instead of watering the bed overhead. At that season the watering will be little needed, but if the materials of the bed are dry it will be safest to make holes with a pointed stick, and then pour warm water into them.

For insuring Mushrooms quickly it is of importance to earth-up as soon as it is safe after spawning, as then, with the slight covering over the surface, the spawn when it works, ere long works upwards as well as downwards. To insure this still more, we prefer the soil next the dung not to be over-wet, even though we wet the surface to make it smooth as well as firm. The smoothness and firmness are good for the young Mushrooms showing, and the bed is easily cleaned.

If there are any little matters of importance that are omitted, we shall be glad to supply them when reminded of the deficiency. We would remark, in conclusion, that nothing more depends on attention to trifles than successful Mushroom culture.]

CHECKING EVAPORATION FROM THE SOIL.

No doubt various opinions will be entertained respecting this subject, to which attention was drawn by Mr. Fish some time since, but not having seen any further remarks as yet, I simply add the following, in the hope of eliciting a clear explanation from more experienced persons.

Most soils on becoming dry have a hard crust formed on their surface, varying in thickness according to the duration of the drought. In heavy, dry lands, deep cracks are frequently observed, caused by the particles of soil adhering more closely on parting with moisture. Is evaporation assisted or arrested by loosening the surface of the soil? or, in other words, will the soil become dry sooner by breaking through this hard crust or not? From observations during the past dry season, I am led to believe that the deeper the loosening, the quicker will the soil part with its moisture. On a newly-dug border fully exposed to the sun, a thin cake of adhesive soil was placed; in a few hours the sun's rays had penetrated inches into the loose earth around, while the under side of the turf was moist, and the soil beneath comparatively cool. Here the hard crust prevented both evaporation and the rays of heat taking effect. By loosening the surface of the soil you admit air, which, becoming heated by the sun, rises laden with the vapour from below.

Light soil, which seldom forms a crust, quickly dries up, through affording a free passage to air, and, consequently, to the ascent of vapour, while the heavy clay, impervious to heat and air, retains its moisture. Applying this to practice, when the ground becomes dry, and you cannot water, by no means break through the surface crust, but simply fill up the cracks, and hoe as lightly as possible, or, perhaps, hand-weeding would be better still.—NEMO.

[There is much force in some of "NEMO's" observations, and though in some parts he seems to agree with Mr. Fish, yet the conclusions at which he arrives are quite the opposite of Mr. Fish's. Mr. Fish says, page 152, "If we are right, the surface-stirring of ground to keep heat out and moisture in, de-

pends more for its effect on the frequency and the shallowness of the stirring than upon its depth." "NEMO'S" conclusion is, "When the ground becomes dry, and we cannot water, by no means break through the surface crust, but simply fill up the cracks, and hoe as lightly as possible, or, perhaps, hand-woeding would be better still." This suggestion of hoeing is not quite in harmony with the previous words, "by no means break the crust." We do not allude to this little discrepancy at all in a carping spirit, quite the reverse, for, like "NEMO," we frequently find facts that militate against favourite theories.

We may be wrong, but at present we believe, that amid the drought we kept our flowers in beds alive by a very frequent shallow-moving of the surface with a Dutch hoe, and this not so much to fill cracks, as to prevent cracks being formed. Every such moving of the surface broke the lines of conduction and radiation, and even evaporation, and caused their work to begin anew. The fresh-moved loose surface acted very much in the same way as the cake of soil or turf placed on the surface of the open border. The more adhesive it was, the sooner it would be heated, and the more heated it was the more would that heat raise the moisture from beneath. It would be different as a conductor from a common eaked, hard surface, as there would be air beneath it, unless beaten down very firmly. If the turf was firm, and covered a large space, cracking would soon take place, and nothing could be more injurious to plants, as this season, by means of thin laths, we measured cracks more than 4 feet deep, and there the heated, dry air could circulate at will. Wherever dry air can find its way freely, it will dry the soil with which it comes in contact. Hence, deep stirring in summer may often be unadvisable, and light soils may stand more in need of compression than of stirring them up to much depth. The fork is an excellent cultural instrument, but there are soils that will be the better of the roller. After the compression, it will generally be advisable to stir the surface.

It may help to elucidate the matter, to bear in mind that heat and cold are merely relative terms, and that what will heat admit or keep out the one, will also best admit or keep out the other. As a general rule, the firmer and the more compact a soil is, the more deeply will it be heated by the sun's rays, as the firmer it is the better will be its absorbing and conducting powers. The same rule holds good as to the depth to which frost will go. When our deeply-stirred loose soils become heated and dried in summer, it is less owing to direct absorption and conduction of heat, than to the free entrance of dry, heated air.

Again, when we ridge-up stiff soils in winter, it is not to enable them to part with their heat more freely by radiation and conduction, but that the keen frosty air may find its way to every cavity, and thus act as the best and the cheapest of all pulverisers. We think we told somewhere of the impression made on us, long ago, by the different results attending two small Potato pits covered with soil, and attended to in every way alike as to quantity of soil, &c., with only one little difference. One man, and a most careful tidy man he was, beat the earth quite firm, leaving a smooth surface. The other man piled the earth rather firmly, but left a rough open surface, showing nothing of the polish and finish given by his neighbour. A very hard frost set in in November. The pits were not opened until the new year. In the rough-surfaced one the Potatoes were all sound. In the polished-surfaced one, most of the tubers were sweet, and had to be placed in the coldest water for some time before cooking them. Whilst pondering on the fact of the difference, it was long before we could find a reason for that difference.

Whilst agreeing, then, with much that "NEMO" has stated, we must still value a loose fresh surface as a regulator of heat and moisture.]

PEARS FOR NORTH WALL.

In your reply to "H. W. B." on this point in answers to correspondents, October 8th, you remark, "No Pear succeeds well on a north wall." I confess I was staggered when I read this reply, and very humbly I must beg to differ from you. My locality is probably the highest village in Somersetshire, and we are colder than in many parts of the county, yet I gather very respectable Pears from my north wall—not, of course, what they would be on a south aspect, but still fruit that I should never object to eat.

When I came here first, I found the following Pears on my north wall:—Beurré Diel, Beurré de Rance, Forelle or Trout, Late Chaumontel, Winter Nelis, and Louise Bonne of Jersey.

Now, with the exception of the last-named Pear, none of these trees ever produced a ripe fruit. All, therefore, except the last, the Chaumontel, and the Beurré Diel, I had cut back and grafted with Williams's Seedling (Bon Chrétien), Jargonelle, and Marie Louise. The Beurré Diel and Chaumontel do only for baking and stewing, but the other four Pears are all fit to eat; indeed, this year they have been first-rate, and if "H. W. B." must have Pears on the north wall, let him try these, and I do not think he will be disappointed.—Y. B. A. Z.

[We were quite aware that Pears "fit to eat" may be grown on a north wall, but we do not consider that succeeding well.—Eds.]

THE GARDEN AT THE MOTE, NEAR MAIDSTONE.

In the midst of a park of more than ordinary beauty stands The Mote, the principal seat of the Earl of Romney. The mansion is one of those Grecian structures of which so many examples were erected about the beginning of the present century, and which are more remarkable for comfort and convenience than for ornamentation. The site is a slight elevation in a sort of valley formed by the river Len, which flows through the park, and in its course forms a large sheet of ornamental water in shape somewhat resembling the letter Y; but it is so judiciously managed that the whole of it cannot be seen from any one point of view. The park is several miles in circumference, and is well diversified, hill and dale alternating, with now and then the naked rock peeping out in places, while in others it is covered with the richest sward. The whole is plentifully studded with trees of great beauty, not indiscriminately scattered, but arranged to produce the best effect—in one place hiding the boundary where the object beyond is of no importance, but opening out in other directions where distant scenery can be advantageously brought in.

The great extent of the park, and its many features of interest, including a church in one place, a monument to commemorate a visit by George III. in another, its undulating character, and the lake, give it importance apart from outward attractions. And yet these are of no mean order. On the north-western side it is only separated by a public road from Vinters, also a highly ornamental park, while the southern extremity stretches almost into the town of Maidstone, of which the churches and other lofty buildings may be seen from many parts of the park. For the richness of its verdure and the variety of its scenery this park is exceeded by few.

The mansion is likewise sufficiently removed from the seats of industry and highways, so that one strolling amongst the groves at The Mote might easily imagine himself many miles from any town. There are no smoke-stained boughs nor dirty foliage to remind him that other habitations are near. On the contrary, everything seems to assume that healthy vigorous condition which is characteristic of a pure atmosphere and an excellent soil. That The Mote is thus favoured will be manifest by the following description of some of the subjects in the garden, as well as by the fine specimens of trees in the park, such as Cedars, Yews, and Thorns, together with plenty of indigenous trees of all kinds and recent introductions from abroad. The last-named are not too profusely interspersed, as it is questionable whether they will ever attain the beauty of form and large proportions which our native trees present. Attention has likewise been directed towards providing for the requirements of a future day, young trees being planted in suitable positions, and the whole attended to in that careful manner which is the best guarantee of success.

I have already stated that the mansion occupies a slightly elevated site about the centre of the park. The view to the south-west, down the valley of the Len and over the town of Maidstone, extends for several miles, not the least effective part being the park itself, with its broad expanse of water occupying the lowest ground, and the eminences mostly crowned with groups of trees in the healthiest possible condition. A large mass of trees, many of them of very large size, forms a background to the mansion, enclosing, as is often the case, the offices and back approaches, but in this instance also encompassing the kitchen garden and dressed grounds. The latter contain many beautiful green walks, bordered with shrubs, and overhung by magnificent Oaks and other trees. A large piece of woodland is also rendered very picturesque and interesting by this mode of intersecting it in various directions by beautiful green glades; and the visitor every now and then comes upon

some open spot, where an Araucaria or other choice tree stands out above the well-shaven turf, and in other cases the opening points to some important object. Near the mansion a large open space had been devoted to flower beds, but at the time of my visit some further additions had been commenced. It is, however, more especially to the kitchen garden that I would direct attention.

At an easy distance from the mansion, on the north-east side, is situated the kitchen garden, almost entirely surrounded by trees and shrubs, yet none of them sufficiently near to prove injurious by their shade. The space enclosed by high walls is about four acres, and there is a large plot adjoining the eastern wall of nearly the same size, with slips and other surroundings. The site of this garden, like that of the mansion, is a table land between two valleys, which unite at the ornamental water in the park; and this elevation ensures dryness, and no doubt to a considerable extent immunity from spring frosts, to the destructive influences of which the garden would be exposed if on a lower level.

Good walls 12 feet high, and in some places even of greater height, surround the principal garden, which I ought also to observe is nearly level, slightly inclining to the south-west perhaps. In shape it is not square, having, in fact, several corners, which afford many aspects for wall trees. The soil has long been the envy of neighbouring gardeners, being one of the very best of those resting on the limestone formation, for Kentish rag crops out in various places in the park and woods. I believe a considerable portion of the kitchen garden was once a quarry, and it is the debris from this, overlaid by an unusual depth of soil, that gives so much fertility to this garden. There are but few crops which do not thrive in it. Most fruit trees succeed remarkably well, and the same may be said of vegetables of all kinds.

Most of the walls which present a south, east, or west aspect are devoted to the culture of Peaches, Nectarines, and Apricots. Against the north wall were some magnificent Morello Cherries in condition for the dessert, for which, when well ripened, they answer very well, losing all the sharpness they possess when first ripened. These walls were covered with a fine description of hexagon netting to keep flies and wasps at a distance. Some choice Plums, such as the Washington, Jefferson, Coe's Golden Drop, and other varieties occupied a portion of an eastern wall, and where the crop had not been gathered the trees were loaded with fine fruit.

It is, however, more particularly to the Peach trees that I would call the attention of the cultivator, for they were all that could be desired by the admirer of that fruit, and were growing under circumstances in which of late years it has been asserted it is impossible to produce good Peaches; yet the result has been so successful that the champions of glass walls or glass houses must admit that their theory of the deterioration of our climate is open to considerable doubt, and that the old-fashioned method of growing Peaches will still maintain its reputation, despite the mass of new contrivances adapted for the same end at a cost at least tenfold that of the old system. The length of time during which Peaches have been so grown here, and on the same trees too, must convince the most strenuous advocate of glass that fine fruit can be produced without its aid; for although the Peaches were not so large at the time I saw them, the last week in August, as they had often been in former years, the healthy condition of the trees, and the abundant crops they were loaded with, showed that there was nothing wanting, except additional moisture in the ground and atmosphere, to have made them all they were in previous years. The wall was in all cases well covered, and the trees fruitful to the bottom; and although many of them were evidently very old, yet in most cases their trunks or collars did not show those symptoms of decay we so often meet with in aged trees.

Some of the trees occupied a length of upwards of 30 feet of the wall, which is 12 feet high, and one of them, a fine specimen of Royal Kensington [Grosse Mignonne], covered a space quite 40 feet by 12, and had in several years brought to perfection upwards of sixty dozen Peaches, more than seven hundred in a year. A fine specimen of Montanban was somewhat less, but also good, while Royal George, Noblesse, and Late Admirable were equally well represented, and had been bearing well for an average lifetime, for Mr. Luckhurst, the intelligent and energetic gardener, had managed them for more than thirty years, and some of them—the large tree of Royal Kensington for one—were not young at the commencement of that period. I understand that the tree just referred to is in a much better condition now than it was thirty years ago, and

judging from its appearance, it may, if no accident occur, last as long again, if proper care be taken, and the other conditions to its success be still afforded. As most of the trees against these walls were old, and the whole in good condition, the question naturally arises, How does it happen that we often meet elsewhere with Peach trees that seldom reach the age of ten years before they have to be replaced, having either fallen into a hopeless state of decrepitude or died? So very common is this, that many are of opinion that the seasons, which fifty years ago were favourable to the growth of the Peach out of doors, are no longer so, but that glass in some form is necessary. The trees here are a contradiction to that theory, so that we must look for another explanation of the fact.

The good quality of the soil at The Mote is doubtless one of the causes of the Peach doing so well at that place, but there are others, perhaps, still more important. The trees seem to be well managed and cared for: during the past dry summer when so many trees presented a foliage much of the hue of Golden-leaved Pelargoniums, the leaves of those at The Mote were mostly green; the syringe or engine had been timely at work to keep red spider down, and had accomplished its object; protection to the blossom in spring had also been afforded by means of broad projecting boards attached to the wall coping. These boards are 18 inches wide, and if the trees had not looked so well under them, I should have thought that keeping the boards on all the summer would have done harm by preventing dews and the midday sun reaching the upper part of the wall, but as the trees and their crop were so good, this opinion must give way before the facts. The boards form an excellent ledge from which to hang the hexagon netting, and with this at the time of my visit the whole wall was covered to exclude flies, wasps, &c. There was a narrow path near the base of the wall as usual, but the border seemed to have been fully cropped with various early vegetables, so that the trees had not the whole of the border to themselves; their success must therefore be attributed to the natural good quality of the soil and the care bestowed on them. Mr. Luckhurst has repeatedly explained his mode of treatment at the monthly meetings of gardeners held for mutual improvement at Maidstone. Its principal features are careful attention to the first appearance of insects, destroying them at once, adopting precautionary measures to prevent their attacks, and other attentions to the wants of the trees, especially to little matters that are often neglected, but which, if not looked after, often lead to the worst consequences.

When I described the soil as being well adapted for most trees, I ought also to have stated that the subsoil is the same; in fact, in the growth of trees of most kinds, I always think the subsoil is of more importance than the surface soil; but the latter is said to be so good that there is very little difference perceived at the depth of 3 feet, and for many feet below that the porous character of the understratum is favourable to the roots, being plentifully interspersed with stones, the value of which is too often underrated even when at the surface. In large portions of this garden I am told that the understratum had been broken up when the ground was worked as a quarry, hence the more free action of the roots; besides which, the absence of stagnant water and other impurities, renders it safe for the roots of trees to descend any reasonable depth without continuing growth so late in the autumn as to endanger the ripening of the wood. I imagine if we could trace the rootlets of many of the fine trees of the Peach and other fruits, we should find them interlacing the stone shatter.

The Moorpark Apricot here is liable to the same evil which befalls it at other places, for large limbs die off, but certainly not to the extent I have seen elsewhere, but the trees in general fruit well, and so do the finer kinds of Plums, while Morello Cherries are grown almost by the bushel against a north wall, and, when covered with hexagon netting, will hang a long time. The only tree I noticed as being short of a crop, was a fine specimen of Gansel's Bergamot Pear, covering every inch of a piece of wall 60 feet long by 12 high. This tree had but a thin crop upon it, while adjoining it Beurré d'Areberg and Duchesse d'Angoulême were bearing heavily, thus showing that Gansel's cannot always be depended upon for a crop.

Some choice kinds of Apples and Pears were grown on espaliers near the garden walks, the border between the trees and the walk being cropped with Strawberries, and to keep the fruit of the latter clean the ground was covered with pebbles or broken stones, about the usual size of road metal. Mr. Luckhurst has a high opinion of The Lady and Marguerite Strawberries. The collection of Apples contains most of the leading

varieties. In an adjoining orchard were standard trees producing ten, twenty, or more bushels each; but high winds had done much damage, by blowing down large quantities of the best fruit. In taking a hasty glance at this orchard, a fine healthy Ribston Pippin Apple tree, of large size, was pointed out to me. I was much surprised at this, for it is rarely that we meet with this popular variety in good condition, the trees being usually in a more or less diseased state, with dead boughs and spotted fruit, but at this place it had all the freshness of other kinds.

Notwithstanding the extremely dry weather, there were some very good vegetables. Most of the Potatoes had been taken up and stored, and I was told the crop had been good for the season, and as the planting had been early, they were less affected by the dry weather than those planted later. A small French Cabbage was pointed out as being much esteemed at table; it had also the good quality of not being liable to run to seed, and might be planted very close together. On one of the wall borders I noticed a row of Tomatoes treated exactly like Peas, being trained to stakes, and bearing and ripening their fruit well. A small Cabbage Lettuce, of continental origin, was also said to possess the property of not running too early to seed in dry, hot weather, as so many of our Lettuces did last July.

It is seldom that one enters a garden where there is such an abundance, variety, and excellence of produce, as at The Mote, and the greatest credit is due to Mr. Luckhurst and his sons, one of whom, I believe, is now associated with him in its management. I have no doubt that the fine Peach trees will be equally well cared for in future, and will remain for many years a living proof that the climate of this country has not deteriorated in all places so as to prevent this tree from thriving, and its fruit ripening, in the open air.—J. Roxson.

SUBTROPICAL PLANTS AT BATTERSEA PARK.

The following are the heights attained this year by a few of the plants employed in the subtropical department, Battersea Park:—

Ferdinanda eminens	12 feet	Canna maxima	9 feet
Wigandia caracasana	8 feet	C. Van Houltte	9 feet
Polymnia grandis	6 feet	Solanum laciniatum	8 feet
Canna peruviana	11 feet	Ricinus, several varieties	13 feet
C. Annual	12 feet	Musa ensete	15 feet

The stem of one plant of *Musa ensete* measured 4 feet 5 inches in circumference at the ground, and 2½ feet at 3 feet higher up.

REPORT ON THE BRISBANE BOTANIC GARDENS.

Mr. WALTER HILL, Colonial Botanist and Director of the Brisbane Botanic Garden, Queensland, has made his annual report, dated March 28th, 1868. The following is an extract:—

"In the experimental department of the grounds, I would first refer to the cortical fibrous class of plants. Among the most important of these is the *Urtica nivea*, or China Grass Cloth plant, which has in point of cultivation, been attended with far more success than was expected. The situation selected for the purpose was anything but the best; and for the purpose of testing its adaptability to a Queensland climate, no attention was paid to it beyond its original planting. Notwithstanding this, the tenacity and rapidity of its growth has been surprising, and the only thing left to deplore is the lack of mechanical appliances in the colony which would prepare the fibre as an article of commercial value. In connection with this subject, I would acknowledge the receipt of a report on 'The Cultivation and Preparation of the China Grass Plant,' which was accompanied by a circular emanating from the Home Secretary for the Colonies, and which was kindly forwarded to me by His Excellency the Acting Governor, 'for my information.' My experiments, however, with the plant, satisfy me that the Queensland climate is far better adapted for it than that of China, to which it is indigenous; for while in that country the plant has to be constantly watched and tended, watered, weeded, and protected from the cold, &c., here, as I have already shown, after planting the roots about the month of November, no further consideration is requisite to develop its perfect maturity. The other fibrous plants, which demand a passing notice in this report, are the Jute (*Corchorus capsularis*), and the Sun Hemp (*Crotalaria juncea*). These plants, also, are valuable in a commercial point of view, thrive luxuriantly, and mature most rapidly, and, like the Grass plant, require little care or attention. The cultivation of the Indigo plant (*Indigofera tinctoria*), has proved thoroughly satisfactory. A sample has been submitted for manufacture, and the result proves that this valuable article of merchandise will yield, both in quality and quantity, as well in Queensland as in the East Indies. If attention be paid to the proper season

for sowing it, like the fibrous plants, it requires but little care, and, like them, arrives rapidly at maturity. It is to be hoped that ere long the cultivation of Indigo will engage the attention of Queensland agriculturists, as the never-failing market which it commands, and the standard value which it maintains, will, with the other recommendations suggested, doubtless render it an important article of Queensland industry and wealth. A sample of the China Tea (*Thea Bohea*), has also been manufactured from plants grown in the gardens. Although it has not had time to season (three months, at least, being deemed necessary for this purpose), it has been pronounced a very fair article by judges who have tried a decoction of it, and that not many days after its manufacture. It thrives best on undulating lands, and if the situation selected be propitious, any further consideration for its development may be regarded as secondary. As far as my knowledge of the plant extends, an experience of eleven years in this colony, justifies me in pronouncing it as in every way adapted to the climate of Queensland. Samples of the herry from the Coffee plant (*Coffea arabica*), grown in the gardens, have been submitted to manufacture with most satisfactory results. The plant has proved itself to be easy of cultivation, and its treatment, in comparison with the Tea plant, only differs inasmuch as it requires a greater degree of shelter from the westerly winds. It may be ranked as one of Queensland's important and successful products.

"In my last report I had occasion to refer to three distinct species of the Cinchona plant, imported from Java, which I planted in a favourable situation. One species (*Cinchona calisaya*), is now flowering, which I interpret as further evidence that the climate and soil of Queensland are well adapted for its successful cultivation.

"The eight varieties of Sugar Cane, imported from Java at the same time as the Cinchonas, are thriving well, and in the rapidity of their growth seem to outvie nine other varieties, which have been imported from other countries, and which have been under cultivation in the gardens for some years past. I am unable to state confidently anything further in praise of the Java canes until such time as the usual manufacturing process shall determine the per-centage of their yield of saccharine matter.

"Among other plants introduced from Java last year, I may refer to the Vanilla (*Vanilla aromatica*), the Bitter Wood (*Quassia amara*), the Chocolate or Cocoa (*Theobroma cacao*), the Gum Elastic or Caoutchouc (*Siphonia elastica*), six varieties of Mangoes, and six varieties of the Plantain, all of which are giving indications of successful acclimatization. The latter are now in fruit, and if generally distributed in the colony will become popular as an article of food. Although I have been enabled to speak in flattering terms of the many different productions, there are still specimens of others in the gardens which, I have reason to believe, would flourish far better in lower latitudes—viz., the Mangostan (*Garcinia mangostana*), the Clove (*Caryophyllus aromaticus*), the Nutmeg (*Myristica moschata*), and the Bread Fruit (*Artocarpus incisa*).

"The following is an enumeration of such trees and shrubs as have flowered and fruited for the first time in the gardens—viz., *Cocos plumosa*, *Areca lutescens*, *Tectona grandis*, *Dillenia speciosa*, *Brownea coccinea*, *Cinchona calisaya*, *Siphonia elastica*, *Quercus spicata*, *Gardenia Stanleyana*, *Gardenia Rothmannia*, *Rhododendron jasminiflorum*, &c."

GOLD AND BRONZE PELARGONIUMS

"W. B. G." (page 242), is perfectly correct, that Mrs. Milford, &c., were in the market long before Beauty of Oulton, but it must be remembered that the former has but a very faint zone compared to the latter, and, correctly speaking, neither is now worth growing; for the improvement in this class of Pelargonium has been very rapid in the last two years, and it is difficult to say which is the best, as so much depends on the way they are grown. However, enough has been seen of all the varieties sent out up to May, 1868, to justify saying which has been the most effective throughout the late extremely hot and dry weather. "W. B. G." appears to have taken all his experience from Battersea Park, and from some cause, probably from over-watering when the sun was upon them, they have there looked worse as regards colour and refinement of their zones than any I have seen this year. Had "W. B. G." seen them at Chiswick, planted in some round beds, where one could examine them minutely, and draw back as far as one liked to see the effect at a distance, he would have been of a very different opinion.

As regards Beauty of Calderdale being better adapted for pots, a connoisseur friend of mine described it to be the most effective of the whole, and so far as regards the bright, bronze zone, there can be no doubt of it, and the habit is all that could be wished for in a bedder. Model is of dwarfier growth, and better fitted for outer lines. It is perfectly distinct, and I much question if there is another Bicolor, Sibyl and Criterion excepted, with a more regular and better defined zone than Model; and there was not much deficiency of yellow, although it was, perhaps, not quite so intense as in some of this year's

kinds. I have had Beauty of Ribblesdale and the two above mentioned almost green throughout last autumn and spring, and I had fully made up my mind that they had degenerated since I saw them in such fine condition in May, 1867, at South Kensington, but this was caused by the want of knowledge, and not having a proper mode of growing them.

"W. B. G." would almost lead one to suppose that Egyptian Queen is a very effective first-class variety as compared to others; but I think nearly all growers who have had this new variety during the present season are unanimous in their decision that it is not so good as others sent out this year. It certainly falls very short in regard to the following qualities—namely, substance of leaf, brightness of colour in both yellow and bronze, and it is rather more delicate, and of more moderate growth, than many varieties of its section. It is perfectly true that the Committee gave their highest award to Kentish Hero, and it was, no doubt, the most effective at the time of examination; but had they deferred their visit another fortnight or three weeks, I feel convinced that other kinds would have gained this honour.

Kentish Hero is a strong and rather coarse variety; its leaves are far from being of a good shape, curved, and very much vandkyed. It is a good improvement on Perilla, and for large beds, one of the best. For ordinary bedding purposes I think there are several varieties that will prove far more useful and effective than Kentish Hero, particularly in ordinary seasons.—H. CANNELL, *Woolwich*.

INSIDE VINE BORDERS.

SOME time in the autumn of 1867 a controversy took place in your columns respecting this subject, and I think your correspondents were referred to the vinery of T. N. Miller, Esq., of Bishop's Stortford, Herts.

This vinery, 200 feet long and 30 feet wide, has only inside borders, the roots of the Vines being confined to them by brick walls with deep foundations. The borders, or rather border, for there is but one occupying the whole width of the house, has, I believe, an annual surface-dressing. The Vines have been planted six years, and are at this time in the finest possible health and vigour, loaded with fine bunches. This method of forming a Vine border seems to me very simple, doing away with the necessity of covering to keep off the heavy rains of autumn and winter, which outside borders require; besides which, the inside border partakes, to a certain extent, of the temperature of the house, instead of being chilled by the cold rains and frosts of winter, and thus roots and branches are in harmony.

An amateur, unknown to the annals of horticultural fame, has thus given a lesson to Grape-growers. I scarcely need add that Mr. Miller allows Mr. Ward, his gardener, to show his vinery to all persons interested in Grape-growing.—VITIS.

EFFECTS OF THIS YEAR'S SUMMER IN OUR GARDENS.

EIGHTEEN HUNDRED AND SIXTY-EIGHT will be held in remembrance by many of the present generation, for the long-continued drought, and, at times, the almost unbearable heat. The want of water in many places has been most keenly felt, and in none more so than our own. For months we had none but that which had to be brought from a distance. Still we have cause for thankfulness; trying as the season has been, we have had a very good supply of most garden crops. This I attribute to deep cultivation.

The spring being early we had a good supply of Asparagins in April from the open ground; we lifted Potatoes, and gathered Peas on the 26th of May; from autumn-sown Canliflowers we began to cut in the beginning of June, and we have had a regular supply up to the present time, and hope to continue it till the winter Broccolis come in.

Considering the dryness of the season, and the little water we had at command, vegetables have done very well indeed. Onions and Carrots are rather small. Beet has done uncommonly well this season; Carter's St. Osyth has proved the best, it is a good crimson Beet. Parsnips are really good. Turnips have suffered much from mildew. Tomatoes against the walls have been remarkably fine, and the crop abundant. Early and late Broad Beans have been very fine. Beck's Dwarf Gem is a useful kind for early work. Scarlet Runners and Dwarf Kidney Beans have been very fine, and in a great

measure free from their worst foe, the red spider. The Early Six Weeks is a good kind for early out-door crops.

The Potato crop has been most abundant, and of the very best quality. We have had very little supertuberating in our garden. The varieties we grow are Myatt's Prolific, Haigh's or Lapstone Kidney, and the Fluke. We have tried the French Kidney and other kinds for three years, but with us they do not answer, therefore we have discarded them.

Celery is with us a partial failure, partly, I think, owing to the dry season. At the present time it has the appearance of being scorched; many of the leaves appear to have large blotches on them, but from what cause I am unable to say.

We have had to keep a vigilant watch for caterpillars, which have been unusually abundant this season; now that the frosts and autumn rains have set in they have in a great measure disappeared.

Cucumbers and Melons have done well this season. Ridge Cucumbers and Vegetable Marrows have been very abundant.

Fruit generally has been abundant, though with us the Strawberry crop proved a partial failure. Currants of all sorts were very plentiful and fine. Raspberries were abundant and remarkably fine. Of Gooseberries there was a heavy crop, but the bushes were severely attacked by caterpillars, which were picked off and destroyed; I find this the best remedy. Wall fruit has been very good. Apricots, especially, were early and of first-rate quality. Peaches and Nectarines were not quite so good. Owing to their not having the requisite supply of water they were in some instances rather small and not of first-rate flavour, this being in some measure also attributable to the red spider having become rather numerous. This insect has been remarkably prevalent during the present year in many places.

Figs have come to great perfection this season. Plum trees have produced a very fair crop of good quality, and the fruit has kept well considering the multitude of wasps and flies we have had. At the present time some of the later varieties are hanging on the trees without any protection. These may be kept for some time by taking them with their stalks carefully from the tree, tying them to a string, and hanging them in a cool, dry room. Coe's Golden Drop treated in this way, when half dry, is really first-rate. Ickworth Impératrice when thus treated answers well for tarts, and other late kinds are desirable as long as they can be kept. We had a splendid crop of Rivers's Early Favourite, and Early Prolific ripe here in the end of July. They are really first-rate early kinds; so, too, is Précoce de Tours.

Cherries have been abundant and good; but from want of protection the birds had the lion's share. The Morello and Coe's Late Carnation are still in good condition under the nets, and are doing good service along with Red Currants that have been covered up.

Pears on the walls have been fine this season. We have now in fine condition for the dessert Flemish Beauty, Seckle, and Marie Louise. In the orchard Pears have also been good. Apples have been most abundant; they ripened early, and are of good quality. Those which have been stored are keeping well at present.

The autumn showers have been a boon to us. The trees, having ripened their fruit and wood, are beginning to shed their leaves in abundance; the rain, frost, and winds bring them down rapidly. Root-pruning, planting, and any alterations that may be in contemplation should now be pushed forward. No time should now be lost by those who intend planting, the ground being in excellent order.—M. H., *Acklam Hall, Middlesborough-on-Tees*.

FLOWER BEDS IN AUTUMN.

GOLD AND SILVER-EDGED *versus* TRICOLOR PELARGONIUMS.
BEET AS A BEDDER.

THE very practical remarks of Mr. Robson under the above heading, in page 296, are well worth the consideration of all gardeners having much to do in the way of flower gardening; I therefore wish to make a few remarks on the subject.

In the first place I can fully endorse, as far as my own experience goes, Mr. Robson's opinion on the superior merits of the Gold and Silver-edged Pelargoniums over the Tricolor varieties for giving general effect, and particularly so when viewed, as he very rightly remarks, from a distance; indeed, I consider Golden Chain at any distance superior to Mrs. Pollock when required as a contrast to other colours. In my opinion

Golden Chain is still the best Golden-edged variety we have. The yellow is more pure and constant than in any other kind that I have yet grown or seen; and being a variety that lifts remarkably well in the autumn, and keeps well through the winter, its slow growth, for which it is condemned by many, is not so great a drawback to it after all, as the same plants can be used for three or four years in succession, and by striking some every year a stock of it may be always had of a good size. I generally put in a lot of cuttings of it between the older plants at bedding-out time; these help to fill up, and they form good young plants for lifting in the autumn.

My experience with Tricolor Pelargoniums fully agrees with what Mr. Robson says with respect to Mrs. Pollock losing much of its beauty under the influence of extreme sun heat. I have often heard it remarked, that Mrs. Pollock and other Tricolor varieties require exposure to plenty of strong sun to bring out their colours to the best advantage, but in my own experience I have invariably found the reverse to be the case. For instance, Mrs. Pollock was far superior in colour with us here last summer than it has been this year, until the beginning of September, when it began to improve, and has since been very fine. Possibly some persons may say that drought has more influence as regards want of colour in the leaf than the intense heat; but I can scarcely think so, as Mrs. Pollock with us this summer was abundantly supplied with water taken immediately from a lake, and, consequently, in the best condition to apply to plants, and the plants grew well. I am more inclined to attribute the cause of loss of colour to the fading, when exposed to a very hot sun, of the colouring matter which constitutes the zone in the leaf, but in this I may be wrong, and would like to have the opinion of others on the subject.

Luna with me this season has been very much better in colour since the beginning of this month (October), than at any previous time throughout the summer, excepting, perhaps, for a week or two after it was planted out.

Italia Unita, as a Silver-edged Tricolor Pelargonium, although beautiful as an individual plant, is not in my opinion nearly so effective for general effect and contrast with other things as the Silver-edged varieties. The best of the latter which I have yet grown is Miss Kingsbury, possessing an excellent habit and good robust constitution, and retaining its foliage well to the last. I consider the Tricolor varieties will prove very useful—that is, those of as good constitution as Mrs. Pollock, of which I fear many fall short—as being very effective late in the season, and good for wet summers when many flowering plants get much dashed and injured. Of course, they will be good in fine summers as well.

I will now comply with Mr. Robson's invitation respecting the merits of the Beet as a dark-foliaged plant for decorative purposes, and in doing so I cannot speak too favourably of it, so far, at least, as the variety I have grown has proved itself here this season. It has certainly been *the* plant of the season here in the way of dark foliage, no other plant in the flower garden having received so much special notice and praise, and it certainly, in my opinion, deserves all the praise it has received. It has a richness peculiarly its own, and not possessed, so far as I know, by any other plant used for the same purpose, and this it has retained throughout the season up to the present date (October 24th), being equally good in the hottest part of the summer, as it has been since, which is more than I can say of some other dark-foliaged plants used here this season. For instance, in the hottest part of the summer the leaves of the Coleus (which has done moderately well otherwise), became scorched and brown to a certain extent. Again, in the case of the Perilla, the caterpillars played sad havoc with it, quite disfiguring the greater part of it for a time. The few plants of Amaranthus which I grew did very well up to the beginning of this month, when, as it always has done with me, it began to fog-off. As far as this season goes, and it is the first I have grown it in the flower garden, I must certainly give the palm to the Beet, as being the best dark-foliaged plant I have grown, not the least of its advantages being, that it requires very little attention after being once put out, and does not appear to be likely to be attacked at any time by insects.

I believe the variety I have grown is a very superior and true strain. I obtained the seed from Messrs. Francis and Arthur Dickson & Sons, Chester, in the spring of this year under the name of, or rather labelled, "Dwarf Black-leaved Beet for flower-garden purposes," and certainly a better variety for the purpose I do not think could possibly be grown, and I shall certainly endeavour not to lose it.

Chrysanthemum Sensation has retained its foliage with me up to the present time, and I like it much, being very good for edgings, when kept well stopped, which improves its colour.—
JOHN H. MASON, *Prince's Park, Liverpool.*

POMOLOGICAL GLEANINGS.

FRUIT here (Gargrave) is very fine this year. A seven-year-old Easter Burre Pear, on the Quince, trained upright, and 9 feet high, with five branches, bore thirty-six Pears. I weighed the entire crop; the weight was 18 lbs.; average weight half a pound each. Madame Treve, which you figured in the Journal, is a glorious fruit; here one fruit weighed 10 ozs., another 10½—as melting and vinous as a fine Peach, the best September Pear I have ever tasted. Skin fine, thin; no core, no grit. Then the tree is healthy, vigorous, and sets fruit buds in abundance.—C. M.

— FROM the garden of J. B. Houston, Esq., Orangefield, Belfast, we have received fruit of a RED CURRANT, from bushes growing in the open quarters. This variety ripens with the Ruby Castle and others, but retains its fruit and foliage until late in the season, in fact, until severe frost sets in. The foliage now (October 17th), is quite green, while Ruby Castle, growing beside it and under the same treatment, is ready for the winter pruning.

Bunches mostly short, resembling the Grape Currant, but very productive, bearing enormous crops. While in the young state the bushes grow very vigorously, and require lifting and replanting. Foliage thick and leathery, in shape something resembling the Mallow leaf.

During the autumn of 1867 nice fruit was gathered in the first and second weeks of December. The footstalks were as green and the berries as plump as if it had been August.

— AMONG the curiosities of pomological literature may be reckoned the following extracts from a French fruit-tree catalogue we have just received. Among Gooseberries we find "Bunker's rill," "Ewotoone," "Leaoche," which being interpreted mean Bunker's Hill, Two to One, and Peacock. We publish this as a warning to English nurserymen, to be careful how they print French names in their catalogues, which we observe are frequently as comically represented as the examples of Anglo-French we have given above.

— "I NEVER remember to have seen so great a resemblance between two varieties of fruit as in the STIRLING CASTLE and SMALL'S ADMIRABLE APPLES, for they are of the same dwarf habit—apparently of the Hawthornden race—and both prone to bear when the trees are in a very young state, often bearing profusely on trees not more than 2 feet in height, the second year after grafting, if on the English Paradise stock. On examining the trees and the fruit of both I have discovered some slight variations, which have induced me to think they are not (as I thought when looking at the young trees during the summer), the same variety under two names. The fruit of the Stirling Castle is of the same shape, colour, and size as Small's Admirable, but has its eye set in a much deeper basin. The young shoots of the tree are spotted with white like those of the Admirable, but they are much lighter in colour. Those of the latter are of a very dark brown; but the most distinctive character is in the leaves, those of the Stirling Castle being nearly round, while those of Small's Admirable are comparatively long and pointed."—T. R.

— THE EARLY NONPAREIL APPLE.—With respect to this Mr. Rivers writes, "Pray allow me to disclaim all right to have my name appended to this very old variety (see page 284). My history is as follows: Some sixty years since there were old trees of this sort growing here, said to have been planted by my great grandfather. They were decayed and full of cankered shoots. In a warm season they bore fine fruit, which I used to think most delicious. In those times it was designated the Early Nonpareil, and I know of no other kind deserving the name. Many years afterwards this name was applied to Hicks' Fancy, in my opinion a very inferior sort.

"I venture to give the following description of the Early Nonpareil or Haute Bonne (not 'Haute Bouté' as I misquoted), from the folio edition of dear old Miller's Dictionary. What capital English is Lis! 'The Nonpareil is a fruit pretty generally known in England, though there is another Apple which is frequently sold in the markets for it, which is what the French call Haute bonne. This is a larger, fairer fruit than the Nonpareil, more inclining to yellow; the russet colour

brighter, and it is earlier ripe and sooner gone. This is not so flat as the true Nonpareil, nor is the juice so sharp, though it is a good Apple in its season."—THOMAS RIVERS."

— **BEURRÉ DU CERCLE PEAR.**—This is a new Pear of much promise. It is the first season of its bearing fruit in this country to our knowledge. A little pyramidal tree in the Royal Horticultural Society's garden, Chiswick, has this season produced half a dozen large and beautiful fruit, which have proved of really excellent quality. The fruit is large, obovate, tapering irregularly towards the stalk; surface irregular, bulging out in places. Skin smooth, of a beautiful pea-green colour, with a slight patch of russet round the stalk. Eye small, open, set in a very shallow angular basin, almost level with the surface. Stalk long and slender, inserted a little on one side without depression. Flesh greenish white, delicate, buttery, and melting, very solid, with scarcely any core. Flavour rich and pleasant.

This is a Pear which we anticipate will take a high rank. In appearance it is somewhat like a Glou Morceau, but is distinguished by the very long slender stalk and the deep green skin. The flesh resembles that of the Marie Louise and Glou Morceau. Ripe in October. Grafts of this variety were received by the Society in 1860 from the Société Impériale et Centrale d'Horticulture du Département de la Seine Inférieure.

— At the last meeting of the Fruit Committee of the Royal Horticultural Society, the six splendid specimens of **BEURRÉ CLAIRGÉAT PEAR**, exhibited by Mr. Cox, of Redleaf, were, on being weighed, found to be 5 lbs. 14½ ozs.

NOTES AND GLEANINGS.

ADULTERATION OF SEEDS.—On Friday last, some members of the seed trade met the Council of the Royal Horticultural Society to consult on this subject, in accordance with the recommendation of the Sub-Committee, whose report was published in our number of the 15th inst.

— We have a fair sample of Walnut-leaved Kidney POTATOES, being part of the second crop this year. A planting was made on April 14th, the crop from which was taken up on the 8th of July. Some of this crop were planted again on the 10th of July, and the crop from them, of which we have the sample, was taken up on the 20th inst. We received the sample from Mr. L. R. Pocock, gardener to N. M. Forbes, Esq., Elmwood, Bickley, Kent.

WORK FOR THE WEEK.

KITCHEN GARDEN.

DIGGING and trenching ground, and wheeling manure should be reserved for frosty weather. On light soils all fruit trees ought to be planted during this month, but on heavy clay soils some persons prefer the middle of February. *Cauliflowers*, hand-glasses are awkward when in one piece, and when placed over Cauliflower plants thin boards should be put down between the rows to walk on when giving air and stirring the soil. *Endive* and *Lettuce* in the open ground and in frames require great attention this month, lest they damp off or be attacked by slugs or snails. *Peas*, where there is no convenience for forcing Peas in February, a few rows are generally sown early this month, and chopped Gorse tops are put into the rows over the Peas to keep away mice, but nine times out of ten those sown in autumn are lost, or nearly so, by being sown too early. Except in the case of very sandy soils, and in high situations, the last week in November is time enough to sow. *Asparagus*, *Sea-kale*, and *Rhubarb*, preparations must now be made for forcing these where they are wanted early. For the first nothing is better than a late Melon bed that still retains a moderate heat, or a slight hotbed may be made so as to moderate the heat at pleasure if it should prove too strong. Place the plants as closely as possible, and so near the glass as just to allow the shoots to grow the requisite height, and then they may be had green or blanched at pleasure, unless the weather should be very severe. The best method to adopt for the *Sea-kale* and *Rhubarb* is to form a small hotbed in any convenient place, take up a number of roots, place them on it, with a little soil of any sort amongst them, and defend them from the weather and light by any old boards that can be obtained. Where a Mushroom house is at work a better place could not be found.

FRUIT GARDEN.

Remove all green laterals from Peaches and Apricots that

the growth of the trees may be checked, and with a new birch-broom gently switch off the matured leaves, taking care not to injure the buds, repeating the operation at short intervals so that the young wood may be ripened by exposure. To afford a still greater amount of this, cut out any small twigs that will not be wanted, and loosen from the wall, as soon as convenient, those shoots intended for bearing next season. When, unfortunately, the leaves are still green and adhere, no time should be lost in going over the trees and cutting all the stronger leaves. This will tend to check luxuriance and hasten the maturity of the buds without rendering the shoots either shrivelled or receptacles of unelaborated sap liable to break out in gum or canker, which in such cases is often the result when recourse is had either to indiscriminate root-cutting or a wholesale deprivation of leaves. Constant attention should be paid to the fruit-room until all the autumn fruit is over. Short memoranda should be made of the qualities of the different sorts as they become fit for table or kitchen use. After a few years these may be compared, and will be found very useful.

FLOWER GARDEN.

The business of this department is now in a great measure confined to the clearing-up of leaves, worm-casts, and decaying vegetable matter, and making the lawns, &c., as tidy as the season will admit of. If the bulbs are planted—and if they are not, no time should be lost in putting them into the ground—those beds which are unoccupied may receive their winter-digging, or, where necessary, winter-trenching, taking care if the soil is strong to expose it as much as possible to the action of the atmosphere. While, however, you dig the beds, avoid touching the shrubby borders, for though they look much better after being dug, plants do not grow any faster from being annually root-pruned, and such is the effect of an annual digging. Worms are now very troublesome, especially in weather when it is difficult to clear their casts away, but their ranks may be materially thinned by watering the ground with fresh lime water or with water containing corrosive sublimate, though in the latter case they are merely driven out of the ground and require to be gathered-up by hand and afterwards destroyed. Corrosive sublimate is very quickly brought into a liquid state by mixing it with spirits of salt. If the Auriculas are in their winter quarters they should be protected from damp, and especially from rain finding its way in by the glass of the frame and dripping into their hearts. In order to prevent this the laps of the glass ought to be puttied. If pots become saturated with rain and are neglected but for a few days, the destruction of the plant is almost inevitable. In many parts of the country Dahlias have been cut off by the late frosts; where such is the case they should be taken up, otherwise they will start again at the crown. With strong metallic wire attach to them zinc labels which have been numbered, and they may be hung up for a few days to dry in any airy shed preparatory to cutting off the stems, and storing the tubers for the winter.

GREENHOUSE AND CONSERVATORY.

Ipomœa tyrianthina and *Tacsonia pinnatifida* are two beautiful climbers for the conservatory, requiring exactly the same treatment, but they are rather difficult to manage in modern structures, as they are impatient of confinement, and do not like bright sunshine. The best way to treat them is to plant them in the front border, and have the tops taken out to the open air through the summer, but this style is inadmissible when a conservatory forms part of an architectural assemblage; in that case they should be planted near the doors or sources of ventilation, or against the back wall. In either case they should be trained low, and kept particularly shaded, and never allowed to reach the top of the house. They are good subjects for old-fashioned houses, where they may ramble at ease. Because *Chrysanthemums* are thirsty plants, and apt to draw in confinement while they are growing, some people think they must have large doses of water, and a free circulation of air while they are in bloom. Try them, however, in a close, cool, dry house, and you will find that half the usual quantity of water is enough for them. They will continue in bloom longer, and do not become drawn.

STOVE.

By the end of October stove plants, not winter growers, should be thoroughly ripe, and will require less heat than they have had for the last six weeks. A temperature of 60° is now high enough at night, and that should be about the standard heat for the next six weeks, after that 55° will be high enough till the return of fine weather early in spring. If the air in the house could be kept as pure as that in the conservatory through

the winter, the plants would require very little ventilation when at rest; but with strong fies this cannot be done, and the air must be changed as often as the weather will permit. One of the most graceful winter-flowering stove plants is the *Acacia kermesina*; it is a plant of the easiest culture, and flowers on the top of the shoots, and like all plants with this habit, it should be often stopped when young, to induce the formation of a quantity of side shoots, as the more shoots the more flower-heads. Grafted standard high on *Acacia affinis*, its near relative, it would form a splendid object in a short time.—W. KEANE.

DOINGS OF THE LAST WEEK.

Effects of the Frost.—Last week we expressed a hope that our first frost would not come on a Sunday evening, but it did come, nevertheless, rather sharp on that evening (October 19th), and as the weather looked as if we should have more of it, we lifted some of the most tender plants, and placed them under protection on Monday, and though the leaves of tender *Pelargoniums* were rather hard, they were not injured when thawed in the shade. For a particular purpose we were anxious not to dismantle our beds, and, therefore, we covered up some of the most tender plants on Monday night, but the sharper frost of Tuesday morning showed us we had better at once make safe what we wished to preserve, and we took up a considerable number of *Pelargoniums*, &c., placing them in sheds or sheltered places, with a little loose litter thrown over them until we should be able to attend to them. We never recollect having such a severe frost as on Tuesday morning, so early, for many years. The surface of the ground was well crusted, and the leaves of unprotected *Pelargoniums* were as hard as pasteboard. *Coleus* has been destroyed, and *Perilla* considerably blackened, and so have *Dahlias* and *Heliotropes*, but *Verbenas*, *Calceolarias*, *Salvias*, and the stronger-growing kinds of *Scarlet Pelargoniums*, are still green, and in many cases opening blooms after the drenching rains of the 23rd and the 24th. This is, no doubt, partly owing to the heat contained in the ground, and partly to the elevated position of the flower garden; and to this latter circumstance we would wish to draw attention for a moment, as it might be worth while for neighbours to compare notes in this respect.

We are all aware of the fact, that as a general rule the higher we go into the atmosphere, the greater is the cold we experience, until we reach the limits where snow and ice hold their perpetual reign. Within certain limits there are exceptions to this rule. Gardens in elevated positions are often untouched by the autumn and spring frosts, which cut up vegetation so much in the valleys. We have met with many instances in which even the bottom branches of rather tender trees have been seemingly burnt up by a dry frosty air, whilst the upper branches stood the test uninjured. From various accounts that reach us, the fact is ascertained, that gardens in valleys have suffered more, and earlier than we have done, and for this difference there must be a cause. We presume that the free radiation of heat from the earth would be very much the same from an extended elevated plateau as from a similar extended valley, though there might be a difference at the point where the eminence shelved down into the valley.

We have several times adverted to the simple fact that, as every body must be colder than the air around it before dew can be deposited on that body, so the deposition of dew and of hoar frost will furnish a test as to the cold produced by free radiation. We have no reason to conclude but that radiation of heat proceeds as freely from the higher ground as from that in the valley, and yet frost will be injurious in the valley, and the high ground will escape. Several times during this dry summer when the short lawn, so favourable for the deposition of dew in a quiet clear night, has been as dry as possible in the morning, so that even a satin slipper could not be damped, we have found dew on longer grass in a valley at a level of 150 feet lower. The only explanation that we can give for this singular but frequent occurrence is, that there is a constant tendency to an equilibrium of heat in the atmosphere, at least for certain heights; and thus, whilst the air on the lower ground becomes colder and colder, because the heavier and colder strata sink to the ground at once and can go no farther, the heat given off by radiation on the higher ground and higher positions, as the top of a tree, is for a time counterbalanced by the cold air finding a lower level and the warmer air rising to take its place. The matter is well worthy of consideration, as being of much importance as to the position of a garden; and if

these reasons be near the mark, they will show that slightly sloping banks will be less exposed to sudden frosts than the deep level valley, as for a time there will be an interchange of strata of air differing in density and temperature.

Wintering Old Pelargoniums.—Among the matters attended to in the week, which were chiefly a repetition of those alluded to in recent notices, and especially in the wet days, many of the *Pelargoniums* were taken up from the beds, as we always like to save some of them for different purposes, and these we treated in three different ways.

First, as respects some variegated kinds which we wish to keep and get cuttings from in spring. These we deprived of a few of their largest leaves, and when the roots were very straggling cut them in to 6 inches or so in length, and then we potted singly in small pots (40's), and set them in a slight bottom heat in frames, admitting air all night, that most of the leaves left may remain uninjured.

In a second case we took up some good-sized plants which we wish to keep for centres of raised beds or pyramids next season. We find that these are scarcely injured by the frost. As height is an object, we retain them almost at their full height, but to save room we take off all leaves larger than a sixpence, cut the roots if necessary, and place in the smallest pots that we can get them in, and put them under glass. Generally these make fine plants in spring. They would make fresh roots sooner if they, too, could have a little bottom heat, but that we could not give them, and to save room we wish them to grow very little during the winter.

The third is the most numerous lot, and the plants in this we merely wish to keep. We prune in the heads closely, leaving only a bud or two at the base of each branch. We prune in the roots to about 4 inches in length, and then we pack these roots closely in boxes—say thirty or forty of the close-cut deer-antler-like plants in a wooden box 3 feet long by 9 inches wide. If the soil is somewhat moist, they will need little watering, just a little to settle the earth about the roots. To prevent damping we dip the cut heads in a pot of quicklime. As not a single leaf is left on these cut-in plants, packed as closely as a wood faggot, they will keep anywhere in winter, where they will be secure from frost and damp, and will need but little light until they begin to break their buds, which they seldom do with us until March. These plants first treated with light then, and soon afterwards given more room, so that each plant may grow freely, will make a good show in the flower garden. This plan, or some similar one, is the best to adopt by those who grow *Scarlet Pelargoniums*, and have no greenhouse or glass pit to keep them in. Such skeletons need little care in winter. All young plants raised from cuttings must have light, as well as be kept from frost.—L. F.

COVENT GARDEN MARKET.—OCTOBER 28.

THE supply of fruit and vegetables is ample, with little variation in prices. The Potato market is firm for good sound descriptions.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples.....	¼	stove	1	6 to 2 0	Melons.....	each	2	6 to 5 6		
Apricots.....	doz.	0	0	0	Nectarines.....	doz.	0	0	0	
Cherries.....	lb.	0	0	0	Oranges.....	100	8	0	12 0	
Chestnuts.....	bush.	10	0	16 0	Peaches.....	doz.	10	0	15 0	
Currants.....	½	sieve	0	0	Pears (dessert).....	doz.	2	0	6 0	
Black.....	do.	0	0	0	Pine Apples.....	lb.	4	0	7 0	
Figs.....	doz.	0	0	0	Plums.....	½	sieve	4	0	6 0
Filberts.....	lb.	0	9	1 0	Quinces.....	½	sieve	0	9	1 6
Gois.....	lb.	0	9	1 0	Raspberries.....	lb.	0	0	0 0	
Gooseberries.....	quart	0	0	0	Strawberries.....	per lb.	0	0	0 0	
Grapes, Hothouse.....	lb.	2	0	5 0	Walnuts.....	bush.	10	0	16 0	
Lemons.....	100	10	0	16 0	do.....	per 100	1	0	2 6	

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	doz.	3	0 to 6 0		Leeks.....	bunch	0	4 to 0 6	
Asparagus.....	100	0	0	0	Lettuce.....	per score	2	0	4 0
Beans, Kidney.....	¾	sieve	3	0	Mushrooms.....	potils	2	0	3 0
Beet, Red.....	doz.	2	0	3 0	Mustd. & Cress, punnet	0	2	0	3 0
Broccoli.....	bundle	1	0	2 0	Onions.....	per bushel	5	0	0 0
Bras, Sprouts.....	½	sieve	2	0	Parsley.....	per sieve	3	0	4 0
Cabbage.....	doz.	1	0	2 0	Parsnips.....	doz.	0	9	1 0
Capsicams.....	100	3	0	0 0	Peas.....	per quart	0	0	0 0
Carrots.....	bunch	0	4	0 8	Potatoes.....	bushel	4	6	0 0
Cauliflower.....	doz.	0	0	0 0	Kidney.....	do.	4	0	7 0
Celery.....	bundle	1	6	2 0	Radishes doz. bunches	1	6	0	0 0
Cucumbers.....	each	0	4	1 0	Rhubarb.....	bundle	0	0	0 0
Endive.....	doz.	2	0	0 0	Sea-kale.....	basket	0	0	0 0
Fenael.....	bunch	0	3	0 0	Shallots.....	lb.	0	8	0 0
Garlic.....	lb.	0	8	0 0	Spinach.....	bushel	2	0	3 0
Herbs.....	bunch	0	3	0 0	Tomatoes.....	per doz.	1	0	2 0
Horsradish.....	bundle	3	0	5 0	Turnips.....	bunch	0	6	0 0

TRADE CATALOGUES RECEIVED.

John Cranston, King's Acre, near Hereford.—*Catalogue of Roses.—Catalogue of Transplanted Forest Trees, Conifers, Evergreens, Fruit Trees, &c.*

TO CORRESPONDENTS.

. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Contry Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

CLIFTON HORTICULTURAL SHOW (C. S.).—We cannot give a decided opinion on a case of which we have not the particulars; but we may say generally that a judge having awarded a prize to an exhibitor, gives that exhibitor no unalterable title to the prize, and it may be withheld if it be shown to the satisfaction of the Committee that the exhibitor was disqualified.

GROUND VINERY (W. A.).—The Vines require pruning, &c., just the same as when grown in a greenhouse. You will find full directions, drawings, &c., in "The Vine Manual," which you can have free by post from our office if you enclose thirty-two postage stamps with your direction.

FRUIT TREES FOR WALLS (P. K.).—We should plant Morello Cherries against the north aspect, and Marie Louise and Winter Nellis Pears against the south aspect.

CUCUMBERS—FINE APPLES (J. B., Jersey).—Either Telegraph or Lion House Improved would suit you for Cucumbers. Any London seedsman who advertises in this Journal can supply the seed. You can have "The Fine-Apple Manual," free by post from our office if you enclose thirty-two postage stamps with your address. You can also have "In-door Gardening for the Many," if you enclose twenty postage stamps. It gives directions for Cucumber culture throughout the year.

GLAZED CYLINDER VINERIES (Amateur).—Mr. Rivers's hexagonal vinery stands on a hill exposed to west and south-west winds. During a violent storm last winter it gave way 3 or 4 inches without breaking the glass. It has since then been made firm by driving spars into the ground on the opposite side to that exposed to the west. The open top seems very beneficial, as no watering or syringing is required, and Grapes ripen well. It should be covered with a mat in the month of May to exclude the spring frosts. The curled ends should be cut off, and manure 1 to 1½ inch in depth spread on the surface over the roots of the trees, in a circle from 3 to 4 feet in diameter, and allowed to remain there till March, when the surface may be stirred 2 inches in depth with the four-pronged steel forks used in gardens.

SALWAY PEACH (P. S.).—Eleven inches in circumference is large, and 1½ ozs. in weight is heavy, for a Salway Peach.

PRESERVING MEDLARS (J. C., Muckross).—Spread them singly on sand, open side downwards, first dipping the stalk end in strong brine to check mouldiness.

SELECT HYBRID PERPETUAL ROSES (Idem).—André Leroy, Alfred de Rougemont, Anna de Diesbach, Baronne Pelletan de Kinkelin, Beauty of Waltham, Caroline de Sansal, Charles Lefebvre, Comte de Nanteuil, Duc de Cazès, Duc de Rohan, François Lacharme, Géant des Batailles, Général Jacqueminot, Gloire de Santenay, John Hopper, Duchesse de Morny, Le Rhone, Leopold I., Lerd Macanlay, Louise Magnan, Madame Boutin, Madame Victor Verdier, Maréchal Vaillant, Paul Desgrand, Pierre Notting, Prince Camille de Rohan, Prince Léon, Sénateur Vaisse, Vainqueur de Goliath, Virginal, and William Griffiths.

ROSE CULTURE (Q. Q.).—If the Briers which have been budded push at this late season, take them up carefully, shake the roots out, and replant them. Except for this cause, it is best not to remove them. Do not break off the fibrous network. Orange fungus was evidently the cause of failure. There is no preventive nor cure except a pair of scissors patiently applied. Cut it out as early as it appears. It affects the under sides of the leaves. I never knew it begin earlier or more plentifully than this spring. My Rose-tree foliage is as good now as in May. Fungi of all kinds spread rapidly, destroy the action of the leaves, and produce ill-health. A practised eye will detect fungus at once by the discoloration of the upper side. It forms on the under side, then bursts, and forms 'Fenian centres,' till it spreads over a whole garden. Kill aphides now, and also early in spring. You will find them at both these seasons on the trees against the south wall. I have hardly had an aphid about my place this season. Of the varieties you possess, Madame Victor Verdier is first-rate. The following are, in my opinion, of proved Roses the best crimson:—Charles Lefebvre, Alfred Colomb, Sénateur Vaisse, Madame Victor Verdier, Pierre Notting, Duchesse de Caylus, and Maurice Bernardin. I think very highly of Antoine Ducher and Lady Suffield. I think you would be right to buy Princess Mary of Cambridge, Baronne de Maynard (lovely), Marie Baumann, which bears a high character; Antoine Ducher; Annie Wood, shows an eye; Francis Treyye, not yet proved here; Charles Verdier, first-rate; Black Prince, and Madame Margottin. Comtesse Jaucourt is only just come. Charles Margottin is thin-petalled, but distinct. Comte Seringe I do not know. As regards stirring the surface in summer lightly over the space occupied by the roots, it cannot be done too often. It lets in the night dews, which are in proportion to the solar heat,

moreover, less water will suffice. When ground is hard and baked, watering will only cool the surface without reaching all the extremities of the roots. Roses on the Manetti stock will do well in a north-east aspect if well looked after. Of the thirteen Roses named, I should not think highly of La Reine, François Lacharme (which requires high cultivation), Duchesse de Cambaccrés, Duchesse de Caylus, Madame Julie Darsin, Michel Bonnet, Madame Charles Wood (delicate), and Mademoiselle Gustave Bonnet. King's Acre is worthless, being a bad opener; Gloire de Santenay is a bad grower; Madame Boll is a good grower but somewhat tender; Madame Moreau is not tender, but is not a very good grower, yet occasionally very fine and distinct. Instead of La Reine you should buy La Ville de St. Denis, Gloire de Vitry, on its own roots, and the new Rose Madame Alice Dureau, probably the best of its year. It has been the best novelty here. I think well of Madame Rolland (not the same as Madame Roland), it will bloom again in a few days. It is a good grower. La France is distinct and handsome, a good grower, and a very quick bloomer, but I should think it would soil in a wet summer. It is a pretty Rose for glass. Its petals are reflexed at the edges, which is not a virtue.—W. F. RADCLIFFE."

PEGGING-DOWN ROSES (A Reader).—"Roses for pegging-down must not be very stiff in their wood. At any rate great care must be observed in heading the shoots. The long shoots need not be cut out every year, only when they want renewal. The young shoots should be cut back a little to a good eye in sound wood. I believe the following are good and suitable Roses:—Hybrid Perpetuals—Anna Alexieff, Comte de Nanteuil, Baronne Prevost, Duc de Cazès, Empereur de Maroc, Elizabeth Vigneron, Général Jacqueminot, Jules Margottin, Lady Suffield, La Ville de St. Denis, Baronne de Maynard, Madame Alfred de Rougemont, Madame Knorr, Maréchal Vaillant, Marguerite de St. Amand, Maurice Bernardin, Mrs. W. Paul, Pierre Notting, Prince Camille de Rohan, Souvenir de Dr. Jamain, and Souvenir de Comte Caynor. China—Mrs. Bosanquet. Bourbon—Acidalie. Tea—Sombreuil, Devoniersia and Rubens. All the above are good on the Manetti stock.—W. F. RADCLIFFE."

AQUATICS FOR STOVE (S. P.).—Nymphaea cœrulea, N. Devonians, Papyrus antiquorum, and Pistia stratiotes.

FLOWERING GLOXINIAS IN JUNE (Idem).—To have them in flower in June they should be started at the beginning of February. They should now be dried off and put to rest without loss of time, as upon their having a good rest depends a vigorous and healthy growth. Do not keep them dust dry as that is apt to cause the roots to become farinaceous, and they rot when water is given. Setting the pots on a damp floor will afford enough of moisture.

POTTING CYCLAMENS (Idem).—In potting the corms of Cyclamen persicum they should be entirely covered with soil. The old plan of leaving half, or more than half, of them out of the soil is exploded.

CULTURE OF CLERODENDRON THOMSONI AND BALFOURII (Idem).—They are both stove climbing plants, and require a stove temperature. At this season water should be sparingly given, and by full exposure to light secure the ripening of the wood. In winter give no more water than enough to keep the wood plump. In February perform whatever pruning may be required, thinning out the old wood and shortening the long shoots, but leaving enough of the young shoots of last year, and when they begin to push encourage their growth with moisture and an increase of temperature. When the plants have shoots a few inches long repeat, removing all the old soil as far as it can be done without injury to the roots, and use a compost of two-thirds fibrous loam from turf, and one-third sandy peat, with a free admixture of sand. Good drainage must be given. If convenient plunge in a hotbed, taking care not to make the soil very wet but only moist, shading from bright sun, and keeping the atmosphere moist. When the plants have become again established encourage them with plenty of heat and moisture, affording a light situation, and regulate the shoots, training them thinly rather than very closely together.

INTERMEDIATE STOCKS (N. B.).—Your plants raised from seed sown early in spring ought to have flowered this autumn. If they withstand the winter they will bloom finely next spring. There are two sorts of Intermediate Stocks. One, called "Earliest-flowering Autumnal Intermediate," if sown in spring will flower in August and until destroyed by frost; and the other, "Intermediate or Autumnal-flowering," should be sown in July, potted-off, and wintered in a cold frame, and it will flower early in the following season and continue a long time in beauty, being on that account very valuable. For blooming at the same time as the bedding-out plants, the Ten-week Stocks are the most suitable.—G. A.

PROPAGATING ECHEVERIA METALLICA (E. Phillips).—It may be propagated by eyes, or a leaf taken off with a kind of heel as you describe. These, inserted in sandy soil in spring, and plunged in a hotbed, will soon root if covered with a glass and kept moist and shaded. No doubt the best of all modes of propagation is by seed, but this is not very plentiful; therefore, we should prefer propagation by eyes, or division of the plant. The latter is a safe mode of increase, but can only be practised with large plants. You may grow it well in a compost of equal parts of turfy light loam and sandy peat, and a third part of charcoal in pieces from the size of a pea up to that of a hazel nut, with pieces of grit or sandstone of like size (or crocks will do), and silver sand, the whole well mixed. Let the drainage be good. Manure is of no advantage, though a little old dry cow dung will give increased vigour.

SELECT FRUIT TREES FOR WALLS (A. B.).—The south aspect of your north wall will be suitable for Apricots, Peaches, and Nectarines. Apricots: Kaisha, Hemskerk, and Moorpark; if you wish for an early sort add Orange, and for preserving Shipley's Early. Peaches: Early York, Royal George, Sulhamstead, Grosse Mignonne, Bellegrue, Chancellor, Barrington, Late Admirable, and Stirling Castle. Nectarines: Rivers's Orange, Elrue, Hardwicke, Violette Hative, and Pittaston Orange. The north aspect will only be useful for Cherries of the Morello tribe, of which Belle de Charnoux, Belle Magnifique, Morello, and St. Margaret's are the best. Your other low north aspect—i.e., of the south wall, will be suitable, because low, for Red and White Currants and Gooseberries, which may be had late by netting them. You will have two west and two east aspects. One-half of one of the east aspects we would devote to Cherries: Belle d'Orleans, Werder's Early Black, Bowyer's Early Heart, Black Tartarian, May Duke, Elton, Royal Duke, Florence, Bigarreau Napoleon, and Late Duke; and the other half to Plums: July Green Gage, Angelina Burdett, Early Orleans, Early Prolific, Victoria, and White Magnum Bonum. On the other east aspect have Pears and Apples. Apples: Adams's Pearmain, Baddow Pippin, Calville Blanche,

Collin, Newtown Pippin, Northern Spy, Orange Pippin, and Mannington's Pearmain. *Pears*: Citron des Carmes, Comto de Lamy, Albertine, Duchesse d'Angoulême, Williams's Bon Chrétien, Thompson's, Bergamotte d'Esperen, and Joséphine de Malines. One-half of one west aspect—*Plums*: Greeu Gage, Kirke's, Jefferson, Coe's Golden Drop, Guthrie's Late Green, Coe's Late Red, and Reine Claude de Bavay. The other half, and the whole of the other west aspect may be covered with *Pears*: Beurré Diel, Beurré de Rance, Brown Beurré, Beurré Bose, Gansel's Bergamot, Crasane, Knight's Monarch, Marie Louise, Forcillo, Flemish Beauty, Glou Morceau, Passe Colmar, Winter Nelis, British Queen, Van Mons Léon Leclerc, and Ne Plus Meuris. If we have named too many you may omit some of the kinds that come in nearly together, and where too few are given you may have duplicates of those which best meet your requirements. As your walls have buttresses at every 18 feet, we would make that the distance between the trees. The requirements of the family must be taken into consideration with respect to the number of trees of the different sorts. The trees against the walls should have borders of a width equal to the height of the wall, and there should be a walk in front of the border. On the opposite side of the walk to that on which the wall is situated, we would have a border 6 feet wide, and along the centre have a row of pyramid Apple trees on the Paradise stock, Pear trees on the Quince, and Cherry trees on the Mahaleb. The trees can be kept very compact and so as not to shade more than the border. The centre walk is to have borders on each side for herbaceous plants, with espaliers at the back. The pyramids may be planted 6 feet apart, or 9 feet apart with a Gooseberry bush between each, and for the first three years you may have a row of Strawberries on both sides of the borders at 15 inches from the edge.

CULTURE OF HOYA CARNOSA (Subscriber).—This plant is very accommodating, it will succeed in a stove,inery, or greenhouse, but best in a warm greenhouse or cool stove. From this time until April the plant should be kept dry at the roots, receiving no water except when necessary to keep the leaves from flagging, which they must not be allowed to do. The best time to repot is when the plant begins to grow. Drain the pot well one-third its depth, and employ a compost of sandy loam from turf cut about 1 inch thick, two-thirds, and one-third equal parts of fibrous peat, pieces of charcoal, and grit or crocks from the size of a pea up to that of a hazel nut, with a free admixture of silver sand. Water sparingly for a time, but maintain a moist atmosphere, and when the plant is growing freely give liberal supplies of water, but avoid saturating the soil. A light and airy situation is necessary. You may take off a shoot in spring, cut it below a joint, trim off two or three of the lowest leaves, and insert it in a pot well drained and filled with open sandy soil. It will root in a few weeks if kept moist and in a gentle heat.

PROPAGATING THE ICE PLANT (Idem).—It is an annual and not desirably continued by cuttings. It is best raised from seed, for seedlings grow the best and with one-half the trouble—indeed, we are not aware that the plant can be perpetuated by cuttings beyond a year.

PROPAGATING ACCUBAS BY CUTTINGS (R. S.).—The best time to put in *Accuba* cuttings is as soon as the growth is complete, and the wood has become firm. They should be inserted in light sandy soil in a cold frame, and the soil made firm about them. A gentle watering should be given, and the lights kept on during the day and off at night, but in dull weather they may remain off day and night. Let the cuttings have the benefit of slight showers, but protect them from heavy drenching rains. Shade from bright sun should also be afforded. When cold frosty weather sets in the lights will be useful for protection, and in addition a covering of mats should be given in a very severe period. The lights must be tilted, so as to let the cuttings have air, and the latter should be fully exposed in mild periods. The cuttings may be struck out of doors in a sheltered shady situation, but they will be longer in taking root, and their growth will be slow. From the end of August to October the shoots will be in a good state for making cuttings, but they may be put in up to the middle of November, and in that case many will not root until the following autumn.

CAMELLIA BUDS DROPPING (Idem).—The cause of the buds dropping is a deficient supply of sap, arising from defective root action. This may be occasioned by unsuitable soil, or the soil being kept too wet, so that the roots perish after active growth ceases. A deficient supply of moisture, both in the atmosphere and at the roots, will also cause the buds to fall. The moss over the potsherds would not injure the roots, nor cause the buds to fall. The plants are unwholesome. The buds generally fall from plants which make weak stunted growth, and have small, thin, pale-coloured leaves.

SELECT ZONAL PELARGONIUMS (Idem).—Chieftain, scarlet; Lord Derby, scarlet, very bright; Clipper, scarlet; Sir Fitzroy Kelly, scarlet; Princess Dgmar, rose, upper petals half white; Queen of Roses, rose; Prince of Wales, salmon; Seraph, orange salmon; Madame Day, salmon and orange, shaded pale flesh at the edges, centre white; Duchess of Sutherland, rosy purple; Constant Nivelet, bright carmine; and White Perfection. If you wish for double-flowering kinds, Gloire de Nancy, crimson, and Madame Lemoine, rose.

PROPAGATING STACHYS LANATA AND DACTYLIS GLOMERATA BY DIVISION (F. J.).—The most suitable time to divide these plants is in the end of March or beginning of April, or when they are beginning to grow. *Stachys lanata*, however, is best raised from cuttings put in in August in a shady situation, moving them to their final quarters in spring with a ball of earth to each. *Dactylis glomerata*, we presume, is the variegated kind, and that will do well divided and planted in May, care being taken to water freely in dry weather.

PLANTING ROSES (Idem).—The holes should be 2 feet wide, and 18 inches or 2 feet deep, and should be filled with good rich soil, adding about one-fourth of cow dung or rotten manure. Good garden soil will answer.

TEMPERATURE FOR BEDDING PLANTS (Idem).—You need not light a fire until the temperature fall to 40°, and that temperature from fire heat should not be exceeded. A gentle fire, however, in dull periods, to cause a circulation of air and to dry up damp, will be advantageous, air being admitted.

POTTING ZONAL PELARGONIUMS (Idem).—Old plants taken up now and potted will be better for early blooming than cuttings of this autumn, but they are not so free or fine in foliage, though freer-blooming.

PLACING PELARGONIUMS IN SMALLER POTS (Idem).—The advantages of disrooting and placing in smaller pots are, that the plants form fresh

fibres, and can be supplied with fresh food in less compass than were they left in the old pots and shifted into larger ones; but the chief object of the proceeding is to keep them in vigorous health and good bloom without increasing the size of pot. By disrooting, the plants are put into smaller pots than those in which they have bloomed, and are ultimately replaced in the old size of pot for again flowering. It is a great saving of space, and a good mode of cultivation.

POINSETTIA PULCHERRIMA LOSING ITS LEAVES (A Young Gardener).—Your plant may have cast its leaves from their being infested with insects, or from a deficiency of moisture at the root. Without a specimen we cannot advise, but we see nothing in your treatment likely to cause the leaves to fall off.

BOOKS (Idem).—The "Garden Manual," Kenne's "In-door Gardening," and "Cottage Gardeners' Dictionary," will suit you. They can all be had from our office, free by post, the first and second for 1s. 6d. each, and the third for 7s. 2d.

PREVENTING CLUB IN CABBAGEWORTS (C. R.).—Common salt, at the rate of 1 ton per acre, which should be applied to the surface and raked in when the ground is being prepared for the crop, is in most cases a preventive of the club in Turnips and Cabbages. Two cwt. nitrate soda will also be found a useful application. Your ground being full of insects, we would give a dressing of lime in March at the rate of one hundred bushels per acre, and on putting in every crop a dressing of 2 cwt. of nitrate of soda per acre, with enough root to make the surface quite black, pointing in these applications with a fork. With the view of preventing club in all the Cabbage tribe, the roots and stems, previous to planting, may be dipped in soot, brought to the consistency of paint with water, adding to every gallon 1 lb. of saltpetre. The seed beds ought to be frequently examined, and plants exhibiting the symptoms of club should be drawn, the excrescence opened, and the maggot destroyed; then plant them in nursery beds by themselves. The plants will be known by their lagging behind the others and flagging under sun.

PEACH TREES LOSING THEIR LEAVES AND FRUIT (A Reader).—Planting Apple trees, so as to shade the Peach trees, would be wrong. They cannot have too much sun, and the leaves and fruit did not fall owing to want of shade, but want of moisture. Keep the trees syringed and well supplied with water at the roots, and after the fruit has set give a good watering with liquid manure, and another after stoning, and that will keep down red spider, which will cause the leaves to fall. If you wish for late Peaches, plant such kinds as Late Admirable, Walburton Admirable, Stirling Castle, and Barington.

LAWN WEEDY (W. P. B.).—We advise you to persist in removing the weed from this time to March in mild weather, and early in that month give a good dressing of rotten manure, and rake it well in with an iron rake. With the first prospect of rain in April sow of *Lotus corniculatus* minor, 1 lb.; *Trifolium minus*, 4 lbs.; *Trifolium repens*, 2 lbs.; *Cynosurus cristatus*, 4 lbs.; and *Festuca druncinca*, 4 lbs. Roll well after sowing if the ground is dry, but do not roll again for a month, then roll twice or thrice a week, and if not mown for six weeks after sowing all the better, then mow and keep well rolled. You may give 1 cwt. of Peruvian guano during wet weather in May. The quantities named are for half an acre.

BELLADONNA LILIES NOT FLOWERING (L. R.).—The bulbs from being taken up before they were matured, or from being kept too long out of the ground, have been weakened, and had not vigour to support the bloom. You can hardly expect them to flower next year. We advise you to have them potted, and keep them constantly on a shelf near the light in the greenhouse, with a pan of wet sand under them. The sand ought never to become dry, not even when the plants are dormant. The bulbs should be placed in small pots, and have good drainage; good yellow loam from turf, with about one-third of leaf mould and one-sixth of sand intermixed, will form a good compost. Give little water until the bulbs are growing freely. Keep them well supplied until the growth is complete, then lessen the supply, and discontinue it altogether when the foliage becomes yellow. Do not pot until the roots split the pots, or the drainage becomes defective.

REMOVING A LARGE YEW TREE (Idem).—The Yew may be safely removed, care being taken to preserve a good ball, and to keep the spade at a good distance from the stem. No time should be lost in proceeding with the operation. It would contribute to success if the head were cut in spring. The Yew will push freely from the naked or thick branches, even better than any other tree or shrub.

CRUSHED BONES AND SUPERPHOSPHATE OF LIME FROM ROSES (Deconiensis).—Half-inch bones and superphosphate are both good manures for Roses. The former should be put in near the roots for the fibres to run into; the latter may be either put in as above, or over the surface, and lightly covered with soil.

ESTIMATE OF A FEW ROSES (Idem).—"I do not possess Princess Mary of Cambridge. It is a very good Rose. Charles Verdier, since Marguerite de St. Amand came out, is, in my judgment, the best light-coloured Rose. Miss M. Dombra is very fine, but subject to a tuck in the side. Mr. Keynes had at Blandford beautiful trebles of the Princess Mary of Cambridge and Miss M. Dombra, also of Xavier Olibo. I am not quite sure that Charles Verdier will be as free a bloomer as Marguerite de St. Amand. It bloomed freely with me, but I have heard complaints of its not opening. It is a very full Rose, and perhaps wanted water. Its wood is the same as that of Victor Verdier.—W. F. RADCLIFFE."

HEATING A SMALL GREENHOUSE (Subscriber, Bandon).—We do not think that you will be able to regulate the temperature of your house by heating a boiler with a lamp. We would have more faith in a large lamp with a tube and globe, an inverted funnel suspended over it, and a pipe from the funnel leading into the open air. We do not know the slow-combustion stove to which you allude, but we will undertake to make any stove a slow-combustion one, by nicely regulating the admission of air by the asphit door. If we were in your place we would have a small iron stove, say 30 inches in height, and 14 inches in diameter, which would allow you to have a firebox 9 inches wide, without the fire touching the outside iron. This, with a plate-iron funnel going through the roof, will keep your house warm. The simplest plan for the funnel is to take out a square of glass, and insert a similar square of zinc or iron with a hole in it for the funnel to pass through. Even by using prepared charcoal in a stove, we would have no faith in it without a pipe to let out the products of combustion.

PLANTING A GARDEN (A. Mechanic).—We cannot undertake to plant gardens, but if you will tell us your appliances and means, and what you intend doing, we will give you our best offices. In addition to the little books ordered, we would recommend Keene's "Out-door Gardening," which may be had from our office for twenty stamps. Meanwhile we would say, that though we would commend the carefulness with which you have pencilled your plan, we cannot see how you can make it work, so as to have a border on three sides at least, 18 inches wide, a gravel path round the four sides of the square, and the inside of the square itself laid out with five clumps, a large oval in the centre, and four triangular beds at the corners, and these beds to be surrounded by and divided from each other by grass, and all this in a space of 14 feet by 8 feet. Even supposing that there could be room, we would alter the plan so as not to give almost all the space to the centre bed, merely making that the largest, and the others in proportion, as at present that bed, simply from its size, would preponderate over all the rest of the garden. Perhaps, however, we read you wrong, and the central part surrounded with grass is of itself 14 feet by 8 feet. If so, the above remarks as to relative size will hold good, and as you show no grass on the border side, neither would we have grass in the central part, as, if not much more than a foot wide, it will always be difficult to manage. The square corners of your walk will always be unpleasant when the space is so small, so the walks so narrow, and you would gain much in comfort, and the outline would be more artistic, if you have only one clump in the centre—namely, a circle or oval, make your walk more circular round it, and add in proportion to the width of the border at the four corners. As we do not know your conveniences we cannot tell you how to provide for next season's display. You could plant the white-leaved *Cerastium* in little bits as an edging to your border now. You could back that by dividing roots of Daisies and Violas, say red Daisies and yellow Violas. You could also do your central beds with Wallflowers and Rockets. We need not say how pretty you could have it in spring with Crucifers, Snowdrops, Tulips, Hyacinths, and Narcissus. If you have any place under glass, or a spare window near which to set a table, you might sow various kinds of hardy annuals, as different *Nemophilas*, *Candytuft*, Sweet Alyssum, Virginian Stock, Silenes, the dwarf kinds, *Eschscholzia*, &c., to be transplanted in March, when they would bloom early, and the cost of the seeds would only be a few pence; but it would be useless for us to make suggestions which you might not be able to act upon. If you attempt to rival the fine lines of colour of fine-foliaged plants which you have seen in the parks of London, you must have glass, and be furnished with heat of some sort. If you had a spare room with plenty of light you might raise plants in a small box, with a place for hot water beneath; but you would have to harden them off by degrees, so as to be able to stand out of doors. If you have had little experience we would advise you at first to try bulbs and dwarf hardy annuals. The annuals we have named, if sown under protection now, would come in early, and would be succeeded by others of the same kind sown in March. As edgings to such small gardens Box answers well, neat tiles better, and flints and pebbles of small size are not to be despised. With a brush and colour, you may give these flints or small stones any colour you like.

FORM OF ORCHARD HOUSES (X).—Span-roofed are preferable to lean-to houses according to circumstances. Span-roofed houses admit more light, and may be so placed as to take full advantage of the morning and afternoon sun, and where no wall exists they will be cheaper when the space enclosed is considered; but if to be kept at a high temperature they will cost more in heating. Lean-to's against a wall are much warmer in a cold place when they face the south, and provided walls are already there, the fronting them with glass is never unadvisable. In either case the Vine borders may be made entirely outside, leaving the inside borders for other purposes, and in that case the front wall may be solid; but if on piers or arches, and only 2 feet of a border could be given to the Vines inside, it would be better, as the Vine stems would be secure at all times. We take many Vines through a hole in the front wall, but several times, do what we could, we have had the Vine stems gnawed by rats. The merit of houses that rise from low piers in front, be they span or lean-to, is that you depend on the glass roof entirely for light, and as that roof is generally rather steep, the plants trained under it are better fitted for early and late crops. In attending such houses, most of the work must be done from the outside, or you must stoop considerably in doing it from the inside. In a lean-to or span-roofed house, where the sides are high enough to permit a person to walk near the side inside, the flatness of the roof is counterbalanced to a certain extent by the light in winter, late in autumn, and early in spring, that passes directly through the front glass. Such houses are best for plants or ornamental purposes, as you can enjoy them better from being able to walk about easily. Where mere fruit culture is concerned, the roof rising from piers or a low wall, say a foot or 18 inches above the ground, does very well; but then utility more than elegance or mere convenience are the main objects.

HYACINTHS IN POTS (A Constant Subscriber).—We should prefer a mixture of sand and leaf mould to mere cocoon-nut fibre refuse as soil for them.

FRUITING VINES (Reader).—We have no faith, as a rule, in taking two bunches instead of one from every shoot or spur of a Vine. It is perfectly impossible to tell you what quantity of water your inside Vine borders will require; but this we can say, keep the roots rather dry, not moist, dry, in winter; water so as to have the ground somewhat moist as growth commences; give more water as growth proceeds; and just manage to have the surface somewhat dry as the Grapes ripen. Before colouring, if you are sure by personal examination that the soil is moist enough right through, a damping of the surface will be all that will be required. With such a border it will not be easy to overwater in the growing time. Cold water should not be used.

SOWING ROSE SEED (F. S.).—The hips should be gathered when ripe, early in November, and kept entire in a flower pot filled with sand. At the end of February or beginning of March they must be broken with the fingers and the seeds sown in pans, which should be deep—not less than 8 inches in depth. They ought to be well drained, and filled to within half an inch of the rim with two-thirds loam from turf, and one-third sandy peat or leaf mould, adding sand if the soil does not contain enough. The seeds should be placed rather thickly, and covered with half an inch of fine soil. The pans should have a good watering, and be plunged in the open ground in a sheltered but open situation. They must be protected from mice by a covering of very small-meshed wire netting, which will also keep the soil moist from the shade afforded, space being allowed

between the soil and wire for the plants to come up; three-quarters of an inch will be sufficient. The soil should be kept moist. The plants will appear in May or earlier, and when they have three or four leaves they may be taken up and potted in small pots, be placed under a hand glass for a few days, planted out in good rich soil, and they will then make strong shoots fit for budding in August or September. Very often the seed does not vegetate until the second spring; the pans, therefore, should be allowed to remain until May or June of the second year.

ELM TREE INJURED BY INSECTS (A Subscriber).—The bark falling off suggested that the Scolytus destructor had assailed the tree, for which we know no remedy; but the holes "large enough to admit the point of a little finger," intimate that the ravager is the caterpillar of the goat moth, *Cossus ligniperda*. It may be sometimes destroyed by thrusting wire up the hole, but the mischief done is irreparable.

BACK NUMBERS (Q. Reed).—The whole of the numbers you mention and the index, can be obtained from our office.

COTTAGE GARDENERS' DICTIONARY SUPPLEMENT (R. J. S.).—You can have the Supplement free by post from our office if you enclose twenty postage stamps with your address.

PEARS MEALY (South Wilt).—The Beurré Rose Pears, grown on a south-west wall, mealy and deficient in flavour, would probably have not been thus faulty if the soil over the tree's roots had been mulched and watered well during the late hot dry summer.

SITUATION NEEDED (J. C.).—You must write to the principal nurserymen, stating your qualifications and testimonials.

FORCING-HOUSE MANAGEMENT (F. P.).—"In-door Gardening" contains the management for each week. You can have it free by post from our office if you enclose twenty postage stamps with your address.

MIMULUS TRICOLOR (A. C.).—We only know that it is stated to be a native of Mexico, and was introduced to this country by Hartweg about 1849.

MELON APPLE TREE UNFRUITFUL (Kingsbridgiensis).—The shoot you sent is thickly covered with the Apple-scale insect (*Aspidiotus cochifera*). Brush the stem and all the branches with this mixture:—Soft soap, 2 lbs.; flowers of sulphur, 2 lbs.; tobacco, 1 lb.; and a wineglass of spirit of turpentine. Mix the sulphur, turpentine, and soap into a paste with warm water; boil the tobacco for an hour in a covered saucepan in some more water, strain it, mix it with the soapy mixture, and then add enough water to make five gallons. A south wall is too hot a situation for the tree in Devonshire. Mulch and water often in dry summer weather.

MAIDEN FRUIT TREES (Ignorance).—A maiden plant is a tree that has never been pruned; for instance, a Plum stock budded this year with a Peach will next year have a single strong shoot from the bud inserted in the Plum; that in autumn is a maiden plant, and the shoot is to be cut down to two buds situated at 9 or 10 inches from the ground in order to furnish side shoots, the best two at that height being selected, as you will find explained at page 266.

SOIL FOR VINE BORDERS (G. P. R.).—You cannot make your Vine border with anything better than the top spit—say 3 inches deep, of a good loamy pasture. Allow this to lie in a heap for six months, and then add a load of brick rubbish, and a couple of bushels of broken boiled bones to every seven or eight loads of the turfy mixture.

POTASH FOR DISSOLVING BONES (Nemo).—The exact quantity required cannot be told, for bones differ in the amount of phosphate of lime which they contain. Coat each bone with the powdered potash, and strew a little over each layer of bones.

PIGEON MANURE (Pigeon).—Some nurseryman or gardener in your neighbourhood would probably purchase it.

EXTERMINATING ANTS (H. Smart).—They may be driven away by repeatedly strewing guano, or pouring over their nests the ammoniacal liquor from the gas works, or you may pour into their nests a solution of Clarke's insect-destroying compound at the rate of 2 ozs. to the gallon. You may, after the fruit is set, syringe the trees with a solution of the compound, and once a month up to August, or oftener if the pest appear, doing it in the evening, or early in the morning, for ants are early and also late workers. The compound will free your trees of other insects as well as the ants, as aphids and red spider.

NAMES OF FUNGI (Burbidge).—The following is a list of your Fungi; there is none decidedly edible:—1, *Lycoperdon saccatum*, a rare species of Puffball; 2, *Agaricus flaccidus*, belongs to an edible group, but we do not know its qualities; 3, *Agaricus rugulosus*, poisonous; 4, *Agaricus fascicularis*, poisonous; 5, *Hirneola auricula-juda*, the Jews-ears of the old herbalists, sometimes used in the present day by old country folk and quacks, but useless as food or physic.

NAMES OF FRUITS (G. Y.).—We have not received the stamps, and the fruit after being kept until spoiling was given away. (*Wm. McLennan*).—Your Apple is Ravelston Pippin. (*H. H. P.*).—1, Margil; 3, Royal Russet; 4, Reinettes du Canada; 5, Loudon Pippin; 6, Bleheim Pippin; 7, Non-such; 8, Court-Pendu-Plat; 10, Yorikishiro Greening; 11, Damelwa Seedling; 12, Braddick's Nonpareil; 15, Cockle Pippin; 17, Sturmer Pippin. (*Quince*).—2, Vicar of Winkfield; 3, Passe Colmar; 4, Beurré Diel; 5, Glou Morceau; 6, Triomphe de Jodoigne; 8, Colmar; 9, Bergamotte Esperen; 10, Althorp Crasanne; 11, Catillac; 12, Dunmore. (*H. H.*).—Pears: 1 and 2, Gansel's Berganot; 3, Lewis Apples; 1, Barcelona Pearmain; 2, Wintler Pearmain; 3, Warner's King; 4, Red Bough; 5, Sykehouse Russet.

NAMES OF PLANTS (M. W. M.).—We cannot usually name plants from mere leaves. (*C. F.*).—The Bird Cherry, *Cerasus padus*. (*C. A. M.*).—*Bougainvillea spectabilis*. A stove evergreen climber. Native of Peru. Propagated by cuttings. (*Mrs. Sartoris*).—We cannot name *Pelargonium*, nor any other florists' flowers from specimen flowers. They are far too numerous and differ so slightly. (*T. Record*).—The name of the plant which has never flowered with you is *Pittosporum undulatum*, a native of tropical Asia and Australia. The singular fungus attacking the wood in your cellar is *Ozonium aricomum*, a mycelium. (*Castlereagh*).—1, *Asplenium fontanum*; 2, *Pteris longifolia*; 3, *Oncidium japonicum*; 4, *Lastrea Filix-mas*; 5, *Pteris sulcata*; 6, *Microlepia nove-zelandica*. (*H. E.*).—*Fittouia argyreura* (or *Eranthemum leucocervium*). (*G. D.*).—*Amaranthus tricolor*, tender annual. (*J. B. W.*).—1, *Sedum carneum*

variegatum; 2, Begonia Daviesii; 3, Hedychium apparently, but only a | tnm cuneatum; 8, Asplenium Adiantum-nigrum; 4, Lycopodium ro-
leaf sent, hence uncertain. (Rossini).—1, Adiantum tenerum; 2, Adian- ; bustum; 5, Davallia pyxidata.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending October 27th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 21	29.753	29.593	65	25	49	51	W.	.00	Clear and fine; very fine; fine, frosty air.
Thurs. 22	29.939	29.778	57	29	45	48	S.W.	.00	Fine, sharp frost; very fine and clear; cloudy.
Fri. .. 23	29.884	29.677	57	33	48	49	N.W.	.08	Boisterous with rain; very fine; overcast, fine.
Sat. .. 24	29.787	29.432	54	45	48	48	S.E.	.48	Heavy rain; boisterous with rain; fine, very boisterous.
Sun. .. 25	29.815	29.650	61	42	44	50	E.	.15	Fine, close air; rain; hazy; clear and fine.
Mon... 26	29.921	29.788	51	39	48	49	N.W.	.09	Fine; clear and very fine; fine at night.
Tues. . 27	30.171	30.023	52	25	50	49	N.W.	.00	Clear and fine; very fine; fine and frosty at night.
Mean	29.938	29.706	56.71	32.71	48.00	50.57	..	0.71	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

POULTRY SHOW DETAILS.

Much has been said and written on various occasions by exhibitors, respecting the present system of holding so many shows simultaneously. This to my mind seems suicidal, for not more than one show out of four, I think, can possibly prove a decided success as regards the quality of the birds exhibited (which is very important), and in the end a serious pecuniary loss to the various committees is the result. Besides, committees are now under the necessity of having persons to act as judges who are not possessed of the necessary qualifications, and although such persons may wish to act honestly towards all, yet their lacking the proper qualifications must inflict an injustice on exhibitors generally; so that instead of people exhibiting the various kinds of poultry with pleasure, as it ought to be, it very often proves to be a source of annoyance and vexation to many. The consequence is, that one show after another becomes a thing of the past.

To the above circumstances, with a few others, I think may be traced the total abandonment of many shows. In order that a better state of things may exist, I wish to call the attention of committees, and others, to the importance of having at all times, as far as practicable, gentlemen well qualified to perform the duty devolving upon them. I have no wish whatever to speak disparagingly of any who may be called upon to act as judges; but I think the time has now arrived when we require judges possessing a general knowledge of all the classes, and not persons who really only understand one or two classes. So long, therefore, as matters continue as they are, nothing but dissatisfaction and fault-finding can be expected. I, as an individual exhibitor, would like eight or ten persons selected to act as judges, and that they should be exclusively employed; but, of course, the committees to make their own selection from that number, and if only the exhibitors could agree as to who these gentlemen should be, better results would soon follow.

I see shows advertised that are likely to clash with each other; as being the case, one of these gentlemen might be appointed to officiate alone in all the classes at one show, while another was allowed to judge at another, and thus the great object would be obtained in each case; something like correct decisions being arrived at to the satisfaction of exhibitors generally.—EXHIBITOR.

BRISTOL AND CLIFTON SHOW.—We have just received a schedule of the Bristol and Clifton Poultry Show, its programme this time surpassing even Birmingham in the silver cups offered for competition. To Derkings two cups each of the value of ten guineas are offered, while Cochins, Brahmas, Spanish, and Hamburgs, have two cups awarded to each, one for cocks or cockerels, and the other for hens or pullets. The Black Hamburgs will have to creep into the "Any variety" class, this useful fowl not being yet appreciated to its full value. At the last Clifton Show, it will be remembered chickens only could compete; this year, however, old and young will compete together in most of the classes. There is one lesson that we think Birmingham could learn from this young but enterprising Society. We refer to the entrance fees. While to Birmingham every exhibitor will have to send no less than four

pens, here the fancier of a single variety only will be able to compete without having to pay the obnoxious guinea, before he can show even a single pen. The entrance fees for the Bristol and Clifton Show are the same as for the Manchester and Liverpool recently held.

BREEDING DUCKWING GAME FOWLS.

In breeding Duckwings for correct match, the "golden" rule, that "like produces like best," should be attended to; and the most correct-coloured Duckwings, especially Silver-Greys, are produced by breeding "Duckwings with Duckwings."

Selecting first-rate strains of the same colour and match, if good, but of quite different blood, the cock in crossing of one strain, the hens all sisters and of a different strain from the cock, but matching him, put two, four, or six hens to one cock; two will be the best if crossing. All should be two-year-old birds, as in their prime; if breeding in-and-in, an old cock to be put to two-year-old hens, or a two-year-old cock to old hens. Breed chiefly in April or May, or the last ten days in March, setting no more than eleven or twelve eggs under each hen.

The common way of best producing Duckwings for exhibition with the required high-coloured cocks and the Silver hens, is to breed the Duckwing cock chickens from a good Black-breasted Red cock put to Duckwing hens, and to get the pullets from a Duckwing cock with Duckwing hens, which gives the true silvery bluish grey colour, but does not breed cock chickens sufficiently high coloured. Breeding the cock chickens from a Duckwing cock with Partridge hens, is, I think, equally good, and makes more Duckwing cocks, and better on the whole, perhaps. I, however, always prefer breeding both cock chickens and pullets from Duckwings bred from Duckwings, as the cock chickens are then the true match for the pullets, and are not mongrels. No good or true-coloured Silver-Grey Duckwing pullets can be obtained by crossing with Reds, but only the yellow or yellowish pullets with brown-marked wings and shoulders, and coarse red-fawn breasts, but such as the latter, when hens, can be used for breeding the high-coloured Yellow Duckwing cocks which match them, and will do so better than breeding with the Partridge hen a second time.

The true colour for pure-bred Duckwing hens is a beautiful silvery bluish grey thickly frosted with silver, with a delicate pale or silver-fawn breast, instead of the coarse red breast, and a red fawn breast is only proper to the Partridge or other Red hens. The neck hackle of the Duckwing hen should be, of course, silvery grey striped with black, less black near the head. Tail blackish grey or greyish black. I prefer the Duckwing cocks that really match such hens as these and are bred with them, but they will throw cocks according to the cock put to them, either Silver-Grey, Grey Birchen, Birchen Grey, and Yellow Birchen Duckwing cocks. The hen and not so much the cock, is the parent stock and true foundation of our Duckwings, which were first bred from Black-breasted Reds accidentally throwing Duckwing hens or pullets; and these, being perpetuated by interbreeding, produced also Duckwing cocks, the Yellows first and then the Silvers by selection afterwards. Greys are harder and gamer if rightly bred than any Yellows are, as Yellows are often softer than Reds, as when the Reds throw to Greys they throw hard birds, and when to Yellows often soft birds. I mean really good Greys and not the soft mealy colour. The high-coloured orange-copper-backed cocks are very handsome, but never breed good-coloured pullets, being only handsome cross-bred birds themselves.

Our Duckwing exhibitors seldom exhibit a real match in a pen of Duckwings, but show a cock and hens of different strains; the hens being from one strain greyer, the cock from another and yellow or higher coloured. When of the same strain the hens are often faulty, being brown-shouldered and too red-breasted. I do not approve of crossing back to the Black-breasted Reds in breeding Duckwings, but if high-coloured orange-backed cocks are required, they can best be obtained by crossing with the high-coloured Yellow-wheaten Duckwings, or the Ginger Blue Duns, or even with the Golden-cinnamon Black-breasted Reds, yellow legs, which coloured legs all three of these sorts have. Brown Reds and Ginger Reds will often give orange shoulders to Duckwing cocks, but this cross spoils the black breast for Duckwings. Orange Piles will also breed Duckwing cocks orange-backed, but this cross gives too many white feathers. Duns will breed pure Black-breasted Duckwing cocks. Crossing with Black-breasted Reds always spoils Duckwing hens in colour, but good-coloured cocks can be obtained by this cross.

I think that fair and honest exhibitors would do better if they made a rule of always exhibiting the true and pure-bred Duckwings instead of any of the crossed birds. The late Lord Hill, of Hawkstone, Salop, was, I have been told, the best Silver-Grey breeder in England, and would not allow a single red feather in his runs or walks, especially in breeding.

The great objection to breeding the Silver Duckwing Greys in-and-in is, that the cocks, and sometimes even the hens, become too pale, and are liable to have the silver-mealy breasts, also the white or grey-spotted black breast in the cocks.

I have known "Duckwings bred with Duckwings" for a quarter of a century, crossing with the same colour from different but good strains, and the stock is still very good.

The Silver-Grey Duckwings are now very rare at our exhibitions, as willow-legged Duckwings are seldom or never pure Silvers, which when really pure have the white, blue, or blackish legs, and never willow or yellow legs, which latter belong to the sorts not Silvers; the willow legs to the Grey Birchen and Birchen-Grey Duckwings, and the yellow legs and yellow eyes to the true Yellow Birchen Duckwings. The purest Silvers are the mealy grey-breasted mealy-silver Duckwings with white legs and silver-pearl grey eyes, cocks' and hens' breasts the same colour; but this breed is now almost extinct.

The willow-legged Birchen-Grey or Grey Birchen Duckwings are most common of all; the red eye inclining these rather to the grey than to the yellow hackle, but the willow leg and yellow skin keeping the breed yellowish in feather. The yellow or daw-eyed breeds of Duckwings seem to have been first bred from the Light Gingers or Black-breasted Gingers with yellow eyes and yellow legs.

Our judges at most exhibitions do not, I think, in general judge our Duckwing hens well; they give attention chiefly to the cocks, and not equally to cock and hens, thus we generally see exhibition Duckwing prizes awarded to hens with brown shoulders and red breasts, which hens are all cross-bred mongrels, though they may be the right match for "their brother," a handsome high-coloured cock, also a handsome mongrel-bred bird. I think the judges should select only the silvery bluish-grey hens with the delicate pale silver-fawn breasts for their prize hens, allowing no brown wings at all, nor yet coarse red breasts, than which nothing looks worse; and a cock that truly matchea such hens as these is the best Duckwing cock for a cup or prize in my opinion, whether "too silver" or not. Too much stress, I think, is laid on high colour in the back of prize Duckwing cocks.—NEWMARKET.

LORD TREDEGAR'S POULTRY SHOW.

In common with many exhibitors who signed the memorial to the managers of this Show, I did not exhibit at the Show in 1867. I am sorry to say that several who signed the memorial, nevertheless did exhibit some poultry. Under these circumstances it appears to me that the memorial is no longer binding on the remainder, and that those who like may, therefore, be free to show at the approaching Exhibition. As regards this identical Show, I believe that every effort the Committee could make, was made, and, therefore, the blame does not really attach to them, and it is, perhaps, saddling the wrong horse to make them suffer. Railways, and especially the G. W. R., rule us all with rather too iron a hand.—Y. B. A. Z.

THE SOUTHAMPTON POULTRY AND BIRD SHOW.—The entries for this Show will close on Friday, the 30th inst. We notice

some favourable features offered by the Committee to exhibitors, amongst which is an auction sale, whereby exhibitors may dispose of their prize and surplus stock. The prize list includes several silver cups for poultry, Pigeons, and cage birds; one, value six guineas, subscribed for by several breeders, is offered for the best pen of Light Brahma chickens. The prizes for cage birds are liberal.

NOTES ON FANCY PIGEONS.—No. 12.

TUMBLERS IN GENERAL.

I HAVE as yet in these notes treated of two classes of fancy Pigeons, Pouters and Carriers, including in the latter class all Pigeons that carry—viz., the Horseman, the Dragoon, and the Antwerp. I have every reason to be gratified for having started the subject, as there have been, first, many and very excellent and useful papers written on Pouters; also some good papers on the Carrier class from "A FOREIGNER," Mr. Crossland, Mr. Ludlow, "AN OLD FANCIER," and others. There has been naturally enough a little difference of opinion, but I must say I have read all the communications with interest, and with, what we should none of us be above, a desire to learn by the experience and opinions of others.

It is this free communication of our different views which leads to acquirement of knowledge, and in the case of Pigeons will tend to raise the fancy to the position which I hold to be its due—namely, a high position. Rightly, I think, says Dr. Bechstein, "Concerning the domestic Pigeons in their several varieties much might be said. Of Pouters, Tumblers, Jacobins, Shakers, &c., a volume might be written, and a very interesting one too. The extraordinary changes of plumage, and modification of form which have been produced in these birds are equally curious and interesting." Then, we must remember, that whatever is tame or domestic tends to make up and complete that beautiful thing we call a home. Hood, speaking of a dreary, forsaken, miserable-looking house, says—

"No dog was on the threshold, great or small;
No Pigeon on the roof—no household creature—
No cat demurely dozing on the wall—
Not one domestic feature."

The absence of all these made the louse dreary and forsaken; it did not look like a home.

Pigeons can be kept where fowls cannot live in comfort; they will prosper where even flowers will not grow; they can take the country into London, and help to make for the humblest citizen a home.

But it is not of Pigeons generally, but of one variety I must speak at this time. Pouters and Carriers have had their description and praise, now comes the next class, the trim, compact, dainty little Tumblers. They boast not quite the ancient lineage of the Carrier and the Pouter, but the Almond Tumblers began to be honoured about a century ago, and they have increased in beauty with time. But of them by-and-by; this paper is to treat of common Tumblers—yes, common Tumblers. And what a good thing it is that common things, things easiest to be had, yet afford great pleasure. The common little flower garden gives as much pleasure to its owner, he not being able to have more, as a rare garden does to its owner. The Linnet in its cage affords its young master or mistress as great enjoyment as in after years will the longest and lankiest Belgian Canary. So the common Tumbler gratifies its possessor, not being yet a skilled fancier, as much as the most difficult to breed and rarest Pigeon. I say common Tumblers, but then they must tumble, they must be true to their name. I object to Pouters that will not pout, to Shakers that will not shake, and to Tumblers that do not tumble. Such Tumblers are not true to their name, you look up and they do not tumble. Let them be hidden in a pie-dish at once, let the little feet that would not turn up in life show their toes uppermost through the nicely browned crust, and that too without delay. I never keep Tumblers of the commoner classes that do not, or cannot, or will not tumble. I say, "Die, impostors!" Of course, in regard to the highest class, Short-faced Tumblers, this matter of actual tumbling is not a necessity, as these birds are birds of many fancy points, rather than flyers, but I never keep common Tumblers, or Beards, or Baldheads, &c., that cannot tumble.

Not long since I was in a seaport town and found out as usual the bird shops. I was seeking Tumblers, but found none to my satisfaction. I wanted neither Almonds nor any bred from or crossed with Almonds. I found no Tumblers in the

shop except coarse, ill-shaped birds, and I not unnaturally bestowed no praise upon them. "Why, sir," said the man in the shop, "what can you want? I bought the whole flight of a gentleman, and I'll warrant they will tumble well, and keep up for hours." "But," said I, "they have not even pearl eyes." "As to that sir, nobody looks for pearl eyes now in Tumblers." "But," said I again, "look at their legs, they are partly feathered." In fact, these wonderful Tumblers were most probably bred from Rollers, with a mixture of the common Bunt, and they retained the tumbling and that was all. True, they were *tumblers*, but though I consider that their first property, yet others should be found in birds bearing that name. Some years since I used to be able to obtain well-coloured Tumblers with clean coral legs, neat heads, but with no mixture of either Almond or Roller blood. They flew high, kept up well, and tumbled sufficiently, and their form was symmetrical; but now how rarely are these seen! but in their place a countless herd of coarse, patchy-coloured birds. I should like fanciers to reject these and get birds pleasing to the eye, fairly round-headed, full-breasted, neatly made, but strong nevertheless. Feathers on the legs are wrong; the Tumbler-shape requires the neat, unfeathered, clean, coral legs and feet.

No Pigeon is more attractive than the Tumbler, and it retains its hold upon the affections for years. It is a tame bird, walking confidently and confidently among our feet; cooing and displaying its airs near you, while no eye can fail to be pleased with its dapper little figure. There are other things in their favour—they breed well, are excellent parents, save the Short-faced ones, and they are very good eating. "What! eat your pets?" "No, my dainty lady, I eat them before they grow to be pets." There is always this advantage in keeping Pigeons, that you can eat them and so get rid of the faulty or the superabundant, unlike those who keep Doves, who sometimes bore their friends in begging them to accept pairs. One lady I knew who kept Doves, used to prick their eggs so as to prevent their producing young. Anything to stop the terrible fertility of her pets, for, oh! the outcry for cages, and the coaxing mammas to allow their young hope fuls to accept a pair of Doves. Now, we Pigeon-fanciers are never in such trouble.

In common Tumblers I would include all the varieties that are larger than the Short-faced birds. Thus I would take the Baldheads and Beards, and if I must the Rollers, which seem the lineal descendants of the Dutch Tumblers of the older writers. The Rollers, after the novelty is over, are not pleasing. They seem to overdo and are falling, rather than tumbling, head over heels. The House, Air, and Ground Tumblers must be still worse, theirs is not a pretty gymnastic feat but a sad misfortune.

The best and truest-bred common English Tumblers that I have ever known, have been either Red or Buff; the latter are charming pets, but look better on grass than on gravel. It would not be ill-spent money to offer at all large shows prizes for well-bred genuine English Tumblers.—WILTSHIRE RECTOR.

P.S.—I beg to thank "A FOREIGNER" for his two excellent articles entitled "Management of Pigeons in Health and Disease," and "Some Notes on Pigeons."—W. R.

LIGURIAN BEES AS HONEY-GATHERERS.

The prolific character of the Italian queen has been abundantly testified to in the Journal, but very little has been advanced regarding the honey-gathering powers of her offspring. After four years' experience, it is my conviction that a great return of honey is not to be expected from a pure Italian colony. In this district the produce from Italians has not been equal to that from black stocks, and it has fallen very far short of that derived from hybrids; in fact, the return from pure Italians has been quite a failure. I hoped for great results this last beautiful summer from a very strong stock, but at the close of the season it had amassed very little more honey than would suffice to carry it comfortably through the coming winter. A very different state of things was presented by my hybrid stocks; they literally groaned with honey, and sent out as many and as large swarms as hives of the purest-bred bees. I would, therefore, recommend those parties who wish a good honey harvest to have their stocks furnished with "hybridised" queens.

These views may not be entertained by many, but they accord with what has come under my own observation.

The pure Italian bee cannot endure such a lengthened confinement in its hive as either the black bee or the hybrid. It consumes more honey, and is more susceptible of cold. In a low temperature I have often seen it fly out, never to return, when blacks and hybrids found their way back to their homes with comparative ease. But with all its defects I greatly admire the Italian bee, and would be the last to discard it from my apiary. At the same time there is no reason why its merits should not be canvassed, and I shall be glad to hear what Mr. Lowe, with his forty pure stocks, or others, have to say on the subject.

The idea of feeding a hive of bees previous to driving it, as propounded by Mr. Pettigrew, is very good, and should not be lost sight of. Late in autumn, when the weather is cold, it is often extremely difficult to dislodge bees. Perhaps the end aimed at by Mr. Pettigrew would be speedily attained were the stock hive, on being turned up, to be sprinkled with a little lukewarm syrup immediately before covering it with the empty skep.—R. S.

THE NATIVE HONEY-BEE OF MEXICO.

In the hives of the domesticated bees of Mexico we meet with a structure altogether peculiar. They exhibit little of the regularity of construction which characterises the hives of the bees of the old continent, and are far inferior in this respect to the habitations of wasps. In one particular they approximate to the nests of the European humble bees; the honey which they contain is deposited in large bags distinct from the common cells. It is somewhat singular that so interesting a point of natural history has never been particularly noticed; our previous knowledge scarcely extending beyond the facts, that some of the bees of America form nests, like those of wasps, attached to or suspended from trees, and covered by an outer case constructed by themselves; while others, incapable apparently of forming this outer crust for their hives, seek cavities ready formed for their reception, and in them construct their habitations. Instances of each of these kinds of hives are mentioned by Piso in his Natural History of both the Indies; and Hernandez, in his History of Mexico, states that the Indians keep bees analogous to ours, which deposit their honey in the hollows of trees. Little information beyond that furnished by these older writers is contained in more modern works; and even the Baron von Humboldt, to whose acute observation science is indebted for so many discoveries respecting the New World, appears not to have noticed with his usual care the peculiarities of its bees. Had that distinguished traveller directed his attention to the habits of the species which he collected during his memorable journey, M. Latreille would doubtless have given to us the necessary details in his excellent Monograph of the American Bees, included in the "Observations Zoologiques" of M. Humboldt. In the valuable essay prefixed to this Monograph, M. Latreille has collected from authors numerous statements relating to the habitations of bees, and especially of those of America; but has added to them no new facts as regards the hives of the New World. The subject may, therefore, be regarded as altogether novel, and as requiring some little detail in its explanation.

In the domestication of the bees of Mexico but little violence is done to their natural habits. Inhabitants, in their wild state, of cavities in trees, a hollow tree is selected to form their hive. A portion of it of between 2 and 3 feet in length is cut off, and a hole is bored through the sides into the hollow, at about its middle. The ends of the hollow are then stopped up with clay, and the future hive is suspended on a tree in a horizontal position, with the hole opening to the cavity directed also horizontally. Of the hive thus prepared a swarm of bees speedily take possession, and commence their operations by forming cells for the reception of their larvæ, and sacs to contain the superabundant honey collected by them in their excursions. Two such hives, completely formed and occupied, were brought to England, safely packed in recent hides. One of these was forwarded to M. Huber, eminently distinguished for his highly interesting observations on the manners of bees; the other was presented to the Linnean Society. The latter was carefully divided longitudinally, so as to expose its interior.

The eye of an observer accustomed to the regular disposition of the comb in the hive of the European bee, is at once struck with the opposite directions assumed by it in different parts of that of the Mexican. Instead of the parallel vertical layers of comb, we have here layers, some of which assume a vertical, while others are placed in a horizontal direction; the cells of

the latter being the most numerous. The cells, of course, vary in their direction in the same manner as the comb which they form; those of the horizontal layers of comb being vertical with their openings upward, while the cells of the vertical comb are placed in a horizontal direction. In the horizontal cells the mouths are partly directed away from the entrance to the hive, and partly towards it; the former direction being given to those cells which occupy the middle layers of comb, and the latter to the cells which are placed on the side of the hive opposed to the opening. All the combs, both vertical and horizontal, are composed of a single series of cells applied laterally to each other, and not, as in the European hive bee, of two series, the one applied against the extremities of the other. The horizontal combs are much more regularly formed than the vertical, the latter being broken and placed at uncertain distances, while the horizontal are perfectly parallel with each other, forming uniform layers and placed at equal distances. Between these parallel combs are processes of wax, partly supporting them and passing from the base of one cell to the junction of others in the next layer. These columns are considerably stronger and thicker than the sides of the cells which they support.

The cells appear to be destined solely for the habitation of the young bees; for in all that have been examined bees have been found. The bee is placed in the cell with its hinder parts directed towards the mouth of the cell, which is covered by a granular mass, probably composed of the pollen of plants. The form of the cells is hexangular, but the angles are not sharply defined, and the mouth is scarcely, if at all, thicker than the sides. In their dimensions and relative proportions they differ materially from those of the European, and still more from those of the Indian bees, as may be seen by the subjoined table:—

	Mexican.	European.	Indian.
Diameter of cell	2 $\frac{3}{4}$	2 $\frac{3}{4}$, 3 $\frac{1}{4}$	1 $\frac{1}{2}$, 2 $\frac{1}{2}$
Depth of ditto	4	5, 6	4 $\frac{1}{2}$, 6

All of those which are visible appear to be uniform in size; nor without the destruction of the specimens can it be ascertained whether there are any larger cells for the larvæ of the males or of the queen.

The combs are placed together at some distance from the opening of the hive, and form a group of an oval shape, consisting of five horizontal and parallel layers, occupying the part most remote from the opening; of an interrupted vertical layer applied to the side opposed to the opening; and of two principal, and two or three smaller, vertical layers in the middle. The whole of these are supported by wax, spread out into layers borne on processes of the same material, resting either on the wood of the cavity, or on other parts of the fabric of the comb. In these processes and layers of wax are numerous openings of various sizes, at once admitting of ready access for the inhabitants to every part of the hive, and economising the use of the material of which they are constructed. Some of the openings are of large dimensions. The entrance into the hive is continued into a long gallery, which, to judge from the direction taken by a flexible substance introduced into it, leads beneath the combs to their very extremity. It is therefore probable that at the extremity the work of building commenced.

Surrounding the combs are several layers of wax as thin as paper, irregular in their form, and placed at some little distance from each other, the interstices varying from a quarter to half an inch. One of these supports a vertical comb; the others are connected to the combs only at their edges, or by processes or layers of wax. Externally to these are placed the sacs for containing honey, which are generally large, and rounded in form. They vary in size, some of them exceeding 1 $\frac{1}{2}$ inch in diameter. They are supported by processes of wax from the wood of the cavity, or from each other, and are frequently applied side by side, so as mutually to afford strength to each other, and to allow of one side serving equally for two sacs. Their disposition is altogether irregular, and bears some resemblance to that of a portion of a bunch of grapes, rendering it probable that Nierenberg was acquainted with a similar nest, if not actually that of the same bee, although he denies to the one described by him the power of constructing combs. Some of the honey-sacs are placed apart from the others, forming a distinct cluster of the same general appearance as those immediately adjoining the comb.

From this singular position of the honey-sacs a most important advantage is obtained by the cultivators of the Mexican hive bee. To possess themselves of its honey it is unnecessary

to have recourse to the means adopted in Europe for stupefying, or even destroying, the inhabitants of the hive. All that is necessary is to remove the plug from the end of the cavity employed as a hive, to introduce the hand and withdraw the honey-sacs. The store of the laborious bee is thus transferred to the proprietor of the hive without injuring, and almost without disturbing, its inhabitants. The end of the hive is then again stopped up; and the bees hasten to lay up a fresh supply of honey in lieu of that of which they have been despoiled, again to be robbed of their precious deposit. A hive treated in this way affords during the summer at least two harvests.

The honey is usually pressed from the sacs by the hand. Its consistence is thin, but its flavour is good, although inferior to that of the whiter honey furnished by the Spanish bee (probably our *Apis mellifica*, L.). It does not readily ferment, some of that contained in the hive being perfectly sweet and grateful even after its arrival in England.

The wax is coarse in quality; its colour is dark yellowish brown. The whole of it appears to be similar in texture and properties, as well that used in the construction of the cells, as that which is applied to the coarser work of forming honey-sacs and supports; the only remarkable difference being that in the former it is apparently paler, probably owing to the layers employed being considerably thinner and more delicate. Of the varnish-like substance known by the name of propolis, and used by the European bees to cover the foreign substances with which they frequently come in contact, scarcely any vestige is exhibited, although we have evidence of its existence. The wood of the inside of the hive, except where wax is applied to it, is perfectly naked.

The hollow of the trunk forming the hive now before us, is irregular in its outline, and varies in its breadth in different parts. Its average diameter, however, is about 5 inches. The length occupied by the cells is more than 7 inches, and the total length between the extremities of the honey-sacs is 15 inches. The number of its inhabitants, assuming that of the cells as a guide, must have been considerably under a thousand; a number trifling in comparison with that contained in the hives of the European bee, which commonly amounts to as many as twenty-four thousand.

The bee by which this nest is constructed is smaller than the European hive bee, its abdomen especially being much shorter than that of our common species. Like all those American bees which approach in their habits to our European race, it is readily distinguished from that, and from all other hive bees yet discovered in the Old World, by the form of the first joint of its hinder tarsi, which is that of a triangle, with the apex applied to the tibia. On account of this variation in the form of a part so important to the economy of bees, modern entomologists have universally agreed in the propriety of regarding the American races as constituting a distinct group from the bees of the Old World. M. Latreille has gone further by subdividing the American bees into two genera; *Melipona*, in which the mandibles are not toothed; and *Trigona*, in which these organs are dentate. Of the propriety of this subdivision, which hitherto seemed to be supported by the general appearance of the insects referred to each group, the examination of the bee whose nest has just been described has given rise to considerable doubts. In it one of the mandibles is toothed, and the other is nearly entire. Its technical characters, therefore, are intermediate between the two genera, with a leaning towards *Trigona*; but its general appearance is entirely that of a *Melipona*, approaching very closely to that of *Melipona favosa*, *Latr.*, *Apis favosa* *Fab.* That it cannot be that species, or any of the nearly-related ones described by M. Latreille in the "Observations Zoologiques," is evident from the dentation of its mandible, and it may, therefore, be regarded as new to science. The name of *Melipona Beecheii* which is here proposed for it, is a just tribute to the observer, to whom we owe the first opportunity possessed in Europe of becoming acquainted with its habits and economy.

Some curious stories are related by the possessors as to the manners of these bees, one of which deserves to be recorded. They assert that at the entrance of each hive a sentinel is placed to watch the outgoings and incomings of his fellows, and that this sentinel is relieved at the expiration of twenty-four hours, when another assumes his post and duties for the same period. On the duration of this guard some doubts may reasonably be entertained, but of its existence ample evidence was obtained by repeated observation. At all times a single bee was seen occupying the hole leading to the nest, who on the approach of another withdrew himself within a small cavity,

apparently made for this purpose on the left-hand side of the aperture, and thus allowed the passage of the individual entering or quitting the hive; the sentinel constantly resuming his station immediately after the passage had been effected. That it was the same bee which had withdrawn that again took his station in the opening, could not be mistaken; for his withdrawal was only into the cavity on the side of the hole, in which his head was generally in view during the brief interval while the other was passing; and that head again immediately started forward into the passage. During how long a time the same individual remained on duty could not be ascertained; for although many attempts were made to mark him by introducing a pencil tipped with paint, he constantly eluded the aim taken at him, and it was therefore impossible to determine with certainty whether the current reports concerning him were or were not founded in fact. With the paint thus attempted to be applied to the bee the margin of the opening was soiled; and the sentinel, as soon as he was free from the annoyance he suffered from the thrusts repeatedly made at his body, approached the foreign substance to taste it, and evidently disliking the material, he withdrew into his hive. The hole was watched to see what would be the result of this investigation of the substance, and a troop of bees was soon observed to advance towards the place, each individual bearing a small particle of wax or of propolis in his mandibles, which he deposited in his turn upon the soiled part of the wood. The little labourers then returned to the hive, and repeated the operation until a small pile rose above the blemished part, and completely relieved the inhabitants of his annoyance.

If the existence of such a sentinel as has just been described can safely be admitted, his utility would be unquestionable, as being at all times prepared to encounter a straggling stranger, or to give warning of the approach of a more numerous body of foes. Such foes actually exist in moderately-sized black ants, which sometimes in small, and occasionally in large, bands attack the hive, and between which and the industrious bees desperate conflicts often take place. In these struggles the bees generally obtain the victory; but they are occasionally mastered by the overpowering numbers of their opponents.—(*Appendix to Beechey's Voyage to the Pacific and Behring's Strait.*)

LARGE HIVES.

FIVE AND TWENTY years ago I wrote a short treatise on the history and management of bees, which was printed in the first six numbers of the *Gardeners' Chronicle*, for the year 1844. I then ventured to assert that all the instructions given by myself, and all the books that ever have been, or ever will be published on the subject, will be of little service to the bee-keepers of England, unless they use hives very much larger than those in general use. In another treatise on the profitable management of bees, which appeared two years ago in the pages of a Scotch periodical, I stated that no greater mistake could be made in bee-keeping than that of using small hives. What would an intelligent agriculturist think of a farmer tilling his land with Shetland ponies? What would he think of a farmer's wife expecting large eggs and large profits from Bantam hens? and what are we to think of the bee-keepers of England who look for harvests of honey from hives hardly large enough for hens' nests?

Let us for a moment look into the philosophy of this question. A healthy queen bee lays upwards of two thousand eggs a-day in the height of the summer. She lays as many eggs in a small hive as she does in a large one; but in a small hive, such as Neighbour's cottage hive, such as are offered for sale in Manchester, there is not room for more than one-quarter of the eggs laid by a queen. Three-fourths of the eggs laid are therefore lost, never hatched. But are you quite sure that the combs of a large hive are as well filled with brood from the eggs of one queen as the combs of a small hive? Yes. I have seen a hive capable of holding 160 lbs. weight of honey, brood, and bees, every cell of which was filled; in fact, I have never seen the laying powers of a queen overtaken. Why, then, cripple the industry of the bees by putting and keeping them in small hives? It is a perfect marvel to me that argument, logic, or figures are necessary to convince bee-keepers of the folly of using small hives. If they could manage to shake off their prejudices, the exercise of a little common sense afterwards would do the work for them. Three hundred navvies can do more work than one hundred. Fifty thousand bees in a large hive can gather more honey, hatch more brood,

send off larger swarms, than twenty thousand bees in a small hive. In fine weather the bees of a small hive gather from 1 lb. to 2 lbs. per day; those of a large one about 5 lbs. In one instance, to my knowledge, the bees from a large hive gathered 20 lbs. weight in two days. In advocating the use of large hives, I freely admit that in fine seasons considerable stores of honey may be obtained from small hives; but taking one year with another, the profits of small hives are inconsiderable.

The sizes of hives which I have recommended are:—First size, for first-early swarms, 21 inches wide by 12 deep; second size, for later first swarms, 18 inches wide by 12 deep; third size, for second swarms and turnouts, 15 inches wide by 12 deep.

The first size holds more than 100 lbs. of honey, the second above 80 lbs., and the third above 50 lbs. In favourable seasons for honey-gathering they have to be enlarged by eking or by supers. An eke is simply four or five rolls of an old hive of the same width put underneath a hive. For this purpose, I generally use riddle rims 4 or 5 inches high. It is not necessary to adhere to an exact size, say 12 inches deep. It is wise to have all hives of certain widths, so that the same ekes will answer and fit year after year—that is, 15-inch hives and 15-inch ekes, and so on.

The reader will bear with me if I venture to warn him against adopting the large sizes all at once. A swarm from a small hive would not fill a large one the first year. Therefore it would be better to begin with the 15-inch and 18-inch hives, having a depth of 10 inches. The difficulty with me is to obtain hives large enough. There is no one in this locality can make proper hives. I asked an old uncle of mine in Scotland to make sixty of the three sizes mentioned above, but he made me only thirty-four, and some of them far too small. Of course I could obtain wooden hives of any size I liked, but wooden hives should never be used if straw ones can be obtained. The moisture of bees is condensed on the sides of wooden boxes at certain seasons, and this condensed moisture moulds and rots the combs. A common straw hive, well made, is incomparably better for bees than the best and most costly boxes ever produced.

If such large hives are used with great advantage and profit in apiaries managed on the swarming or multiplying system, surely it is desirable to adopt them where honeycomb only, and not swarms, are sought. If the Ayrshire or Stewarton hives were made twice as large and properly managed, much more honey would be obtained. If Neighbour's hive were thrice as large as it is, and the three little holes in the crown or top of the hive were made ten times larger, say 4 inches each in diameter, ten times more honey would be obtained from it than at present. I do not recommend either of these hives, or any other that is meant to prevent bees from swarming, because I know that the swarming system is the most natural and profitable one; but what I mean is, that hives managed on the non-swarming principle should be of considerable dimensions.—A. PETTIBREW.

BUTTER IN SACKS.

A CORRESPONDENT of the *Rockford Register*, writing from Olympia, gives the method used on the Pacific coast for preserving butter:—

"I think the dairymen here have an art in the management of butter that might be turned to good account at the east, but which I never saw practised till I came to this coast—I allude to the manner of putting up butter for market. Perhaps necessity was the mother of this invention, but that makes the invention none the less valuable. Here such a thing as a butter firkin or a stone jar to pack butter in is unknown; but all butter is packed in muslin sacks, made in such a form that the package, when complete, is a cylinder 3 or 4 inches in diameter, and from 6 inches to a foot in length. The butter goes from the churn, as soon as worked over, into the cylindrical bags, made of fine bleached muslin. The packages are then put into large casks containing strong brine with a slight admixture of saltpetre, and by means of weights kept always below the surface. The cloth integument always protects the butter from any impurities that chance to come in contact with the package, and being always buried in brine, that protects it from the action of the air; and it has been ascertained by trial that butter put up in this way will keep sweet longer than in any other way. Besides, it is found easier and cheaper for the manufacturer than to pack either in firkins or jars. And for the retailer, there is no telling the advantage on the score

of safety and convenience. These rolls of butter can lie upon his counter as safe from injury, from dust or other contact, as bars of lead—can be rolled up for his customer in a sheet of paper with as much propriety as a bundle of matches. If the consumer, when he gets home, discovers specks of dust upon the outside of the sack, he can throw it into a pail of pure cold water, and take it out clean and white. As he uses the butter from day to day, with a sharp knife he cuts it off from the end of the roll in slices the thickness to suit his wants, peels off the cloth from the end of the slice, leaving it in tidy form to place upon the table. This improved manner of packing butter first caught my eye in the market of San Francisco, where I saw cords of it piled up like pigs of lead. The simplicity and great value of the improvement so impressed me that I wondered the Yankees had not long ago found it out."

DO BEES HUNT BY SCENT AND SIGHT?

DR. ALFIELD, in "The Bee Flora of Germany and Switzerland," adduces some plausible reasons in support of the assumption that bees discover the places where honey may be obtained by the sense of sight and not of smell. Is it not quite as reasonable to infer that their discoveries are not confined to either, but result indifferently to both? Having had some experience in tracing bees in their wild state, this has been our conclusion from the results of several experiments made in hunting them to their homes.

If a hunter will go into a forest and uncover his bee box, without any other preparation, he will probably find a bee lured to the exposed store, after a while, if he has the patience to wait. Having succeeded in this and permitted the laden bee to depart, let the hunter remove to another point remote from the first position, open his box, and ignite some honey, and see if his last vigil is not much shorter than the first one. Such has been our experience, at all events, and the difference was attributed to the fact that the bees were guided to the place by the scent of the burning honeycomb rather than by the sight of the stores in the box. That other bees, observing one to have been speedily lucky in obtaining a load, watch its backward flight, and follow in the same direction, using sight rather than smell, we believe to be also true. It is in this way we account for the rapid increase in the number of bees around the honey box after the first one has carried home one load and returned for another.—(*American Paper.*)

SWEET CIDER.

SEEING that a correspondent, "H. L.," wishes for information respecting the making of sweet cider, or rather the keeping it sweet, I send the following, which used to be largely practised in Gloucestershire.

When the cider was made, or soon afterwards, it was put into a large open tub in a warm room, and some new milk added to it at the rate of about two quarts of milk to fifty gallons of cider. It was well stirred, and in a short time an artificial fermentation was produced. As soon as the cider carried a good head, it was put into "dropping bags" made of canvas. At first it will require to be put into the bags several times, till the bags become thick enough for the cider to drop through quite fine. Sometimes a little charcoal is put into the bags to thicken them. This process fines the cider, and arrests further fermentation.

Barm will do instead of the milk, but milk was considered better.

After the dropping, the cider may be put into bottles or casks, and corked up at once. Most of the cider in Gloucestershire, and adjoining counties, is so acid—"sharp"—that it would bring the tears in the eyes of those not used to it. This is caused by the long fermentation ("fretting"), sometimes for several months.—J. BRYAN, *Audley End Gardens.*

OUR LETTER BOX.

DORKING COCKEREL WITH ONE BLIND EYE (R. W. F.).—The Dorking cock is not disqualified by having had an eye destroyed. That only disqualifies which is either an indication of weakness or would appear to have been removed to conceal a defect. Thus a blind side and defective sight should be fatal to success in any bird. Two broken sickle feathers in the tail of a Game cock are so suspicious that they considerably lessen the chances of success. It would be almost a fair inference that they

had been broken off because they were splashed or white, in either case a disqualification.

WHITE DORKINGS (An Old Subscriber).—There are both single-combed and rose-combed. We know of no difference in their qualities, but the cocks and hens must all have the same form of comb—that is, all must be single-combed or all double-combed. They are as good layers as the Dark-coloured Dorkings.

GOLDEN-PENCILED HAMBURG COCKEREL (Cheshire Subscriber).—If the cockerel is for exhibition in the chicken class, he is eligible at any time, but the older he is the better, as he is then getting rid of his spotted feathers, and his tail is becoming more accurately coloured. If for adult classes, he cannot be shown without risk of detection during the year in which he was hatched. If in an open class, unless he is a very forward bird, he has little chance against older competitors. He is seldom better than he is at from eighteen months to two years old. If his erioches are only edged with red at ten weeks old, it is almost a certainty they will be quite white before he is ten months old, perhaps much earlier.

GAME BANTAMS—CATARRH IN FOWLS (Chanticleer).—The catarrh you mention is common when the weather first breaks up, and being attended to, has no results. We put camphor in their water, and give them bread and ale once every day. We do not admire our dietary. Give them barley or oatmeal mixed with water or milk if you have it, in the morning, some whole corn at midday, and oatmeal again in the afternoon or evening. Oatmeal is preferable to barley-meat. Fowls do not care to eat buckwheat, and will not if they can get anything else. Indian corn is good for a change, but it is not good enough for constant feeding. Pollard is poor poultry food. We view this catarrh in fowls as we view it in ourselves and the rest of our fellow creatures. Cold surprises us in the midst of heat, finds us unprepared, and visits us accordingly. Those who fall back on nature and talk about wild birds, &c., must be told that our fowls have long ceased to be birds of nature; we have altered their habits, and must provide for them accordingly. The refuse kitchen and table scraps are excellent food; well-ground oats mixed with it, should be the gallinaceous turtle and venison. We have no doubt the Bantams in question are Piles, and the description would do very well for the old Worcester-shire bird of that breed. At the weight you mention, they should be hard to beat if the cock is well dubbed, and if he and his hens carry their wings well up.

AGENTS FOR SALE OF HIVES (X.).—We know of no agent in Ireland for the sale of improved hives. A good many Woodbury hives have, however been introduced into that country through private channels, and if you write direct to Mr. Woodbury, at Mount Radford, Exeter, we doubt not he will be able to put you in the way of procuring them. Back numbers of THE JOURNAL OF HORTICULTURE may be obtained from this office.

UNITING BEES (A Young Bee-keeper).—In uniting stocks or swarms there is no absolute necessity for special dealing with the queens, because the bees will in the great majority of cases settle the question satisfactorily among themselves, and many bee-keepers never trouble themselves about the superfluous queens, taking their chance of success, and, perhaps, going on for years without a mishap. Still there remains the possibility of an occasional misfortune, and it is to guard against this that more advanced apirians using moveable-comb hives deal with the queens something after the fashion described by "A DEVONSHIRE BEE-KEEPER," in page 168. It is evident that Mr. Pettigrew, in the process which he details in page 255, does not intend the operator to pay any attention to the queens; but if one be removed we always prefer retaining what we judge either from previous knowledge of her history, or from her personal appearance, to be the youngest or most prolific. However large the stock may be, there is but one queen in the hive. A brief but sufficiently comprehensive and very intelligible résumé of the principal facts in the natural history of the honey bee, from the pen of Mr. Woodbury, will be found in the last edition of "Bee-keeping for the Many," which may be had free by post direct from this office for five stamps.

HORSE-CHESTNUTS FOR COWS.—"An Old Subscriber" wishes to be informed whether common horse-chestnuts may be given to cows—that is, if they would be good for them in any quantity?

TO MAKE NEW ROPE PLIABLE (Alpha).—New rope can be made limber and soft at once, by simply boiling it for two hours in water. Then hang it in a warm room, and let it dry out thoroughly. It retains its stiffness until dry, when it becomes perfectly pliable.

PRESERVING PEARS (A Lady).—No variety is better than the Catillac, but several other varieties are as good for the purpose. The pears should not be more than ripe. They are in fit state as soon as the pips are black. Set the pears on the fire with sufficient water to cover them; take them off when quite soft, and put them into cold water; pare them lightly, cut off the stalks, prick each with a pin sufficiently long to reach the core, and put them again in cold water with a little alum; set them on the fire to boil until the pears are tender, then take them out, and put them in cold water for the third time. Clarify and boil some sugar, put some water to it, and when it boils add the pears, cover the pan, and give the whole a boil; skim, pour it into an earthen pan, and leave it. The next day drain the syrup from the pears, add a little more clarified sugar to it, and boil it again; pour it over the fruit, and leave it as before. The next and two successive days proceed in the same way, each time decreasing the degree of boiling; then add the pears, give the preserve a boil (covered), skim and pour it into a pan, place in a stove for two days, then drain the fruit, and put it by for use.

POULTRY MARKET.—OCTOBER 28.

THE little improvement we have noted has disappeared before dull trade and damp weather. Trade cannot be worse than it is.

	s.	d.	s.	d.	s.	d.	s.	d.	
Large Fowls.....	2	6	3	0	Pheasants	2	6	3	0
Smaller do.	2	0	2	6	Partridges	1	6	1	9
Chickens	1	9	2	0	Hares	2	0	2	6
Geese	5	0	7	6	Rabbits	1	4	1	5
Ducks	2	0	2	3	Wild do.	0	8	0	9
Pigeons	0	8	0	9	Grouse	3	0	3	6

WEEKLY CALENDAR.

Day of Month	Day of Week.	NOVEMBER 5-11, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year				
			Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	h.				
5	TH	Meeting of Linnean Society, 5 P.M.	53.1	37.9	45.5	2)	3	af	7	24	af	4	51	af	8	51	11	21	16	16	310
6	F		52.8	37.6	45.2	19	5	7	22	4	57	9	after.		23			16	13	311	
7	S	Royal Horticultural Society, Promenade.	52.1	37.3	44.7	20	7	7	21	4	13	11	22	1	(			16	9	312
8	SUN	22 SUNDAY AFTER TRINITY.	55.1	34.8	42.8	19	8	7	19	4	morn.	56	1		21			16	5	313	
9	M	PRINCE OF WALES BORN, 1841.	54.6	33.6	42.1	16	10	7	18	4	28	0	26	2				16	6	314	
10	TU	Stoke Newington Chrysanthemum Show.	50.4	34.1	42.3	23	11	7	16	4	45	1	54	2				15	54	315	
11	W	Meeting of Royal Microscopical Society, 8 P.M.	50.5	34.3	42.4	15	13	7	14	4	2	3	19	3				15	46	316	

From observations taken near London during the last forty-one years, the average day temperature of the week is 51.5°; and its night temperature 35.6°. The greatest heat was 63°, on the 5th, 1852; and 6th, 1834; and the lowest cold 17°, on the 9th, 1864. The greatest fall of rain was 1.02 inch.

ORNAMENTAL-FOLIAGED PLANTS IN AUTUMN.
SILVER-EDGED VERSUS TRICOLOR PELARGONIUMS.



GLADLY I endorse the views advanced by Mr. Robson, in page 296, as to the superiority of Silver-edged Pelargoniums over the Tricolor varieties; and I do this all the more willingly because I think that by far too great a preponderance has been and still is given to Tricolors over all other varieties of bedding Pelargoniums—I will not say to their detriment, for they have not only held their own against the gay invaders of their territorial

rights, but they have also forced upon us the conviction that, although the Tricolors may be as beautiful as they are novel, yet they are only adapted for certain purposes and places in the flower garden. Nor is it at all difficult to understand why this conviction has been forced upon us, or, rather, why this reaction is taking place, for have not Tricolored Pelargoniums been planted in every imaginable position? and, therefore, it is easy to perceive how soon a clear understanding of the true value of this attractive class of plants should be arrived at.

The great popularity of Mrs. Pollock and its progeny is not to be wondered at, for, probably, no plant of modern introduction has created a greater sensation in the horticultural world, and this, too, in an age so sensational as to perhaps encourage the introduction of many worthless novelties. To my mind the improvement which is really wanted in Tricolored Pelargoniums to render them really effective for massing and for being viewed from a distance, is a much deeper margin, of a clear bright yellow, or white, as the case may be, and a somewhat more vigorous habit of growth, as this would in a great measure set aside the objection which is taken to them when so planted, on the score of heaviness. Perhaps Mrs. Pollock is never better appreciated than when forming part of a ribbon border arranged somewhat in the following order:—First row, *Cerastium tomentosum*; second row, *Lobelia speciosa*; third row, Mrs. Pollock; and fourth row, *Coleus Verschaffelti*.

That some harm has been done to the pure Silver-edged varieties I am ready to admit, because owing to the great attractions and interest which the increasing of Tricolored varieties has offered to the cross-breeder, but little attention has been paid to supplying a want which must be felt by all lovers of the flower garden, and that is a variety having the pure white marking of Perfection, combined with the broad upturned leaf margin and fine compact habit of growth of Flower of Spring. In advocating the introduction of a kind possessing such desirable qualifications, I would not wish for one moment to detract from the great merits of Flower of Spring, considering it, as I do, to be unequalled by any of its class, as I have before stated in the pages of this Journal; but I think that a pure Silver-edged variety, equal in all other respects to Flower of Spring, would at once enable us to dispense with all those sorts having such a loose habit of growth as Alma, Jane, Bijou, and Perfection. Not only for this

defect should these kinds be discarded, but also for the objectionable downward curve of the foliage, which causes the green centre to become so elevated as to be more conspicuous than the white margin, and this more especially when viewed from a distance.

My experience of *Gnaphalium lanatum* is diametrically opposed to that of Mr. Robson, for I have always regarded this plant as being most beautiful and effective during the bright and cheerful summer months, with its pretty grey foliage and stems of a peculiarly soft and pleasing hue, but as the autumn advances, and the dulness and moisture of the atmosphere increase, the colour changes till it becomes a kind of dull bluish green.

From a comparison of grey-leaved plants which I have lately made, I find *Centaurea ragusina* retains its clear greyish whiteness just as well towards the end of October as in the midst of summer, with just the slightest tendency in a few of the oldest leaves to become green. Next to this in whiteness is *Cineraria maritima*, but this plant is by no means so effective as the former. *Centaurea gymnocarpa* almost invariably becomes green early in the autumn. The *Cerastiums*, both *Biebersteini* and *tomentosum*, have lost much of the pearly whiteness which renders them so beautiful in summer. *Stachys lanata* is also somewhat dull, and *Salvia argentea* has lost nearly the whole of its true colour, and has assumed that dull green appearance to which all grey-leaved plants have a tendency as the year declines.

As regards dark-foliaged plants, I suppose that for general utility and refined beauty *Coleus Verschaffelti* is by most admitted to take the lead, but even it must give place to *Iresine Herbstii* in the autumnal months; for no sooner does the heat of summer begin to decline than the *Iresine* throws off its summer guise, and assumes a vigour of growth and freshness of appearance most pleasing to look upon. Perhaps this plant is never seen to such advantage as when planted beside *Vinca major elegantissima*. Not only is there a close resemblance in the shape of the foliage of these plants, but also no contrast can be better than the deep crimson of the one with the clear bright yellow of the other.—EDWARD LUCKHURST, *Egerton House Gardens, Kent.*

MANLEY HALL, STRETFORD, MANCHESTER.
THE RESIDENCE OF SAM MENDEL, ESQ.

WE often see the greatest results produced under difficulties, and in positions the most adverse for their successful attainment, but with ample means at disposal, and where judgment and energy are brought to bear upon any given subject, the difficulties which stand in the way are quickly removed, and the path which leads to the successful issue is soon cleared of all obstacles, and the object in view is safely, if not speedily, gained. When, therefore, such a liberal patron of floriculture and horticulture as Mr. Mendel makes up his mind to surround his mansion with the most choice genus to be found in the floral world, it matters not whether the battle-ground chosen be on the Stretford marshes, which are frequently enveloped in the sulphureous smoke from tens of thousands of factory and

other chimneys, and where, as a rule, for many months in the year it rains almost incessantly, he has only to find the means, and give his instructions to skilful horticultural and floricultural generals, and superlative plants are produced. It matters not whether they are natives of the tropics or of the dry hills and plains of the Cape, they are there to be seen in the greatest luxuriance; and it must be very satisfactory to Mr. Mendel to see such results produced, and also very gratifying to his able gardeners, Messrs. Petch and Milford, to find their labours crowned with such success. Not twelve months ago I saw the plants, and certainly a wonderful change for the better is now apparent.

There is no attempt at architectural gardening, but Mr. Edward Milner has very successfully made the most of the ground by a series of happy combinations, which are very cheerful and picturesque, and, in my opinion, very much more pleasing to the eye than so much of the made-up style of gardening seen in many places. The eye becomes wearied by looking from month's end to year's end upon colours artificially produced; but the graceful style of imitating Nature, which Mr. Milner has made peculiarly his own, introduces fresh scenery at every turn, and thus avoids monotony.

Manley Hall is situated on the west side of Manchester, and is about three miles from the Manchester Exchange. The approach to the mansion and gardens is from the Chorlton road, and after passing through a very handsome gateway, by the side of which there is a substantial lodge, we enter upon the carriage drive, which is about 20 feet wide, and on each side of which there is an avenue formed with Lime trees, Hollies, and *Thuja borealis* planted alternately. These are on grass, and at the back of them a low wall covered with Ivy has a very pleasing effect. The carriage drive and all the walks are made with asphalt and gravel, and are kept so clean that anyone might walk over them barefooted without soiling his feet. Directly opposite the entrance gate a portion of St. Mark's College is seen in the distance, with its handsome turrets surrounded by splendid masses of foliage, which are just now assuming their autumnal tints, and between the carriage drive and the College is a beautiful undulating glade, through which the College is seen. The entrance to this glade is concealed from the carriage drive by a group of figures representing Time, and the pedestals on which these figures are placed are clothed with Ivy. At the back of the group there is a semi-circular wall, which is also covered with Ivy, and a little to the right a walk leads to the mansion. The ground on this front has been skilfully laid out to afford undulating scenery. This walk brings us up to the north front of the mansion, which is a very handsome structure, on the south and east side of which there is a terrace raised about 5 feet above the general level of the grounds.

The walk above-mentioned leads round below the terrace wall to the east and south, and past the grand conservatory, which is built at the south-west angle of the mansion. It is a very handsome building, 90 feet by 48, having four half-circular roofs, three of which are parallel with the walk on the south front, and one which covers the principal entrance from the garden, through the conservatory, to the sculpture and picture galleries. There are three flights of steps which lead to three different levels in the conservatory, which is divided into three sections by a walk from the west end under each of the three roofs, and terminating at the top of each flight of steps. At each side of the steps leading through the conservatory there is a pair of *Rhopala corcovadensis* and *Rhopala de Jonghii*. These are handsome trees, 12 or 14 feet high, and form a fine avenue; between them are fine Palms, and costly marble sculpture.

Directly opposite the middle level, and on the right hand side as we go up through the *Rhopala* avenue, there is a pair of doors, which open to the terrace in front of the mansion. The upper portion of the conservatory is parallel with the picture gallery, and is very tastefully laid out as a rockery, and about the centre of this there is a waterfall very skilfully arranged, and here and there, as we traverse this walk towards the west end of the conservatory, we come upon splendid fine-foliaged plants and many Ferns of great beauty. Here were plants of *Dracena latifolia*, with clean stems 10 feet high, and beautiful heads of bright green foliage; and at the base *Cyperids*, Ferns, and various Mosses grow from amongst the rocks. At the west end of this walk there is a grand *Rhopala de Jonghii*, 18 feet high, and near it we descend by some rustic steps to the second level, or central portion of the conservatory. This walk is 5 feet 9 inches wide, and on each side there is a

curb about 10 inches above the level of the path; on this curb there is a row of shallow pans, 3 inches deep and 9 inches wide, which, being filled with *Selaginella denticulata*, look exceedingly pretty. The borders right and left of the walk are filled with flowering and fine-foliaged plants, among which I noticed splendid plants of *Cycas revoluta*, *Dicksonia antarctica*, *D. fibrosa*, *D. squarrosa*, and several others; *Cyathia dealbata*, *Cibotium princeps*, the beautiful *Cibotium Schiedei*, *Blechnum corcovadense*, with splendid fronds, the youngest of which were nearly scarlet, *Corypha australis*, *Azaleas* and *Camellias* covered with flower buds, and many other fine plants, such as *Dracenas*, *Agave aureo-variegata*, &c. At the east end of the walk we turn to the right, descend another flight of steps, and pass along the walk through the lower level. A stage on the left is filled with *Nosegay Pelargoniums* and yellow and other *Calceolarias*; these were exceedingly gay. The bed on the right was filled with various kinds of ornamental-foliaged plants, and amongst these a number of plants of *Salvia splendens* were very bright. There were also numerous plants of the *Tricolor* and *Bronze* and *Gold Pelargoniums*. The latter Mr. Petch considers invaluable for conservatory decoration in winter. The foliage of many of them was very bright; many, too, were also producing large numbers of very fine flowers.

Just at the termination of this walk, at the west end, on the left-hand side of the door, there is a beautiful aviary filled with birds, which kept up a perpetual chorus all the time I was in the conservatory. Their constant warbling notes mingled with the dripping fountains, the beautiful plants one sees at every turn, and the canopy of graceful climbing plants which here and there covers the roof, rendered the conservatory one of the most charming scenes I have ever witnessed. There one might fancy himself far away in some secluded spot, instead of being within three miles of the busy city of Manchester.

I very reluctantly left this Crystal Palace, which contains so many gems, both of Nature and art, by the door at the west end. Here a flight of three steps brings us down to where a large Peach house is being cleared away to make room for a magnificent fernery, to be built in its place. This fernery will be joined to the conservatory at the west end, and attached to a solid block of houses, which extends more than 300 feet, with a width of 55 or 60 feet, towards the south. The fernery which is now being constructed will be 68 by 28 feet; the conservatory will open into it, and with a little trouble the family will be able to pass from the conservatory through the whole block of houses without going into the open air.

On the west side of the block of plant houses are the bothies, garden offices, workmen's mess rooms, fruit and Mushroom houses, &c., which are very neat and comfortably fitted up, and in front of these is a long border, where Mr. Petch plants out all the evergreens used for the winter decoration of the flower garden.

In passing through the fine block of plant houses, which are all admirably suited for the growth of the various families of plants they contain, I shall give the sizes of the plants in order that all persons interested in the cultivation of the different kinds may know what marvellous specimens those are which I am now about to review, and in how very short a time large specimens of plants many people think very difficult to grow, may be produced, if only placed in suitable houses and a proper amount of care and attention bestowed. In the range to which I now refer, are houses for East Indian and cool Orchids, houses for Palms, houses for Gold and Silver Ferns, a house for the graceful *Gleichenia* family, houses for fine-foliaged greenhouse plants, also for stove plants with ornamental foliage, houses for flowering stove and greenhouse plants, houses for *Ericas* and New Holland plants, houses for *Ixoras*, also for *Marantas*, &c.

The *Maranta* house was the first I entered after passing the site of the new Fern house. This is a fine span-roofed house, with a tank in the centre filled with water. Two 4-inch hot-water pipes pass through the tank, and the noble *Marantas*, *Anthuriums*, *Alocasias*, &c., are placed on pots just above the level of the water. There is a pathway on each side of the tank, and a slate slab forms a shelf next the glass all round the sides of the house. Both the slabs and the ground beneath them are covered with white Derbyshire spar, which gives a very neat finish, and is an excellent material to set the plants upon, as it allows the water to pass freely away from the pots after watering.

On entering the *Maranta* house by the door at the east end, from the walk which runs parallel with the ends of all these houses, the first plant that meets the eye is a noble *Maranta*

Porteana, and next to this, *M. Lindeni*, measuring 4 feet 6 inches in diameter, no doubt the finest plant in the country of this magnificent species. A little to the left of this is a marvellously fine specimen *Anthurium Scherzerianum* (the large-leaved variety), for there are evidently two varieties of this the handsomest of the *Anthuriums*. The plant is making great progress; some of its leaves are 19 inches long by 3½ inches wide, and it had on it during the past summer nineteen splendid spathes all at one time, and there appears to be every likelihood of its producing nearly thirty next year. It is, undoubtedly, one of the finest specimens in cultivation. There is also in the same house another large plant, but it is of the small-leaved variety, and although very beautiful much inferior to the large-leaved one. There is likewise a plant of *Alocasia intermedia*, one of the fine plants sent out this season by Messrs. Veitch, of Chelsea. There are, besides, many other remarkable specimens of leading new stove plants, such as the beautiful *Dracena regina*, *Croton interruptum*, and *C. irregulare*, the handsome *Alocasia Jenningsii*, and *Abutilon Thompsonii*, all distributed to the public this season by the same celebrated firm, whose introductions though expensive may be relied upon, and which always will remain monuments of their enterprise and energy. The next plant I have to describe, is also one of their finest introductions amongst ornamental-foliaged plants. I can just imagine their looks of astonishment, on reading this description, to find that the plant they sold to Mr. Mendel only a few months ago, of *Sanchezia nobilis variegata*, is now 7 feet 6 inches across. There are eighty-four shoots on it clothed with its handsome foliage, and a short time ago it was showing a flower spike at the point of every shoot; these Mr. Petch had all pinched out, and each of the leading shoots is now breaking beautifully. The plant is a perfect pyramid, and as no conception of its beauty can be formed by looking at it from the path, I was tempted, at the risk of pushing my head through the glass above, to get up on the curb of the tank in order to obtain a full view of this noble specimen.

There were also fine plants of *Anthurium magnificum* and *Maranta Veitchii* (there appear to be two varieties of this handsome plant also), and near the fine *Sanchezia* an extraordinary plant of *Alocasia metallica*. This, Mr. Petch told me, was in a 10-inch pot in the spring. It is now 4 feet 6 inches high and 6 feet through; it has upwards of two hundred fully developed leaves in beautiful condition, and is indeed a marvel in plant-growing. The secret seems to consist in growing the plant in a rich compost. The soil it is now growing in is decomposed manure and loam in equal proportions; and as the plant stands over the water there is no chance of its being infested with thrips and red spider, which very often spoil the beauty of this *Alocasia* when it is grown in a dry temperature. Near the last-mentioned specimen is a fine plant of *Maranta roseo-picta*, one of the magnificent introductions of 1866. It is 3 feet 6 inches in diameter and in perfect health. I also noticed fine plants of *Anthurium regale* and *Alocasia macrorhiza variegata*. Trained to the roof of this house containing so many splendid specimens, were healthy plants of *Dipladenia amabilis*, *Cissus discolor*, and various other climbers, which were all perfectly clean and healthy. I must not, however, forget to mention the fine plants of *Fittonia argyoneura* 2 feet 6 inches in diameter, and perfect masses of silvery foliage. I also noticed Williams's variety of *Anthurium regale*, which appears to be much the finer of the two varieties of *A. regale*, having longer and larger leaves, of a much darker colour. The pretty *Costus zebrina* also riveted my attention for a moment on leaving the house, and made me almost wish to retrace my steps in order that I might mention many other gems which I had very reluctantly passed by, for time warned me that if I intended to review the contents of between thirty and forty more houses I must be moving, seeing that I had only two short days in which to take my notes, and that the first was fast wearing away.

With this forcible reminder before me, and feeling anxious to do justice to every department, I passed into the Palm stove. Here the plants most remarkable were a splendid *Verschaffeltia splendida*, 7 feet high, with leaves 5 feet long by 3 broad in the widest part; *Pandanus reflexus* (the Screw Pine), 11 feet high, and nearly as many feet in diameter; *Thrinax elegans*, *Stevensonia grandifolia*, *Areca Verschaffeltii*, and *A. crinita*.

The next house I entered is called the *Gymnogramma* house, and a fine sight it is. Here are splendid plants of *Gymnogramma pulchella* 5 feet, and *G. Martensii* 6 feet in diameter. The house is about 30 feet long by 18 wide, and completely

filled with the finest collection of *Gymnogrammas* ever seen, and all of them in the most perfect health and condition. There were in this house many more of the finest *Gymnogrammas* of equal dimensions to those named.

Passing through the house devoted to the *Gymnogrammas*, I entered another of similar dimensions, and, like it, a lean-to. The front slab next to the front lights is covered with fine healthy specimens of *Adiantums* of all the best varieties. There, in great luxuriance, is to be seen the graceful and beautiful *A. farleyense*, undoubtedly the most handsome of this most graceful section; also *A. cardiochloena*, *A. Fœi*, *A. scabrum*, *A. reniforme*, *A. pulverulentum*, and many others. In the body of the house there is a pit filled with tan, on which are brought forward many plants for the decoration of the conservatory, such as *Poinsettias*, *Gardenias*, *Azaleas*, *Camellias*, &c., and very conspicuous amongst these I noticed several plants of the old *Aeclepias curassavica* with its trusses of bright crimson and golden flowers. It is now very seldom seen, but is one of the most useful plants grown for conservatory decoration in winter; it may also be had in flower nearly the whole of the year, and is a most valuable plant for affording large quantities of cut flowers. It is to be regretted that it is not more extensively grown, which it certainly would be if better known. The rage for beautiful-foliaged plants has of late caused many of our old favourite flowering plants to be forgotten, and their cultivation has in consequence been very much neglected, and in some cases they are completely lost to the country; it is, however, to be hoped that their cultivation will again be resumed, and their beauty and sweetness be again appreciated as they deserve to be.

I next entered the *Gleichenia* house, where, perhaps, the greatest change ever seen in any collection of plants has taken place. They are without doubt the finest set of plants in the world, but when I saw them twelve months ago they were in a sad plight owing to unskilful treatment. Mr. Petch wrote to all the sage Fern-growers asking for advice and assistance, so that he might save these noble plants from destruction, and many suggestions were offered and several kinds of medicine recommended; some advised him to cut them down, others told him to divide and repot them; but after having had so many strange doctrines suggested, none of which he dared act upon, he made up his mind to depend upon his own judgment, which has turned out perfectly safe and satisfactory. At the time Mr. Petch took charge of the plants, not thirteen months ago, they were in a pitiable state, covered with all the pests that plants of this class are subject to, and very soon after they were taken in hand, as stated above, I saw them, and at the time pronounced it a hopeless case; but now, in this short space of time, their restoration to perfect health is almost complete. This result has been brought about by the most careful attention to the following precautions—namely, watering very sparingly, gradually cutting away any decayed fronds, and above all lowering the temperature considerably, instead of stewing them to death in a very hot and humid atmosphere. They were gradually inured to a temperature of 55°, and all the air that could with propriety be given, was admitted on all favourable occasions. This is a hint I think many may profit by. We often see the beautiful *Gleichenias* either being roasted alive or broiled with steam from the hot-water pipes, at the same time rendering the house unfit for any lady or gentleman to enter; but in a moderately dry temperature of 55° one may stay for any length of time to admire the beauty of these graceful plants. The house is span-roofed, about 50 feet long by 22 wide, and there is a large bed in the centre, and slate slabs along the sides. There are three rows of plants on the centre bed, some of them of very extraordinary dimensions. Thus, of three large plants of *G. flabellata*, I measured one just opposite the door, and it was 5 feet high in the centre, and as many feet in diameter. The under side of its handsome foliage was covered with fructification. There are also plants of several other species, as *G. dicarpa* and *G. microphylla*, quite as large, and all in good health; also fine specimens of *Lygodium scandens*, and two very handsome plants of *Davallia dissecta*, about 5 feet high. Two stumps or blocks of wood formed the groundwork of these fine masses, around which the creeping *Davallias* have twined their fronds and shoots in every conceivable form. There was also a balloon-shaped plant of *Lygodium polystachyum*, one of the finest of them all, and three large plants of *Gleichenia spelunca*. Many of the above are in pans from 2 feet 6 inches to 3 feet 6 inches in diameter, and 18 inches deep. There is also a fine healthy plant of *Gleichenia Mendeli*, a silvery *Gleichenia*, with its fronds nearly

as beautiful as *Gymnogramma peruviana*. The sizes of the pans these plants are growing in will give some idea of that of the plants. The side slabs are occupied by younger plants of the above and numerous other Ferns, but it would require more space than could be spared to describe them individually.

Along the back of this house there is a walk, which leads in a direct line from the two lean-to houses previously described to two lean-to vineries. The back wall of the *Gleichenia* house on the farther side of the walk is covered with *Ficus repens* and *F. barbata*, there are also patches of Stag's-horn Fern growing out from amongst the green mass of foliage formed by the *Pienses*, and the latter completely cover the wall and run along a portion of the roof, hanging gracefully over the walk. At the base of the wall there is a pretty mass of rock-work covered with *Lycopods* of various kinds, and dotted here and there with handsome-foliaged *Begonias*, *Tradescantias*, and other suitable plants. This is certainly a most interesting house, and I very much regret my inability to do it the justice it deserves.

Leaving the *Gleichenia* house I passed through two lean-to vineries, the back walls of which are covered with Fig trees. These houses are used more for hardening off plants that have been forced for the conservatory than for the fruit produced in them, for the Grapes, I should think, would not be of very high merit; these vineries will very likely be used as plant houses alone, for other structures more suitable for Grape-growing are provided.

The ground in front of the four lean-to houses, which are situated two on each side of the *Gleichenia* house, is occupied by three Orchid houses and a large span-roof pit, filled with plants suitable for decorative purposes. The contents of the three Orchid houses, with the two magnificent ferneries on the east side of the grounds, must form the subject of another paper.

Excepting in the three Orchid houses, I have now noticed a few of the principal plants in the structures passed through from the conservatory to the second Peach house, which is parallel with the *Gleichenia* house, and between it and the Peach house is the cool Orchid house.

I next entered from the vineries above described what is called the second Peach house; it is a fine span-roofed house 53 feet by 20 feet, with a high roof. The trees are planted at each side, meeting at the centre of the roof, and remarkably well they look. There is now a chance of their doing very much better, for the roots of each set of trees have been hitherto confined in narrow brick pits, but its walls have been removed, and the roots will have much more scope, and with fresh soil the trees may be expected to afford excellent results next year. In this house there is a very useful lot of *Azaleas* well set with flower buds, also a number of finely-ripened *Vines* in pots, which give promise of producing fine fruit in 1869.

On quitting the Peach house, I passed into the Erica house, which is span-roofed, 69 feet 9 inches long by 15 feet 6 inches wide. It is a very fine house, having a strong stone table all through the centre, with a stone slab on each side; it is well ventilated, indeed a house suitable for the cultivation of Cape Heaths must be provided with the very best appliances for producing a constant circulation of air. This house, more than any other at Mauley Hall, shows the triumph of patient persevering skill over difficulties which to many plant-growers would seem insurmountable, for no place could be more unsuitable than the neighbourhood of Manchester for the successful cultivation of Heaths. I will just enumerate a few, and give their sizes, and when I state that they are all in fine health, with nice green foliage, some idea of Mr. Petch's ability as a plant-grower may be formed. A look into this house called to mind the splendid houses of Heaths grown by my friend, Mr. S. Smith, of Lower Norwood, whose magnificent plants were the gems of all our great exhibitions from 1849 to 1854. They also reminded me of the fine collection I myself had charge of some years ago, at the late Mr. Bicknell's, near Camberwell. I had only one fault to find with Mr. Petch's plants, and that was a want of neatness in the mode of training them, the material used for this purpose was rather too clumsy-looking. I remember the time when I was a journeyman, and used to sit up frequently till one o'clock, and even later in the morning, tying the plants I then had the charge of, and not a strip of matting was used; mine were all tied with black thread, so that not a single tie could be seen. I very much hope this beautiful class of plants will again become fashionable.

On entering the house from the west end, the first fine plant on the centre table is *E. æmula*, a noble plant, 4 feet 6 inches

in diameter, and 2 feet 6 inches high, in the most perfect health—it had upwards of a thousand trusses of flowers on it last summer; *E. Irbyana*, 4 feet high, and as many feet in diameter; *E. ventricosa rosea*, 3 feet 9 inches high, and 4 feet in diameter; *E. Parmentieriana rosea*, a splendid plant, 3 feet 6 inches high, by 3 feet 6 inches; *E. conspicua nana*, of similar dimensions; *E. elegans*, a fine plant, in the most robust health; *E. Shannoniiana*, 4 feet, by 3 feet 6 inches; *E. vestita coccinea*, also of similar dimensions; *E. ventricosa magnifica*; *E. retorta major*, 4 feet high by 4 feet, a magnificent plant; *E. Paxtonii*, 3 feet by 5; *E. Hartnelli virens*, 3 feet by 3. There are also two rows of fine half-specimen plants of the following kinds, all in a fine state of health:—*E. Victoria*, 3 feet by 3; *E. ampullacea*, *E. obata*, *E. tricolor Eppsi*, *E. aristata major*, *E. depressa*, *E. Lambertiana*, covered with its pretty wax-like bell-shaped flowers; *E. Massoni major*, a fine plant; *E. Vernonii*, *E. Candolleana*, *E. æmula*, *E. fastigiata*, *E. eximia superba*, *E. metaliflora*, *E. affine*, *E. delicata*, a fine plant, and many others. I also noticed fine plants of *Acrophyllum venosum*, some of which were 3 feet 6 inches high by 3 feet, and very handsome; also handsome plants of *Genetyllis tulipifera*, and on the centre table at the east end, facing the door there is a noble and very handsome plant of *Genetyllis fuchsoides*, 4 feet by 4. On the south side of this house there is a very useful pit filled with *Cyclamens* and other plants.—J. WILLS, F.R.H.S.

(To be continued.)

FIG CULTURE.

WHETHER Fig trees succeed best nailed to a wall or unnailed has, on several occasions, been mooted in your Journal, but we must not allow the case of the nailed trees to be damaged by the results which followed the injudicious pruning noted by your correspondent, "E. L.," in page 316. Of course, "but little fruit was ever ripened" on trees "beautifully trained and most rigorously pruned on the spur system."

Assuming the case of two trees, both properly pruned, one of which is nailed carefully against the wall, and the other allowed to straggle away from it, we may, I think, decide on their respective merits as follows:—The branches in contact with the wall being warmer will start earlier. If, therefore, a severe late frost should occur the fruit is lost, but this may be prevented by covering-up every night until all fear of frost is over. From a tree thus protected I have gathered a ripe Fig on the last day in July. Where it is not convenient to take so much trouble, the straggling tree has the better chance of bearing, but the crop will be rather late.

In comparing the fruitfulness of two trees, observers should take care that the trees are of the same variety. With any other fruit such a caution would be superfluous, but so little attention is paid to the Fig in most gardens, that it is by no means uncalled for. The owner of a Brunswick Fig must not blame his gardener if his tree produces only a tithe of what might be produced on a tree of Brown Turkey.

The account which your correspondent gives of a second crop in the open ground at Provender, is very interesting. The Early White variety, though much cultivated in the last century, is now not often seen. It has given way to the White Marseilles. There is not much difference in their earliness, or in their flavour—perhaps we ought to say their want of flavour; but they are very sweet and pleasant. To any of your readers who may grow Figs under glass, and be desirous of trying a new sort, I recommend *Grosse Verte*, but they must beware of too much moisture either in the air or soil while the fruit is ripening, or it will crack.—G. S.

MYSORE AGRI-HORTICULTURAL SOCIETY.

WE have been asked what vegetable and flower seeds should be taken to India by a lady going thither to become a matron, and the best answer we can give is a list of some of the subjects for which prizes are offered by this Society, for, of course, prizes would not be offered for what cannot be grown in Mysore. The Show is to be held at Bangalore next February.

There are prizes offered for—among *fruits*, Apples, Peaches, Strawberries, Raspberries, Oranges, Limes, Citrons, Pine Apples, Plums, Grapes, not less than three varieties, and Plantains; among *vegetables*, for Potatoes, Savoys, Red Cabbage, White Cabbage, Brussels Sprouts, Cauliflowers or Broccoli, Carrots, Turnips, Khol Khol, Beetroot, Lettuce, Endive, Artichokes, Jerusalem Artichokes, Celery, Onions, Vegetable Mar-

rows, Cucumbers, Parsnips, Long Radishes, Turnip Radishes, Dwarf Kidney Beans, Asparagus, Windsor Beans, Peas in shell, Tomatoes, pot herbs—viz., Thyme, Parsley, Mint, Sage, &c., Sweet Potatoes, Capsicums, Nepal Chillies, Pumpkins, Suakakai, and Brinjals (a kind of Egg-plant—*Solanum*); among plants and flowers, for Roses in pots, ornamental-foliaged plants, Asters, Achimenes, Balsams, Caladiums, Carnations, Dahlias, Fuchsias, Gladioli, Gloxinias, Pelargoniums, Ipomæas, Petunias, Portulacas, Phloxes, Salvias, Tropæolums, Verbenas, and double Zinnias.

Let us add for the juncundation of poultry fanciers that prizes are offered also for Game fowls, common fowls, Cochin or other foreign fowls, Ducks, Turkeys, and Geese.

SPURIOUS MELON SEED.

LAST year I ordered from an old-established seed firm a packet of the Malvern Hall Melon seed, but when the fruiting time arrived I found that I had no less than four different sorts from that one packet of seed, not one fruit of which bore the slightest resemblance to the fine variety above named. The truth is, all four fruits (if they may be so called) partook more of Gourds than Melons, both in appearance and in quality.

This year I have been equally unfortunate with that highly extolled new variety called Golden Queen. This I had from a seed firm in the northern part of the kingdom. I had a packet of its seed (that is, if I had the true sort), which contained six seeds, for the small charge of 2s. 6d. The plants have certainly grown luxuriantly enough, but they have persistently refused to show a single female blossom.

Other kinds when the seeds have been sown here, have produced excellent crops, so that there has been nothing wrong in the cultivation of those sorts complained of.

The seeds of this so-called Golden Queen must have been from a fruit not sufficiently ripened. Perhaps some one of your readers may be able to assign some other cause for its unfruitfulness. Those who have grown and fruited the Golden Queen would greatly oblige by saying what they think of it. It might be the means of preventing others from throwing away half-a-crown.—W. H. C., *Maidstone*.

ARRANGING AND PLANTING SHRUBS.

(Continued from page 278.)

PRESUMING the plan of planting to have been decided on, and the outlines of the groups, masses, and borders to have been marked or pegged out, the ground must be prepared for planting. In general, the border should incline from the back to the front, and the groups or masses ought to be higher in the centre than at the sides, next the walk or grass. It is objectionable to have the ground higher next the walk than at back, though this may sometimes occur when the walk is situated at a high level, and the ground slopes from it, for much of the beauty of the shrubs will be hidden, unless there are other points whence the bank can be seen to advantage. If the hollow come directly in the way, we have no alternative but either to go round it, or fill it up, the former being by far the better mode, as the slope, when clothed with shrubs, will have a fine effect on being viewed from the pathway winding at the bottom. With respect to the hollows that occur in groups or borders, they should be levelled to some extent, in order to have a good effect, and flat spaces would often be improved by throwing up a mound. An irregular surface has always a better effect than a flat one, and mounds are very useful to account for the diversion of a path, and these, a group of shrubs, or some other object must give an apparent reason for every turn in the walk.

That all borders and groups should be higher towards the back than in front, whether the incline be only 1 foot in 12, or 1 foot in 3, is an essential to good effect very often overlooked by planters. In some cases we may see the soil from the walks or drives cast out on one or both sides of the walk, without any other care being taken than to raise the ground for a short distance from the edge of the walk, making it higher there than at the point most distant from the walk. Another very common error consists in casting the soil from the walks upon the borders, so that the narrow parts of the border or mass are made higher than its widest parts, for the former, of all others, should be the least in height, being in the case of a flat surface the only places where an attempt at forming a hollow should be made, and if naturally higher than the wide parts they ought to be sunk rather than elevated.

The wider the border the greater should be its incline, and the ground, whether of border, mass, or group, ought to be elevated above the walk. The soil from the walks and drives will go far towards securing the required inclination, and will in most cases be sufficient; besides, it will, by giving greater depth of soil, contribute to the well-doing of the shrubs.

The ground ought not only to be freed of all inequalities which cannot be planted, but the subsoil must be considered. If the subsoil is wet, and water lodges there, to insure the success of the shrubs, it must be properly drained. It is a great mistake to act as if shrubs will grow anywhere; few exist in a bog, and though some succeed in moist ground, none do so where the water becomes stagnant in the soil. The drains ought to be deep, a depth of 4 feet is not too much, and as a matter of course they must have a proper outlet.

The next matter to engage attention will be the soil itself. This must be examined with regard to its suitability for certain plants. If it is not what is required, it must either be improved by incorporating with it a quantity of the proper description, or by replacing it altogether. If the soil is shallow, before planting its depth must be increased; it is well in all cases not to plant in a depth of less than 18 inches of soil without making an effort to secure at least that depth. Soils, however, that are naturally shallow, but have a subsoil which can be easily penetrated by the roots, are very often suitable for planting, more so than deep soils rendered cold and wet from want of draining. The chief objection to shallow soils is that the plants are very liable to suffer from drought, but in general they are dwarfer, and flower and produce berries more profusely than those in deep soils. These, on the contrary, are favourable to growth, and the roots, from penetrating to a greater depth, are better able to cater for the foliage; the plants are, therefore, more abundantly supplied with food, and are better able to resist dry weather than those in shallow soil.

To insure success in planting, and free growth, shallow soil ought to be made as deep as practicable, by trenching it not less than 2 feet deep, putting the top at the bottom, and bringing the bottom to the top, unless the bottom soil is bad; then turn over the soil as deeply as you can without bringing too much of the bad soil to the top, and loosen the bottom. Few on going into a nursery can fail to notice the great difference in the growth of shrubs there as compared with private gardens, making as much progress in nurseries in two years as in other gardens in three or four. Some tell us that it is due to the plants being drawn up by close-planting, and there is certainly some truth in that; but the result is in a still greater measure attributable to the labour expended on the preparation of the ground. Nurserymen invariably, in breaking up land, have it well and deeply trenched. This in my opinion is the one great point of difference, and that by which their shrubs and trees attain such a superiority of growth. It is surprising that those who are proud of fine trees and shrubs, should often be so parsimonious as regards the preparation of the ground for planting. Good plants, well-rooted, carefully planted, and attended to in their early stages, seldom prove satisfactory if the ground has not been properly prepared. The results are as different as light from darkness between planting in trenched ground, and in holes made in little better than a rock, all the feeding ground the plants have being the small quantity of loose soil contained in the holes.

Errors are not confined to the preparation of the ground, but the proper time for planting appears not to be well understood, for planting is generally in full progress in the depth of winter, than which a worse time could not well be. The ground is then wet and cold; the roots, instead of putting forth fresh rootlets, imbibe moisture and begin to decay, and the plants commence the succeeding season of heat and drought with an impaired constitution, without the means of meeting the requirements of the shoots and leaves, except by the emission of fibres from the thick stem-like roots, which is but a slow process. They may not die, but are so enfeebled that it takes years before they assume a respectable appearance.

These remarks apply more particularly to evergreens, which are best planted in October, though planting may be performed with perfect safety in September if the shrubs have completed their growth and the weather is moist. It is the best time in the whole year for planting all evergreens, not excepting Hollies, which, though they may be safely removed in May, are, in the event of a dry hot summer, not capable of making a good growth, while if planted early in autumn they almost invariably make a good start in spring. Rhododendrons and all American shrubs may be safely transplanted at any season, for

it is almost impossible to lift them without a ball; but they never do so well as in September and October. Spring is not so good a period as autumn for removing evergreens, and for this reason the evaporation by the leaves cannot be so well compensated for by artificial watering as by the autumn rains, and the night dews so refreshing to the foliage, and which are much more copious in autumn than in spring; besides, the ground is much warmer, therefore early autumn planting gives a chance of fresh rootlets being formed before winter, and the plants are prepared for, and generally make, a good start in spring. Those planted in spring, on the contrary, are hurried into growth by the increased temperature before they have made great progress in rooting, and the loss by evaporation must be made up by artificial watering.

Winter is not a good season for planting evergreens; they cannot root, and failing to do that, any loss by evaporation must be injurious to the vitality of the shrubs, and the effects will in time be perceptible. Having planted evergreen shrubs at almost all seasons—indeed, in every month in the year, I am convinced that they ought not to be planted from the middle of April to the end of August, and in midwinter from the setting-in of severe frost until it becomes but slight in spring. From planting at those periods the maximum of failures may be anticipated, whilst from plantings in September, October, and November (if mild) the failures are reduced to a minimum. Early in spring is also a good time, but planting should be done before the shrubs have commenced growth, and autumn planting ought not to be practised until the growths are completed and the wood matured.—G. ABBEY.

(To be continued.)

VERTICAL CORDON APPLE TREES VERSUS LATERAL CORDONS.

I HAVE recently been much interested in two rows of Apple trees, planted within a few yards of each other. The piece of ground allotted to them is a parallelogram, 30 yards in length. On its northern side is a brick wall, in front of which is a row of lateral cordon Apple trees on the English Paradise stock, trained to a wire, and planted 6 feet apart, which now, with the exception of two gaps, arising from trees which died of canker, overlap each other, and form a continuous cordon. They have been planted some five or six years, but have not hitherto been productive. They bore more freely the first and second years than since, owing to red spider having most persistently attacked them, and for which on Apple trees in the open air I have as yet found no remedy.

These lateral cordons, 6 feet apart, are of course fifteen in number, thus occupying the front of the border 30 yards in length, or 90 feet. It is strange to find the mind so often unobservant when a picture is made familiar by its being constantly before one's eyes! I had almost daily seen my vertical cordon Apple trees, and yet it never occurred to me till two or three days since to compare them with my lateral cordons as to their difference in productiveness. I confess to having been astonished, as it is probable some of your readers will be, when I state that on the same space of ground a very large increase of fruit-bearing space on the stems of trees may be had by cultivating vertical cordons. It is proved thus:—Fifteen lateral cordon trees, each 6 feet in length, give an aggregate of 90 feet of fruit-bearing space on their stems, while the same number of feet in length will allow of forty-five vertical cordons to be planted 2 feet apart—the proper distance. My cordons are now on an average from 6 to 8 feet in height. I intend them to be kept at a regular height; each tree to be 3 feet high. This will give a bearing space on the stems of the forty-five trees of 360 feet, yet no more ground space will be required. By adding 2 feet to their stature, which may safely be done, you add 90 feet additional, making 450 feet of cordons on a space of ground only admitting of 90 feet by the lateral method.

These upright single cordons require the same culture as the lateral cordons when trained to iron wires, and the same rigid attention must be paid to summer-pinching. There is one great comfort in seeing to them; no stooping is required, and that horrible back ache, so familiar to all who work in their gardens, is avoided.

It must not be thought that no support is required for these very pretty trees. After two or three years they commence to bear profusely, and they will then require support from a neat stake, if wood kyanised or creosoted, or of iron, of the same

height the tree is intended to attain. The iron rod should be the size of an ordinary curtain rod; but it would be as well if the tree were supported with a wooden stake till it had attained some 6 or 7 feet in height.

The preferable kinds of Apples for vertical cordons are sorts that are not too vigorous in their growth, and that are fertile. The following varieties are very eligible:—For dessert—Ashmead's Kernel, Cox's Orange, Duke of Devonshire, Golden Drop (Coe's), Golden Harvey, Margil, Kerry Pippin, Lodgemore Nonpareil, Lord Burghley, Early Nonpareil, Old Nonpareil, White Nonpareil, Mannington's Pearmain, Reimette Van Mons, Pitmaston Pine Apple, Stamford Pippin, Pearson's Plate, Kedleston Pippin, and many others of the same habit. For the kitchen the following sorts are not too gross in their habit for vertical cordons, and are for the most part very fertile:—Baldwin, Baron Ward, Cox's Pomona, Dumelow's Seedling, Duchess of Oldenburg, Betty Geeson, Winter Hawthornden, Lord Suffield, Kymer, Small's Admirable, Keswick Codlin, Tower of Glamis, Hawthornden, Jolly Beggar, Fearn's Pippin, Winter Pearmain, and some others. These should all be grafted or budded on the English Paradise stock, as the French Paradise is too feeble in its habit to form vertical cordons.

I have only to add that those who wish to plant vertical cordon trees on the proper kind of stock, should at once select trees only one year old from the bud or graft, budded trees to be preferred. They may be bought at a reasonable price, say at 50s. per hundred wholesale, so that neighbours should club together. No preparation is required in planting them; no posts and wires; the planter has merely to plant his young vertical cordons in rows 2 feet apart, and wait till the summer brings on the pleasant pastime of watching the young shoots and pinching them in to two or three leaves—an operation which should be performed once a-week from early in June till the end of August.

I ought also to mention one operation often necessary, if the trees are inclined to grow too vigorously, so as not to form blossom buds—two strong spades, one on each side, should be thrust under their roots and the trees gently heaved, so as to loosen them, and then replaced and the earth trodden firmly down. In writing as above, I have no wish to repudiate lateral cordons, which may often be employed for edgings to borders with advantage; but I wish to point out how a small space appropriated to fruit culture may be economically used. In a crowded city, where ground space is confined, tall houses are built; there is always room upwards, and so it is with vertical cordons.—T. R.

LLANDUDNO CHILDREN'S FLORAL SOCIETY.

On the 13th October, an important ceremony took place at Tebed Bryn Maenol, small in its beginning, but we hope pregnant with great results.

W. F. Chapman, Esq., of Tebed Bryn Maenol, distributed gratuitously to these children who felt a pleasure in flowers nearly fifty cuttings of the Tom Thumb Pelargonium as a beginning. The recipients consisted of boys and girls from nine to fourteen years of age, A nice potful of mould with the plant in it was given also to each, accompanied with a bag in which was enclosed a bun and fruit. These plants were taken away by the children to be nurtured and trained. They are to be brought back in twelve months time or earlier, as may be decided, when they will all be exhibited, and prizes will be awarded to the best. Such care as will be necessary to train the plants cannot be unproductive of good. It will teach the little gardeners to know that their humble plants have wants, and require watching as well as they do themselves, and through these children perhaps, we may hope, a lesson will be taught to many an indifferent parent. If it do no other good it will perhaps tempt the children to read some of the cheap handbooks on horticulture, and so lead them afterwards to higher tastes and efforts.

Mr. Chapman addressed the children, but we can find space for only a short extract from his address:—'None but the lovers of flowers can form an idea of the interest which is created and grows upon those who begin in their childhood to be gardeners, and who are fortunate enough to have parents who possess a gardener (if ever so small a garden) that understands its cultivation. My parents, also Mrs. Chapman's, were all fond of their gardens, and consequently when we were very little children we were induced to take as much interest in flowers as our parents did, and I am happy to say Mrs. Chapman may truly be called, as the old song says 'The Horticultural Wife,' for she works, and takes as much interest in our garden as I do, and I am pleased to say she is not the only lady in Llandudno who is a great gardener, and a working gardener too, for my two good neighbours, now present, take great interest in their gardens, and the establishment of this Society, to which they have promised their sup-

pert. To show you, young people, what the cultivation of a flower may do, I will have read to you by one of the young florists, an article from that interesting periodical the 'British Workman,' of May 1st. It will show you the effect which the cultivation of a single flower had on the man who was an infidel. (A little girl named Grey was here called upon to read the story of Charney and the prison flower, which she did in a clear and distinct voice). Mr. Chapman continued—It is not only the gratifying of our sight, but flowers are valuable and useful as medicines. What too, can be more pleasing to an invalid, confined to a bed of sickness, than to have a few sweet flowers to look at?"—(*Llandudno Register*.)

GARDENERS' TROUBLES.

"You talk about a gardener's life, Will," said Sir Simon Shirley's head gardener to his brother, who was on a visit to him, "and think it free from cares and annoyances. Why the fact is, it is full of them, they spring up thick and fast as weeds in a rainy season. I wish I had been anything else; it is nothing but work, work, from Sunday morning to Saturday night, and however much you may have done, there is always something undone which leaves an uneasy dissatisfied feeling on the mind."

"But, then, Charles, it is pleasant work, the blue sky above you, and Nature, with her freshness and her beauty, all around you."

"That is the mere outside of the matter, the bit of poetry not yet driven away from our much too-practical times. Yet I say nothing against the work, or the pleasure of it. I suppose a man thinks it so, or he would not take to it, though if he choose to dwell upon it, there is a large amount of discomfort, of wear and tear both of body and mind, and more worry than he is always able to endure; for, whatever people may say about the seasons, a gardener has often to fight against them, instead of work with them."

"But it has a refining, elevating, and beneficial influence."

"Not much elevation or refinement possible, in the plodding unsatisfactory lives many gardeners are compelled by circumstances to lead. And as for beneficial influences—physical, I think you mean—there's not overmuch of that, for he is necessarily exposed to all the changes of the weather. It is all very well for a master to say 'How delightful the soil smells during the rain!' but a man loses the delight of the smell when he is out working in it for hours; and there is not much good to be derived from the raking away of mouldy leaves, though when the wind moves them as they are rolled over-and-over, they do bring too many ears whisperings of the sea, like the breaking of waves on a sandy shore."

"Come now, Charles, you must acknowledge to a strong man most of the labour is light."

"Well, so it may be in a measure—but what of mowing by scythe or machine on a wet day, with your boots turned into bathhouses, or digging through 2 or 3 inches of frozen soil, or weeding with the full sunshine on your back, in such a summer as this last, when your clothes, if not your life, proved a burden; or waking up at midnight to rush through the blinding snow across a field, or garden, or, as I have known it, up a pretty long lane, to make sure the stove fire was burning? Ah! Will, these stove-fires are the very nightmare of a gardener's dreams; they will not always do as you want them, and if they die-out it is sure to be when you need them most. When the air is dry and balmy, and you would have them just sleep and no more, they are sure to be roused up by a brisk wind and burn away like mad; and your employer raps his pocket and calls it 'wilful waste,' and goes away quite sure in his own mind there is always such a useless fire. Believe me, a gardener has generally his full share of work, and more than his share of worry. His holidays, few and short as they are forced to be by the very nature of things, have all the sweetness eaten out of them by the dread that in his absence some iron or other will burn in the fire from want of tending. And then there is a feeling of being always behindhand, dragging ever at the heels of things, never able to get up to the work you desire should be done at a certain time—perhaps sowing to-day seeds of plants that should have been planted out yesterday, or thinning coloured Grapes, or finding the summer half over before the bedding plants are out. And even when they are out, and you think the worst is past, and a quiet breathing time come, lots will die off and leave ugly gaps, more than your reserve plants can fill up, and you lie awake many a night wondering where you can pick up a few to supply their places. You have no idea, Will, the trouble bedding plants are, when the sources of supply are too scanty for the demand, and it is

very seldom they are not; for the perpetual cry of our gardens is 'more, more.' To answer this cry a man has to use all his wits, and to work on under disadvantages in many an unacknowledged way, and to fight against difficulties few masters could understand if they were explained to them, and all with nothing to look forward to in the end, as I heard an old Scotch gardener say the other day, 'but rheumatism and a bent back.'"

"But, surely, Charles, times must be easier with you now."

"Only the other side of the picture, less digging, more care, and I am not sure which is the heavier in the long run. I used to think when I was a boy, that when I became head gardener, things would go smoothly with me; a bed of Roses to lie on, no crumpled leaf in it to disturb my happiness. I assure you the Apple is not quite so sweet to the taste as it appeared when out of reach."

"I always considered it a life free from vexation."

"No doubt most men who live out their lives within brick walls do, gathering fruits and flowers on a sunny day; it is only gardeners, Will, who remember rainy weather, east winds, and biting frosts, for they must work on less or more let the weather be what it may. Now of all things grown, none are the cause of more anxiety than vegetables. They are always poor either in quantity or quality. Master grumbles, cook grumbles; in many places they are the killing straw on the camel's back. Fruit and flowers with few exceptions pass from the grower's presence into the master's; there is no half-way house to loiter in and so come to grief; but vegetables, why there is not one grown which may not be spoiled in its journey from the garden to the dining-table. You can guess where the blame falls. I have known Celery be dressed long before it was wanted, and left soaking and losing its nut-like sweetness in questionable water for hours; and young early Peas which had given a world of care and trouble, tossed violently into foaming boiling water until every Pea lost shape and form, and the costly dainty became nothing but an unsightly mess. It is common enough, too, to see fresh crisp Lettuce left in the sunshine or exposed to the kitchen fire until every leaf is like a piece of unstarched muslin. Then most masters have their whims and fancies, which it is not always possible to realise, yet they are quite sure if they were gardeners they could bring about the desired end. There is the Squire at Castlestead, he is always out of sorts if he sees a Camellia in bloom before or after his own, he says there is nothing else worth growing under glass; yet he allows the same Camellias no peace all the season through. Flowers, and buds, and young growth are cut away without mercy, as though they were of no more value than summer Roses. Last winter his man told me that in a short space of time he cut more than two hundred blooms; and then when the flowering was over, and the plants were put to make growth ready for another cutting, the Squire declared his gardener's treatment must be wrong, for the Camellias grew less and less ever year, and they were like none he had ever seen before. Things were not so bad before the Squire took a new wife, then flowers were cut without sense or reason, and there was a pair of sharp eyes following the men up and down and everywhere, and sending them to do this, and that, and the other. I have known her have three men running after her, and their real work standing undone the while, and some one not forgetting at the end of the week that much less was done than was expected."

"Ah! Then it is not all sunshine I see, Charles."

"No, I could tell you of many things—apparently of little importance, which feed the fire of discontent and take the strength out of a man's arm, the willingness out of his heart. There is Mr. Norton, of Westfield, he considers it lost money to buy flower pots; quite a dreadful affair. He bought some several years ago, and thinks they should last for ever; there is no need they should ever be broken; and he walks about and picks up any stray bits of crocks, and puts them together with the air of a man who is afraid his pots are broken up for crocks. Then there is his brother Mr. Henry, passionately fond of Cinerarias and other greedy plants, yet he cannot bear to see dead leaves and rubbish rotting under a wall, why cannot it be carted into the field at once and done with? And there is Mr. Garnet on the hill, he is always in a fever of disappointment about his Fuchsias; he used to have great, round, splendid plants flowering in a newinery, they were indeed a sight to see, but when the Vines took full possession of the house, and curtained over the windows, taking all the sunshine to themselves and nearly all the light, the Fuchsias dwindled away, grew out in long soft slender shoots, with here and there a bud that never opened its petals. The man did what he

could for them to no purpose, yet all the arguments in the world could not convince his master of the impossibility of flowering them in a shady place. Then there is Sir Simon here, he thinks rather too much about his plants, for nearly every day he goes round the houses looking over his plants and counting them up, and saying, 'I cannot tell how it is, Charles, but some or others of your plants always look as if they were doing nothing. And what has become of the White Camellia I bought last year? And where is that *Tetradleuca verticillata* my wife admires so much, with its flax-like flowers? And what is the matter with those Azaleas, are you going to let them die? Or so and so are poor miserable objects, I would turn them out?' But it is of no use, Will, bothering you with troubles you cannot understand, little things not worth noticing, yet many a night when I look up, I think I will look out for keys that turn more easily. Still, somehow or other, a gardener becomes attached to the shrubs and plants he has cultivated, and the old Chestnut tree that has shaded him from the summer heat, though it be poor and thin of foliage, he likes better than any other. So he works on trying to make the best of his circumstances."

"It appears, Charles, that all conditions of life have their dark side."

"Yes, but after all, a gardener, if he is wise, keeps the dark one to himself and a bright one turned ever to face the world."
—MAUD.

RESULTS FROM THE PAST SUMMER.

I wish to record some of my own experience during the past season.

Beginning with scarlet Pelargoniums, among all that I could enumerate none has done better service than Tom Thumb. In large beds it has made a fine display. Planted out early in May in deep well-prepared beds, and with no water afterwards, the plants grew well, filled the beds early in the season, and were a mass of bloom throughout the dry weather until the frost in October put an end to them. There are many useful scarlet Pelargoniums for bedding purposes, but I like Tom Thumb the best.

Yellow Calceolarias that have become so unmanageable on account of the disease to which they are subject, have done well with us, and others in this neighbourhood. They have been free both from the disease and aphids. In my own case I attribute their success to deep cultivation and a cool bottom. If we can keep the Calceolaria free from enemies, I can find no yellow bedding plant to equal it in effect. Though there are in cultivation many other yellow-flowered plants good in their way, I am inclined to believe we shall be some time ere we meet with a better subject in skilful hands than Calceolaria Aurea floribunda. Amongst the crimson varieties, I have met with nothing to equal Victor Emmanuel when well grown; it is just as effective in its colour as Aurea floribunda. I like decided colours.

Centaurea candidissima during the past season has been one of the most effective white-foliaged bedding plants I have had, and it stands very high in my estimation for all decorative purposes. The late dry season has brought the white-foliaged plants to perfection.

Lobelia Paxtonii has been a gem this season, as well as many others too numerous to mention. Gold-edged Pelargoniums have done us good service this season, and are worthy of more extensive cultivation. One of the most useful plants we have grown is *Oxalis tropaeoloides*, producing a pleasing combination with almost any colour. It is of very dwarf habit and an annual, and may either be raised in pots or sown where it is intended to remain. It is a very desirable plant for dwarf edgings either for beds or borders. In white-edged Pelargoniums, *Bijou* has the preference with me; we have had nothing which could compare with it this season. Planted out in May, and receiving no water but that which the plants had from the heavens, they have far surpassed my expectation, putting Flower of the Day and many others quite in the shade. Brewer's Silver-edged and Mangles's are very useful for covering large spaces.

In the Tricolor class of Pelargoniums, Mrs. Pollock and Sunset have outshone all others. Many who have seen them in masses and in contrast have exclaimed, "We have not many to beat them yet." They produce a fine effect with *Perilla nankinensis* and blue *Lobelia*. Burning Bush has been remarkably fine, and others of the same strain are very useful in many respects for contrast. Being of slow growth, they require planting thickly to make them effective.

Tagetes pumila is very useful, and has been very fine with

us, no doubt owing to the heat and drought. *Brachycoma ibericifolia* has done well as a blue bedding plant; it may either be prepared in pots or sown where it is to remain, it has done well in both ways. *Phlox Drummondii*, both selected and mixed, has been very fine. *Atriplex hortensis rubra* has answered well for bedding where kept pegged down and pinched. It makes a good contrast with many other plants; but I have not as yet met with a plant of its class to equal for all purposes *Perilla nankinensis* in our exposed and windy locality. Beet, that we hear so much about for decorative purposes, I have not tried. Here I must confess that a prejudice against it has taken possession of my mind. I like to see good Beet in the kitchen garden, and hope to grow it there for some time.

Fine-foliaged plants, such as *Coleus*, *Amaranthus*, and other tender subjects for flower-garden decoration, will not bear our northern climate; therefore we are obliged to content ourselves with those of more robust constitution.

Ageratums, *Heliotropes*, Variegated *Alyssums* and *Arabie*, *Fuchsias*, *Salvias*, and many others have done us good service. *Verbenas*, considering the season, have been very fine, and none has been more prominent than Foxhunter, Mrs. Holford, and Purple King.

Viola montana has done well, but its undecided colour is a great drawback. If it could be improved in colour and the lower petal obtained like the upper petals, I should like it much better. My opinion of it at present is, that it is a good ribbon plant which wants to be seen at a short distance, and contrasted with other plants of opposite colours; then it will pass muster. It is a free-growing and free-flowering plant, and continues long in flower, but will not bear close inspection. I think the herbaceous border or rockery is the best place for it.

Viola lutea has done well, but at best it is but a moderate plant for flower-garden purposes—it looks common. Perhaps this may arise from seeing its type so plentiful in many corn fields. I like it best on the rockery.

Bellis acubetifolia is very fine in a damp bed or border, but it cannot bear drought. *Bambusa Fortunei* is rather pretty for dwarf edgings. *Dactylis glomerata variegata* is a plant that appears to do well in almost any situation, and is very effective. *Poa trivialis variegata* has not succeeded so well as I could have wished. Perhaps the season has had some effect on it. Golden Feather *Pyrethrum* is a very effective plant for bedding, or as an edging, doing good service everywhere. *Lamium aureum* I think will prove useful for bedding, but I have not had sufficient experience to speak of its merits as yet. *Lonicera aureo-reticulata* trained as an edging is very fine, and ought to be more frequently met with than it is at present, especially in exposed situations. Some of the variegated *Ivies* are well adapted for the same purpose.

I do not know whether the variegated variety of the common Thyme is used much as an edging plant, but I am of opinion that it might prove very effective in many places, being of easy culture. It might vie with many plants at present in use. I find it very useful. Its hardness is one of its chief recommendations. *Farfugium grande* does well in moist sheltered situations. *Polemonium caeruleum variegatum* is really a first-rate plant for decorative purposes, and is worthy of very extensive cultivation, being hardy. When better known I have no doubt it will become a general favourite. *Portulacas* have been remarkably fine with us this season. Beautiful as they all are, I give the preference to *P. Thellusoni*. They do well in light sandy soil, and may be raised in pots or sown early in summer where they are to remain. The *Cupreas* are plants that succeed well here and resist the weather well. *Nierembergia gracilis* makes a good edging and does well with us.—*M. H., Aclam Hall, Middlesborough-on-Tees.*

POMOLOGICAL GLEANINGS.

WE have received a SEEDLING APPLE from Mr. William Paul, raised from the Fair Maid of Taunton fertilised with Broughton. It is far larger than either of its parents, and, judging from the specimen sent, is of the size and shape of a large lemon, having the same swelling at the stalk as that fruit; but the colour is entirely of a beautiful pale salmon streaked all over longitudinally with broad lines and broken streaks of deep crimson. The eye is small and slightly sunk. The flesh yellowish, tender, juicy, sweet, and well-flavoured. It is a handsome fruit, and would be highly ornamental in a dessert.

—MR. WELLS, of Southend, has sent us a fine Black Hamburgh Vine in a pot, the cane of which is 7 feet long, and bearing nine large bunches. This Vine was grown in one of the

ground vinerias, and a 7-foot length of it was layered in a pot, where it rooted, and when it had established itself it was severed from the parent Vine and became an independent plant, which, when coiled round a few short sticks, formed a handsome pot Vine.

— A MINIATURE CHERRY tree, growing from 10 inches to 3 feet high, with a round, globular head, as hardy as an Oak tree, and bearing large crops of very sweet Cherries, is indigenous in Utah.

— A SMOOTH-LEAVED Cayenne Pine Apple was grown at Colston Bassett, Bingham, Notts, and was cut on the 16th of October, the height of the fruit, including the crown, being 21 inches. The fruit was 21 inches in circumference, its height 12 inches; it was 10 pips deep, and the weight was 10½ lbs. Mr. Lamb is gardener there.

— ERROR.—At page 281, column 2, line 13 from the top for "1300 from a two-year old bush," read "twelve-year old."

WORK FOR THE WEEK.

KITCHEN GARDEN.

ALL that is to be thought of under this head is to see that young *Lettuces*, *Cauliflowers*, *Endive*, &c., are well provided for against the winter. Remove all decaying and damaged *Carrots*, &c., from the root house or shed. Prepare suitable places for a supply of *Turnips*, *Celery*, &c., being stored up on the first approach of severe weather. *Potatoes*, if kept in a house, and especially if taken up in a rather wet state, should have flues formed of faggots passing through the heaps. When sufficiently dried, the draught of air may be stopped or regulated at will. When the flavour of newly-raised *Potatoes* is preferred to having them like balls of flour, a quantity of earth, neither dry nor wet, may be sprinkled amongst them. With a little attention they may be kept as well in a house as by any other method, and any labour they require in the spring and summer can be performed in unfavourable weather.

FRUIT GARDEN.

After this time never lose an hour in which nailing can be done, and never keep men at such work in cold weather. The present changeable weather will furnish an opportunity of examining and removing all decaying fruit in the fruit room. Those slightly specked should be taken out of the fruit room and reserved for present kitchen use, as otherwise the atmosphere of the room would become so tainted as to hasten the decomposition of all the stock. Most gardeners are perfectly aware of the importance of a close atmosphere, and an equable rather low temperature for the long preservation of Apples and Pears. Where, therefore, the fruit room must still be used as a general receptacle, and where, consequently, air will be frequently admitted, the fruit may be covered with clean wheat straw, which will have a tendency to keep it at a uniform temperature, and prevent its shrivelling by perspiration. It is more necessary to attend to this in the present season, as many of our best fruits are fit for table much earlier than usual. The best-keeping Apples and Pears may be packed in jars or new garden pots, covering each layer with dry sand. Chaff should scarcely ever be used for such a purpose, as, however well dried, the moisture from the fruit is apt to make it ferment and vitiate the flavour. Chestnuts, Walnuts, and Filberts are clearer in the shells, and fresher and moister in the kernels when packed in sand than by any other method. *Walnuts*, if previously well dried in the sun, may be kept in a heap covered with straw, provided they be turned frequently, but the kernel is more shrivelled, and the inner pellicle adheres to it more firmly, than when the fruit is packed in sand. The boxes or pots in which it is packed in sand should not be too large. If kept on shelves or in heaps, unless in a very dry place, the outside shell soon contracts a mouldiness, which, if not removed, will find its way to the inside. A quick method of effecting this is to put a quantity of the nuts in a clean sack, and move them backwards and forwards quickly by two men, each holding the two corners of the ends of the bag.

FLOWER GARDEN.

In some places as soon as the frost destroys the appearance of a bed, the plants are pulled up and the ground smoothed over with a rake; it is then planted with the branches of different evergreen trees and shrubs, trimmed up to the shape of little shrubs from 1 to 3 feet high, with stems long enough to be firmly fixed in the soil. They will thus remain quite green till March, and no one can tell whether they are not shrubs turned out of pots on purpose. Branches of *Laurus-*

linus will flower all the winter in this way, as well as if left on the parent plant. With these, and others of variegated *Hollies*, with the berries on, also pieces of *Arbutus*, various kinds of *Crataegus*, &c., with the fruit, one might make a gay bed opposite a sitting-room window all the winter. *Pinetums* might thus be formed in miniature, and it is likewise a good way to try the effects of planting the different kinds of evergreens in a shrubbery or winter garden. Early-flowering shrubs may be planted along with the above, also spring bulbs, and the shelter of the green boughs will nurse these things from the cold. Sweep as much as you will, you cannot clear up till the leaves are all down. Planting and transplanting trees and shrubs, making and altering walks, and all kinds of alterations and improvements will now and for awhile occupy the time that used to be devoted to flowers in this garden; but amidst all this bustle do not neglect to make the best use of all the leaves and stems, and as much other refuse as you can gather together; and the rougher materials of prunings, old stakes, &c., burn the first fine frosty morning.

GREENHOUSE AND CONSERVATORY.

Chrysanthemums, *Cinerarias*, and *Salvias* are the leading plants that flower just now among the more hardy kinds. *Hedychiums*, *Vincas*, *Clerodendrons*, and *Lantanas* are just over, and are removed to the stove, the first to be dried, and the other three to be shaken out of the pots, put into small ones, and pruned rather closely. This is hard treatment, which would ruin some plants, but they will bear it. *Justicias*, *Eranthemums*, and *Apelandras*, with *Gesnera zebrina* and *Cactus truncatus*, will take their place. Large specimens of *Crocea saligna*, *Luculia gratissima*, and even the old *Coronilla glauca* make a good mixture with *Chrysanthemums*. The *Luculia*, *Gesnera zebrina*, and *Cactus truncatus* are the best of these for placing in rooms. The old scarlet *Achimenes* can be had in flower later than any of the new ones, and as early in summer. In order to have them in flower to the end of this month, it is best to allow them to push in a cool place early in summer, then plant them out in sandy peat in a cool house on a front shelf or stage, and from this situation they are potted from August to the end of September, and encouraged by giving them a little heat as they are wanted. The whole family is well suited for rooms. The greenhouse must always be kept well ventilated, and especially during the present month. On that account the plants will require to be looked over often, to see that none suffer from want of water. Where there are good cold pits, Heaths and many other plants are much better in them than in the greenhouse until the weather becomes severe; indeed, when so much attention is paid to forming all good plants into fine specimens, small plants ought to be kept in frames, if only to have them out of sight, as such plants are of little interest to any one except to the person who must provide for them, however necessary they may be to keep up a collection. In that case specimen plants will have more freedom, and not half the watering will be needed in the greenhouse, consequently there will be less chance of dampness among the plants.

PITS AND FRAMES.

In the forcing pit mild moist spring weather should prevail. These plants in bottom heat should have it regularly. Tan, leaves, &c., are troublesome as compared to the steady bottom heat afforded by hot water. A moist atmosphere is always congenial to forced plants, and the more hardy they are the more they stand in need of the syringe. Insects should be destroyed as soon as they appear, and let everything be kept clean and sweet. *Cyclamens* that have made good roots will stand forcing for a short time, and will soon throw up their blooms, but like bulbs of all sorts, they are injured by forcing before they have made roots. Indiscriminate watering must be avoided in the treatment of the stock in cold pits and frames. Well-matured plants with no stagnant water around the roots will resist a degree of frost that would be immediate death to others of the same sort that are succulent, of immature growth, and saturated with moisture. *Hyacinths* may still be planted in pots and put into glasses, and those which have been brought forward according to previous directions, may be forwarded in heat if required for early bloom. They can also be grown and bloomed well in pots of moss kept moist.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Celery.—Took the opportunity of earthing the main crops pretty well up, the soil a few inches from the surface being in

good condition as regards dryness, whilst after the rains of last week the trenches were sufficiently wet to keep the roots moist for the season. All the evaporation from the foliage in fine, sunny days now, will be sufficiently counterbalanced by dew and damp days. When the usual mode of earthing-up has to be resorted to, it is as important to have the soil used for earthing-up dry, as to have a sufficiency of moisture at the roots. We took no other precaution in earthing-up, except to have a thin layer of coal ashes round each stem in the beds, each bed being 4 feet wide, and having three rows in that width. Besides the Celery used previously, it has been taken up freely for the last ten weeks, and not a bad or bolted head has been met with. We seldom could have said the same when we used to grow huge, massive heads, or when the bit-by-bit earthing-up system was resorted to in July and August, or even the early part of September.

Lettuces.—Tied these up where they were not blanching enough for use. We have some so placed that we can protect them in bad weather. Those planted out, small, stubby plants, are now standing well, as the grubs seem to have been nearly all taken, after doing the mischief. No other cure seems to be effectual, but examining the earth at every drooping plant, destroying the enemy, and filling up the vacancy again. At the foot of a south wall we turned up what would have been the walking room for 4 feet in width, and planted with young Lettuces, and not one was touched, whilst during the summer and autumn we could not obtain anything like a crop on the raised banks between the Celery beds. The very depth of the soil there, and that on the surface coming from a good depth, one would have thought would have been a security, but there, of all other places, the grubs were the worst. From 100 feet of a row of Lettuces, nearly a pint of grubs has been collected. We have seen very few lately. Had there seemed to be plenty left, we should have used lime and tar water, and even a little tar on the ground most infested. Nothing will grow in tar, or on it, when it is fresh, but used in small quantities at this season, just dropping a little over the ground, it becomes carbonised and mild enough before the spring.

Endive.—We have not yet taken any up, as room is scarce, and the largest and best plants have not suffered from frost in the least. Tied up some fine plants, laid tiles, slates, and boards on others. Where there is a good bed, and it is wanted for use in from a fortnight to a month, and the surface of the ground is moderately dry, nothing answers better than covering the plants over with 2 or 3 inches of dry tree leaves, and then covering these with tarpaulin, mats, or wooden shutters, to keep wet out. We have never had Endive finer and sweeter than when taken up with good balls, and stored in beds in dry cellars. If tolerably dark nothing more was wanted. If not dark, a cloth placed over a piece soon blanched it enough. We have had it in cellars from November to March.

Chicory.—We have none this season, though it is always advisable to have a few rows, as in a severe winter it comes in useful, though not equal in our opinion to Lettuces or Endive. It does well in a dark cellar, or anywhere, when wanted quickly, where darkness and a heat of from 55° to 60° can be given to it. We allude to it, to meet the wishes of a correspondent, who has a nice bed of roots, thinned out 4 inches apart in summer, admires it as used by our French neighbours in winter, and wishes to know if he could not have it from the open ground in winter without any artificial heat, if not how could he have some, with merely the help of some 12-inch pots, and some small oyster barrels? With no heat out of doors, his pots and barrels would be of little use there. If he could make a small hotbed—say 4 feet square, fill a space of 2 feet square rather thickly with roots, and cover that over with a packing box, &c., of that size, he might have fine gatherings of Chicory leaves, and by the same plan he might have Sea-kale and Rhubarb. But supposing him to have nothing but a spare corner near the kitchen fireplace, he may have a good supply from his pots. We would have no objection to the oyster barrels, only they crack at the joints when in a dry place, and let in light.

Proceed thus: Take up and put from a dozen to eighteen roots, according to their size, in a 12-inch pot, putting the roots firmly in the earth, and leaving just the buds of the plants exposed, after removing all the leaves except a few little ones, if there are any in the centre. Water well and leave the pots outside to let all extra moisture drain away, so as not to make the fireside dirty, then move the pot in where it will have the benefit of a little warmth from the fire. Place another pot of the same size on the top of that, fitted rim to rim, cork the

hole in the bottom of the reversed upper pot, and tie a piece of cloth round where the two rims meet, and in the heat of most kitchens the Chicory will be fit to cut in a fortnight or three weeks. A number of pots might be so filled, and kept in a wood barn or coal house until wanted to be brought in in succession. Had our correspondent told us he had a cellar which was dark and would average 50° in winter, then we would have advised using the small oyster or other narrow barrels, boring holes in the sides of the barrel—say half an inch in diameter, and in rows 3 inches apart, the rows round being 4 inches from each other. Place the roots inside in layers with the heads or buds outside the barrel, putting the earth to each layer, firming it, and moistening as you proceed. A few barrels would yield a good succession, and as one is beginning to come into use, a second should be introduced. In a dark place with a temperature of about 50°, we used to have the leaves of a fine creamy white, and from 6 to 7 inches long, in from three weeks to a month. An old worn-out narrow barrel looks very pretty when thus adorned outside with these blanched leaves. The Chicory will be all the better if the leaves are never more than 6 inches long. When long and flabby they eat woolly, and have none of the crispness they have when grown in a low temperature and under rather than above 6 inches long. If prevented becoming too wet, or much frozen, such barrels, planted in layers as above stated, might stand out of doors until wanted to go into the cellar. In all such cases the leaves are chiefly produced at the expense of the materials stored-up in the roots. We have already detailed how a friend of ours used to delight many an invalid in winter, by taking a few stalks of Rhubarb which he brought on in barrels in his kitchen. We have sometimes kept our eye on places where *Dandelions* were plentiful by the sides of roads. They are not so strong, but they make a good substitute for Chicory, and the good properties are even rather more strong and active than in the latter. Both may be used with good results for salads, and are especially useful when anything better is scarce.

Kidney Beans.—Those out of doors are quite destroyed, and but few more Scarlet Runners will be obtained, though these are not so much injured; and Vegetable Marrows, which a fortnight ago were showing plenty of young fruit, are now nothing but skeletons, and black leaves, and decaying stems. We have instanced the Dwarf Kidney Beans for chronicling a disappointment which may be useful to others. We are not admirers of Fulmer's Forcing Bean, but having it by us, and others more approved not being at hand, we sowed some in the earth in a pit where just a little artificial heat can be given. We expected them to be fit to gather in the first week in November, but, unfortunately, the plants were not stopped until a week or so ago, and they have grown strong and lengthy, with numerous buds at the joints, but they are just coming into bloom now. Others of the same kind, sown in pots out of doors a month later, and put under glass when a few inches high, as the nights became wet and cold, are also coming freely into bloom, though not nearly so strong and high as the first named, but these had the points of the shoots nipped out at the third joint. Had we done so with those planted we should have had Beans instead of blossoms now. With all the stronger-growing kinds under glass it is advisable to nip out the point of the shoot when it has made two or three joints above the seed leaves. We have had fine crops of the White Canterbury, naturally inclined to run a little, from plants not more than 9 inches above the pot, but they were stopped early. When grown in pots the weaker-growing may be retarded fruiting a few days by stopping them, but they produce more freely and are kept nearer the pot. Strong-growing kinds keep growing on and do not even bloom so soon as when stopped early. The stopping arrests mere growth, and the flower buds swell and open freely. We have frequently noted results as stated above. The first planted had the best treatment all along, and instead of being three weeks or so earlier, they will come in little earlier than the second. Through a slight change of circumstances it will turn out quite as well, or rather better for us, but that will be more owing to chance than to management or design.

Mushrooms.—Put a little more dry litter over the Mushroom beds in the open thatched shed, to keep them on, as we do not expect to gather from the first piece in the Mushroom-house for two or three weeks. This shed is open to the west, and shaded by some Chestnut trees. Could we manage it, we would place a line of hurdles along the open side, and draw green laurel boughs through them, so that the wind might pass between these before sweeping over the beds. A closer covering would do as well, but we found that hurdles so wattled

answered in winter, so long as we kept the beds on, and they were also useful in hot weather in July, for the shed is chiefly used for summer Mushrooms, though they often continue to produce all the winter. It is a low structure against a dwarf wall, and shaded by trees on the open side. We have twice had it rough-thatched with straw, using old hurdles for the roof below the straw, and something must be done to renew it before long, but though we have once or twice been offered a tiled or a slated roof, we prefer the straw as a non-conductor of heat, and because coolness is the chief essential for Mushroom culture in summer. From this rough-thatched place we have had most of the advantages of a cool cellar in summer. We have tried a similar shed roofed with feather-edged boarding, and with tiles and slates well smeared with lime, to prevent the absorption of heat, but in neither case in hot summers did they act so well as the rough-thatched roof. Were it not for the harbour given to vermin, there is something more than the picturesque in thatched roofs for dwelling-houses for man, they are so cool in summer, and so warm in winter. As a mark of progress, it is pleasing to notice all through the country sheds and workshops close to the slates, having the slates outside well whitened, so that the people below should not be half roasted in summer, and frozen in winter. A friend had a small shed for summer Mushrooms erected against a wall, but he was too neat in his tastes to think of thatch, and too averse to the glaring in colour to think of a staring white roof, and to compromise the matter had the roof covered with brownish tiles. Even they proved too hot in July and August. After a little mutual thinking over of the matter, a pretty picturesque roof is now formed. A little earth was strewn over the tiles, and that was planted all over with the little green yellow-flowering Sedum acre, and it is now a dense mass, and in the hottest days of the last summer the lower side of the tiles felt quite cool to the hand.

Our chief difficulty with the shed beds for two seasons has been owing to the inroads of numerous moles. Tarring their runs has set them to make fresh ones, and some beds have looked in the morning as if a miniature plough had been at work all over the bed. In the garden and pleasure grounds nearly a hundred moles have been caught. They were not satisfied with Mushroom beds, but worked into Cucumber and Melon beds, everywhere in fact where the soil was at all soft, and though we find no great fault with their heaps in a meadow, as these make an excellent top-dressing, they do not look attractive on a lawn close to the principal windows. One of the best modes of trapping moles is for the trapper to carry a dead mole, or the skin of one, with him, and to draw that over the traps and the neighbouring soil, so as to take away all scent of his own hand. Looking on the mole as in many respects one of our co-operators, and admiring its indomitable energy and perseverance, we should be glad if some better means than have been noticed in these pages could be mentioned, to drive moles away from particular places, instead of trapping and thus killing so many of them. Our better feelings are apt to give way when we find a good Mushroom bed made for a time next to useless, and more especially when we know that the bed contained little that would suit the mole in the way of food, as, if the bulk of such beds were dry rather than wet, there would scarcely be a worm or other little animal for the mole.

We threw some droppings and litter into a heap to dry by fermentation in order to make another piece in the Mushroom house. Finished earthing a second piece and spawned a third, and will watch the latter for a few days. It is generally best in a shelved house to fill the upper shelves first, as these will then be assisted by the heat in the beds beneath them when getting ready.

FRUIT GARDEN.

We have housed all the hardy fruit at last. Apples seem to keep better than Pears. We have lost of the latter some splendid Marie Louise, Beurré Bosc, and Napoléon, and all required to be looked to often, as when they began to decay they soon became little better than a skiful of juice. With these exceptions the fruit has been good and of excellent flavour. That some should thus be excessively stored with juice might be owing to the wonderfully rapid swelling that took place after the first rains, and the more humid atmosphere which then prevailed. Before the rains came there was every appearance that the fruit would be small and deficient in moisture, but, on the whole, all Apples, Pears, and other fruit have turned out of fully their usual size.

From the orchard house we are still gathering every day Reine Claude de Bavay, a few Jefferson, and a good supply of Coe's Golden Drop Plums from pots, and with due preparation,

as previously instanced, we see no reason why the latter Plum should not keep well through November and part of December at least, and it would be difficult to find any other fruit at this season to beat it in quality. In the first house Figs and Grapes are ripening well.

ORNAMENTAL DEPARTMENT.

Much the same as in previous weeks; the falling leaves prevent the grounds being so clean as we would wish.—R. F.

COVENT GARDEN MARKET.—NOVEMBER 4.

Our market remains so stationary, both as to supply and demand, at present, that we have little worth reporting. Broccoli of the different varieties have remarkably improved during the past fortnight, and Winter Greas are abundant. Pears now consist of Chamoutel, Glon Moreau, Winter Nelis, and Beurré Diel; Apples of Ribston Pippin, King of the Pippins, Nonpareil, and Fear's Pippin.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	1	6	to	2	Melons..... each	2	0	to	5
Apricots doz.	0	0	0	0	Nectarines doz.	0	0	0	0
Cherries lb.	0	0	0	0	Oranges 100	8	0	12	0
Chestnuts..... bush.	10	0	15	0	Peaches doz.	10	0	15	0
Currants..... ½ sieve	0	0	0	0	Pears (dessert) .. doz.	2	0	6	0
Black do.	0	0	0	0	Pine Apples lb.	4	0	7	0
Figs doz.	0	0	0	0	Plums ½ sieve	4	0	6	0
Filberts..... lb.	0	9	1	0	Quinces doz.	0	9	1	6
Cobs..... lb.	0	9	1	0	Raspberries lb.	0	0	0	0
Gooseberries .. quart	0	0	0	0	Strawberries.. per lb.	0	0	0	0
Grapes, Hothouse.. lb.	2	0	5	0	Walnuts..... bush.	10	0	16	0
Lemons 100	10	0	16	0	do. per 100	1	0	2	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	3	0	to	6	Leeks bunch	0	4	to	6
Asparagus 100	0	0	0	0	Lettuce per score	2	0	4	0
Beans, Kidney ½ sieve	3	0	4	0	Mushrooms pottle	2	0	3	0
Boet, Red..... doz.	2	0	8	0	Must.& Cress, pnnnet	0	2	0	3
Broccoli bundle	1	0	2	0	Onions per bushel	5	0	0	0
Brs. Sprouts ½ sieve	2	0	0	0	Parsley per sieve	3	0	4	0
Cabbage doz.	1	0	2	0	Parship do.	0	9	1	0
Capsicums 100	3	0	0	0	Pens per quart	0	0	0	0
Carrots..... bunch	0	4	0	8	Potatoes bushel	4	6	6	0
Canflower doz.	0	0	0	0	Kidney do.	4	0	7	0
Celery bundle	1	6	2	0	Radishes doz. bunches	1	6	0	0
Cucumbers..... each	0	4	1	0	Rhubarb bundle	0	0	0	0
Endive doz.	2	0	0	0	Sea-kale basket	0	0	0	0
Fennel bunch	0	8	0	0	Shallots lb.	0	8	0	0
Garlic lb.	0	8	0	0	Spinach bushel	2	0	3	0
Herbs bunch	0	8	0	0	Tomatoes.... per doz.	1	0	2	0
Horseradish .. bundle	3	0	5	0	Turnips bunch	0	6	0	0

TRADE CATALOGUES RECEIVED.

F. and A. Dickson & Sons, 106, Eastgate Street, and Upton Nurseries, Chester.—*Catalogue of Roses.*
 André Leroy, Angers, France.—*Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, &c.*

TO CORRESPONDENTS.

* * * We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c.*, 171, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

BOOKS (T.M.).—"The Gardener's Assistant" is published by Blackie and Son, London. The "Cottage Gardeners' Dictionary Supplement" can be had free by post from our office for twenty postage stamps.

CHERRY PLUM (Miss King).—Any of the principal nurserymen who advertise in our Journal could supply it.

APPLE TREES (Medicus).—The six kitchen Apples that would suit your purpose are Bedfordshire Foundling, Alfriston, Dumelow's Seedling, Yorkshire Greening, Norfolk Beefing, and Rymer. The Prune Damson is the finest. For cider you had better consult some orchardist in your county—Hereford, for soil and climate have an all-controlling influence over the flavour of the cider, and the variety which produces an excellent liquor in one locality often produces an inferior liquor in another district.

LARGE PEAR (R. H. F.).—Your Pear is Hæcon's Incomparable. The specimen sent was fine and high-flavoured, but deficient in sweetness and juiciness. This may be occasioned by its being grown against a south

wall, which it does not require, being very hardy. The fruit may be improved by mulching, in summer, the surface over the roots, and watering freely in dry weather.

FOREIGN EXPORTERS OF ORCHIDS (E. M. L.).—Our correspondent wishes to know the names of Orchid shippers at various places in the East and West Indies.

APPLYING SULPHUR TO VINES (H. C.).—There is a sulphurator which, by turning the handle, disperses the flowers of sulphur, much after the manner of a winnowing machine; but we find that the sulphur may be applied very effectively to the Vine leaves by the aid of a common flour-dredger. We have heard nothing more about "SIGMA'S" circular vineries, if we receive any information we will publish it.

ABIES NOBILIS SEED (E. P.).—That which you enclosed is not fertile; but we think that we have heard of its ripening seeds in England.

ROSES FOR EXHIBITION (T. W. Johnson).—You wish for the names of Roses for exhibition, and for a suggestion of others. Of those you have named the following are very excellent:—Alfred Colomb, Madame Victor Verdier, Jules Margottin, Gloire de Dijon, Maréchal Niel, Charles Lefebvre, Pierre Notting, Prince Camille de Rohan, Comtesse de Chabrillant, Senateur Vaisse, John Hopper, Souvenir de Dr. Jamin, Exposition de Brie, Marguerite de St. Amand, Marie Banmann, Dr. Andry, Abel Grand, Antoine Ducher, Madame Margottin, Lady Sufield, Baronne Adolphe de Rothschild, Triomphe de Reunes, Madame Alice Bureau, Acidalia, Baronne Frevost, Charles Verdier, William Griffiths, Prince de Portia, Madame Charles Wood, Gloire de Vitry, which is splendid on its own roots; Princess Mary of Cambridge, not here, but known to me; and Baronne de Maynard, not exactly a show Rose, but lovely; a continuous and most abundant bloomer—a splendid white bedder. I advise you not to buy the new Roses named till I have proved them. If you will have novelties buy Marie Clotilde, Madame Rolland (not Madame Roland), Vicomtesse de Vezins, Monsieur Noman, Duchesse d'Aoste, and Comtesse de Jaucourt. I suggest these:—Monsieur de Montigny, a splendid Rose, given up by Maréchal Vaillant; Madame Julie Paron, Leopold Premier—but the last two in a shady place, they will then bloom freely;—Sombrouil (Tea), Souvenir d'Elise (Tea), Madame Willarmoz (Tea), Souvenir d'un Ami (Tea), Adam (Tea), and Devonensis (Tea). These five, with Madame Margottin, are the cream of the Tea-scented Roses, and first-rate. Sombrouil is the hardiest of all. Mr. Taylor says Vicomtesse de Vezins will be first-rate for ten years, and Pitford (or Pitford) is superb.—W. F. RADCLIFFE.

PELARGONIUM, FUCHSIA, AND CALCEOLARIA CUTTINGS (Ignorance).—The Pelargonium and Fuchsia cuttings we would put in pots, drained with one-third their depth of broken pot; then nearly fill them with open sandy soil, and surface with sharp sand. Insert the cuttings about an inch apart round the sides of the pots, give a gentle watering, and, as you have only a dwelling-house to strike them in, place them in the most sunny window you have, being careful not to water as long as the foliage keeps from flagging. They ought to be kept from frost. The Calceolaria cuttings may be put in the shallow wood boxes, and in good loamy soil, but avoid the manure you have by the wagonload. Place a layer of sand an inch apart, giving a gentle watering, and placing them near some window. The soil should be kept moist, but avoid making it very wet. The pronunciation of Calceolaria is Calceolaria; Anemone, Anemone; and Ranunculus, Ranunculus.

TOP-DRESSING POT VINES (T. I. M.).—Your Vine being in its fruiting pot and intended for bearing next year, it ought not to be repotted, but should have the drainage put in order, and as much loose soil from the surface removed as it is possible to do without injury to the roots. Then top-dress with loam from turf, adding one-fourth of old manure and one-sixth of half-inch bones, or a couple of good handfuls of bonedust.

POTTING FIG TREES (Idem).—The best soil for the Fig tree is loam neither heavy nor light, and if from the top 2 inches of a pasture it could not be better. It should be chopped or torn in pieces and made firm. The present is a good time to pot the tree.

COLEUS WINTERING (J. M.).—To winter this safely it should have no more water than enough to keep it from flagging, and the temperature should seldom be lower than 45° at night, though it may in severe periods fall to 40°. If, as you say, you want the plants to grow, the temperature should be from 55° to 60° at night, and from 60° to 65° by day. The best way to keep the Coleus is to have good little well-rooted plants by the end of summer, and to keep them gently growing during the winter in a stove or warm greenhouse, watering carefully, and affording them a light and rather airy situation. The temperatures named will be destructive to the greenhouse bedding plants.

GROWING MUSHROOMS UNDER A SUMMER HOUSE (T. M.).—We suppose that beneath your summer house is a sort of cellar. If so, it will answer admirably for growing Mushrooms; and being underground it will be secure from frost, except in very severe periods, and then you may cover the bed with dry short straw or hay.

VEGETABLE MARROWS AND CUCUMBERS AFTER POTATOES (Idem).—The Potatoes being off by the beginning of June, you may follow with Vegetable Marrows and ridge Cucumbers; but we should prefer planting the Potatoes in rows 3 feet apart, and having a row of Cucumbers between. Between the Potato rows a trench may be formed, which may be filled with hot dung, and covered with soil for the Cucumbers. Plant them out early in June, unless you can cover them with hand-glasses, then plant in the middle or third week in May. The Vegetable Marrows will do in rows 6 feet apart, so that you may have two rows Potatoes between the Marrows, which should be planted by the third week in May, and a flower pot inverted over them in frosty nights for a short time.

CUTTING BACK FUCHSIA (Idem).—The Fuchsia which is very straggling should be cut down, but not until spring when it begins to grow.

BEDDING PELARGONIUMS AND FROST (Idem).—Our experience is that they will not endure more than a slight frost, or one of a few hours' continuance; for no matter how dry the soil, their stems, being still succulent, will decay on becoming froz.

PRUNING BLACK CURRANTS (Idem).—You are right as regards pruning Black Currants. Their shoots should be thinned out when they are too thick, and without shortening those left; but when they are not too numerous but very long, to encourage the production of young wood, they should be cut well back; and in order to keep the young trees low and well furnished with bearing shoots, the young shoots should be shortened

one-third or one-half their length. It is easy to thin them out, but not so easy to obtain young shoots from the bottom without losing a year's crop. The straggling bushes of former days are no longer imitated, the present mode being to shorten the young shoots, to keep the bushes dwarf and symmetrical, and by it even finer fruit is produced, as it is borne on young wood. Cut out the old wood, encourage young shoots, shorten them, and, if they become too numerous, thin out.

HEATING A FERNERY (A Grateful One).—As you cannot have either a flue or hot-water pipes, you may have a stove, with a chimney or pipe to take off the smoke, &c., which in most stoves is necessary; but there are some without flues or pipes. Write to the makers of stoves who advertise in our columns, stating the size of your house, and asking for prices, &c. We cannot recommend dealers.

SAPONARIA CALABRICA AND SILENE PENDULA FOR CARPETING TO HYACINTHS (Novice).—We fear neither would flower early enough for the Hyacinths, otherwise they would answer very well as to height. We do not know the bulbs you mention.

PARAFFIN OIL FOR DESTROYING MEALY BEG (York).—We can verify all you say as to this destroying every insect it touches. It is the best remedy for the American blight or bug, and for the scale on Pear and other trees in the open air. It should be applied with a brush, now being the best time to apply it—that is, after the leaves have fallen. We do not know what effect the vapour would have on plants in leaf, but as a destroyer of bug and scale on trees in active growth, and where there are no plants, we find it safe and efficient. You may employ it for destroying mealy beg on Peach trees, but we should for the present advise its being kept from the buds. If you were to syringe your tree when there was a likelihood of frost, and the water became frozen, that would destroy the beg and not injure the tree. We cannot name plants from leaves; flowers are necessary as well.

ALTERNANTHERA AMENA FOR BEDDING (A Constant Subscriber).—It would succeed in your locality and soil if good plants were turned out. It is easily propagated by cuttings. A few store plants kept through the winter in a temperature of from 40° to 45°, and placed in gentle heat in February, will afford an abundant supply of cuttings by the beginning of March. They should be inserted in a mild hotbed, when they will soon take root, and if kept growing will make good plants by bedding-out time. Being very dwarf and compact habit, it is only suitable for edgings and carpeting, and not for centres. You will see, when you have the plant, what its foliage will best contrast with.

YUCCA FLOWERING (Francis Scott).—We should not cut off the flower stem, but allow it to flower, which you do, we think, destroy the plant.

CALCEOLARIAS FAILING (Subscriber).—They succeed well in a compost of two parts loam from turf taken from a rather strong but not very heavy loam, one part old cow dung, and one part leaf mould, with a free admixture of sand. You may take up any of the old plants that are dwarf and compact, preserving a ball of soil to each, and place them in pots that will hold the ball comfortably. They should not be cut-in, though any straggling shoots may be removed; and kept in a cool, light, and airy situation in a greenhouse they will flower well in spring. Your plants this year seem not to have had enough of moisture. For bedding purposes they are best propagated by cuttings put in before frost in a cold frame, kept there during the winter, and planted out in good rich soil early in April, moving them to their final quarters in May with a good ball of soil to each. The beds should be prepared with a good dressing of rotten manure or leaf mould. To keep down green aphids the plants should have a cool temperature, abundance of air, and be fumigated with tobacco before they are much attacked by the insects.

RANUNCULUS NOT SUCCEEDING (Idem).—The Ranunculus succeeds best in a rich, deep, heavy loam, damp, but well drained. You do not say what your soil is, but from the foliage mildewing we presume that it is light, and in that case you would plant in November or early in December. In preparing the bed, trench it 2 feet deep or remove the soil to that depth, and replace it with fresh. A good barrowful of cow dung rather old, as much as a man can wheel, should be worked in to every three square yards. The top 4 inches of the bed must not have any manure. The best soil for the top is that from reduced turf, but a thin paring from immediately under the turf of an old pasture will answer well. The bed should be formed 3 or 4 inches above the surrounding level, for from the deep stirring it will sink, and on that account it should be made, if possible, in September, for planting early in November, which we would advise you to try, making the bed now and planting forthwith. If, however, your situation is cold and wet, it would be better to plant as early in February as the weather permits. In planting draw off the soil to the depth of 2 inches, place the roots on the surface, gently pressing the very large roots in, and raising small ones by putting a little soil under, so that the crowns may all be on the same level; cover with soil to a depth of 1½ inch above the crowns, taking care not to displace the roots in covering. No further trouble will be needed until the plants come up, when the opening around each plant caused by the forcing-up of the leaves should be carefully closed; this is best done by the hand, pressing the soil firmly all round. In very dry weather copious watering will be required, especially when the flower buds are forming, should the weather be dry at the time, but surface waterings are of no use, on the contrary they are injurious; by keeping the soil constantly moist under a hot sun the temperature is considerably reduced by the excessive evaporation, and the plants become "blind." When water is given it should be in sufficient quantity to reach the lowest fibres. The flowers should be shaded to prolong their freshness, and when over remove the shade, take up the roots when the foliage decays, and thoroughly dry them.

PRUNING HARDY FRUIT TREES (A. A. C. H.).—The best time to prune all the fruit trees and bushes you name is in November, after the leaves have fallen. It is much better done then than in spring, though in places where birds are troublesome in pecking the buds, the spring-pruning of some trees is desirable on that account, but we strongly advise pruning all trees in autumn, taking other means of making the buds distasteful to birds, or of scaring these. The trees in addition to the winter pruning, or when leafless, require summer pruning or stopping, which are distinct operations.

CLEANING ZINC LABELS (Idem).—The ink and corrosion on zinc labels may be entirely removed by rubbing them with sand paper, and they are then eligible for writing upon again.

COMPOST FOR CYMBELIAS (J. M.).—Old turf, rotten cow dung, cocco-

nut fibre dust, and sani will grow nine-tenths if not all the plants at present in cultivation. For Camellias use two parts old turf, one part each of cow dung and cocoa-nut fibre refuse (best old), and one-sixth of sand, good drainage being necessary. We would, however, recommend in place of the above compost, that brought into notice in our Journal some time ago by Mr. Pearson, of Chilwell—viz., the fresh turf of an old pasture where the soil is a good sandy loam, cut from 1 to 1½ inch thick, tearing it in pieces with the hand, and using it in its fresh state. Pot firmly, and for the surface use the finer parts of the compost after pulling it into pieces. This compost answers admirably.

SOIL FOR CUCUMBERS (*Idem*).—The old turf, cow dung, cocoa-nut fibre refuse, and sand above named, and in the same proportions, will be an excellent compost, adding one-sixth of grit in pieces from the size of a pea up to that of a hazel nut, and mixing the whole well together. The best time to pot is when they are beginning to grow, which will vary with the species. *C. persicum*, for instance, should be potted in September, and if it grow well and fill the pot with roots it must be shifted into one of larger size, and in this way large plants with beautiful foliage may be had for blooming in spring.

TYDEAS (*J. Bayly*).—If you consult a catalogue you will notice the Tydeas are distinguished from the Achimenes. None of them should be dried-off like Achimenes, but be kept so moist at the roots as to prevent their foliage from flagging, though after flowering it is desirable they should have full exposure to light, and be kept rather drier. As the old stems go off cut them out, but not until the young shoots have made some progress. If the soil were kept so dry as for Achimenes whilst at rest, it is very likely the young shoots would not appear, and upon these depends the perpetuation of the plant.

INARCHINO VINES (*Inquirer*).—We would prefer the Bowood Muscat to be inarched on the White Nice, but any Muscat that is preferred will do. If we had any preference at all, we would place Mrs. Pince on the Lombardy, but the influences of stock and scion are sometimes singular in Grapes.

BOTTOM HEAT IN A CUCUMBER HOUSE (*Jersey Subscriber*).—Were we in your position we would make a concave bottom of concrete below the pipes, within half an inch of the bottom of pipes, and round and above the pipes place clinkers, &c., as loosely as possible, terminating with a layer of clean-washed gravel below the soil; but provided this is done, have the pipes as near the soil as possible. See page 283, on bottom heating, and were we to write a number we could not better summarise the matter.

FRUIT-TREE CULTURE (*Cornubia*).—You will see a communication from "C. C. E." before many days have passed.

KEEPING WALNUTS (*A. B.*).—See what is said in "Work for the Week."

SEEDLING PELARGONIUM (*John Hodgson*).—The truss is large and each pip fine; but it is impossible to judge of the merits unless an entire plant is seen. Send one to the Floral Committee of the Royal Horticultural Society.

RASPBERRIES (*G. J. Butterfield*).—We recommend you to plant the Fastoff and Yellow Antwerp. Have a space of 4 feet between the plants, and insert them now.

TRICOLOR PELARGONIUM REPRODUCING ITSELF (*Persist*).—All will very frequently be reproduced if fertilised with their own pollen; they will also very frequently reproduce the original parent varieties, as far back as the third or fourth generation.

SOIL FOR AZALEAS—CARBOLIC ACID AMONG PLANTS (*S. S.*).—Nothing suits Azaleas so well as sandy heath soil with a little very old sweet cow dung. The stronger sorts may have a little fibrous loam. We would not use carbolic acid on the floor of a greenhouse. What say others more experienced?

ORCHID BASKETS (*F. Briggs*).—We have no recollection of them. They may be excellent, yet not remembered among the contrivances sent to us "six years ago."

EXHIBITING CHRYSANTHEMUM BLOOMS (*D. H.*).—Stands and wooden tubes similar to those employed for Dahlias are used. We do not know where they are to be had. Your best plan would be to apply to some of the leading Chrysanthemum nurserymen.

CLUB ROOT IN CABBAGES (*Inquirer*).—We see in an American paper that bonedust applied at the rate of 2000 lbs. to the acre has been found a complete preventive of this disease. The bonedust must be offensive to the insect, the grubs from whose eggs came the swelling and decay.

ROSES—ERRATUM.—"Page 326, 2nd column, line 4. I intended to say :

'Of the thirteen Roses named, I should not think highly of La Reine François Lacharme (which requires high cultivation), Duchesse de Cambridge, Duchesse de Caylus, Madame Julie Daran, two first-class roses; Michel Bonnet, Madame Charles Wood, and Madame Gustave Bonnet may be retained."—W. F. RADCLIFFE."

TAR WATERPROOFING (*Litharge*).—This is altogether a bad time to make waterproofed cloth with tar, &c. We have used a pint of linseed oil to two quarts of coal tar, brushing it on when warm—say about 170°, and it answered the purpose, but having done these things on a small scale, and to suit particular purposes, we do not feel it would be safe for us to enter into the specific inquiries you make on the subject.

VINES UNFRUITFUL (*G. P., Ireland*).—You do not tell us sufficiently the state of the Vines. Is the drainage all right? Are the Vines very strong, with large foliage? Then well draining and extra firing to ripen the wood will make them fruitful, in addition to what you have done for them. If they are tolerably strong, retain their leaves long, and cut a little pithy, then the roots are too deep, and had better be lifted and replanted a foot from the surface in fresh fibrous loam. Most likely the drainage and a little more heat will do all that is wanted. If the roots are deep the Vines will succeed best on the rod-pruning system, instead of cutting-in to a bud or two. Send fruit in a box, each wrapped in paper and carriage paid throughout. Each specimen to be numbered.

LIME AND LEAVES (*A Subscriber*).—Put a thin layer of leaves, sprinkled slaked lime over them, and a little salt too, and proceed thus with the whole. The object is to reduce the whole to a mass capable of being dug into the soil; and at the same time to kill insects and fungi. Gas lime would not be so beneficial.

APPLES AND PEARS (*Centurion*).—The Yellow Bellefleur is an American Apple, it is not the same as the Brabant Bellefleur. Neither it nor any of the other Apples you name merit a south wall. Lime spread thickly over the surface round your Pear trees might destroy some of the grubs in the soil before they emerge in their insect state to deposit eggs on the leaves. The White Doyenné does not require a wall. Glou Morceau, Winter Nelis, and Ne Pina Meuris deserve a south aspect.

HEATING BY HOT WATER IN TROUGHS (*A Tyro*).—See page 283 as to failures in bottom-heating. Your troughs will give plenty of heat if the water is 3 or 4 inches deep, instead of 6 inches—that is to say, if the boiler will not easily make the 6 inches warm from top to bottom. Then your proposed plan of covering the pipes with slate will do; in such a place the chamber will be an advantage. You had better make the slate covering close over the tank, and then the upright pipes from the chamber can admit either dry air or moist air at pleasure. Such a pit will do admirably for Beans, Cucumbers, &c. On reading page 283, you will see what is necessary for continuous bottom heat. So far as we understand it, we have no faith in your second plan. Why do away with the boiler when you have it? The third plan is also very inferior to the first plan. Never lose dry heat from fire in any shape, to be replaced with dung heat alone. When you cannot help yourself, it is a different affair. You cannot grow Cucumbers and Potatoes in the same pit unless you have a division, and keep the Potato end from 15° to 20° cooler than the Cucumber end.

NAMES OF FRUITS (*John Shepherd*).—Your Pear is Vicar of Winkfield. (*W. G., Newcastle*).—Ravelston Pippin. (*Morston*).—The long Pear is Vicar of Winkfield, and the other Arlequin Musqué. (*T. H. R.*).—All that we can identify are—1, Doyenné Boussoch; 4, Adèle de St. Denis; 13, Broompark; 15, Tardif de Mons; 16, Deux Sœurs. Some are very fine specimens. (*D. R., Wrexham*).—Dutch Mignonne; 3, Franklin's Golden Pippin; 4, Ord's; 5, Beauty of Kent; 6, Hollandbury; 8, Marmelade Pippin. (*A. M.*)—1, Beurré Bosc; 2, Verdun; 3, Beurré Diel; 6, Beurré d'Arenberg; 7, Princesse Charlotte; 9, Jean de Witte; 10, Fondante d'Autonne; 11, Nonveau Poiteau; 12, Passe Colmar. (*T. E.*)—1, Grosse Calebasse; 2, Monarch; 3, Fondante de Malines; 4, Broompark; 5, Coham; 6, Cornish Aromatic; 8, Franklin's Golden Pippin; 10, Dumelow's Seedling; 12, Golden Peppermint; 15, Kentish Fillebasket; 16, Dumelow's Seedling, Norfolk Colman; 18, Barcelona Peppermint; 19, Christie's Pippin.

NAMES OF PLANTS (*J. R. Pocock*).—Salisburya adiantifolia, or Maiden-hair Tree. (*R. F. S.*).—We cannot name plants from leaves only. (*M. Coleridge*).—Salvia Grahami. (*W. M., Lewes*).—Athyrium Filix-foemina Fritzelii; 2, Lomaria discolor. (*C. M. Major*).—Pteris arguta. (*J. Bryan*).—1, Adiantum hispidulum; 2, A. formosum; 3, Codiogrumma javanicum; 4, Cyperus elegans. (*J. H. V., Leyland*).—Too much grammar to be recognised.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending November 3rd.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 28	30.393	30.016	53	38	43	49	S.W.	.34	Clear and fine; cloudy but fine; heavy rain, stormy.
Thurs. 29	29.835	29.704	55	37	44	49	N.W.	.00	Boisterous with rain; fine; clear and fine at night.
Fri. ... 30	30.143	30.087	54	43	48	48	N.W.	.00	Cloudy; dull, strong wind; fine, very clear.
Sat. ... 31	30.174	30.102	60	51	49	48	W.	.00	Overcast, cold wind; very fine; clear and fine.
Sun. ... 1	30.125	30.103	57	45	50	49	W.	.08	Cloudy, strong wind; boisterous; fine and clear at night.
Mon. ... 2	30.785	29.992	55	37	53	50	N.W.	.09	Cloudy; overcast; fine, dark and boisterous.
Tues. ... 3	29.911	29.721	54	49	51	51	S.W.	.00	Cloudy, high wind; cloudy, boisterous; fine, very boisterous.
Mean	30.082	29.969	55.43	42.85	49.57	49.14	..	0.42	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

THE NIGHT SIDE OF FOWL-FANCYING.

I READ the account of "E. M. B. A.'s" troubles, in page 308, with keen interest and genuine sympathy, but I cannot think

that the much-prized pullet died, as its owner seems to suppose, of roup or roup's remedy. The death, far more probably, has been caused by overfeeding or poison. I am surprised that "E. M. B. A." neglected to submit his favourite fowl to a *post mortem* examination. Traces of poison could easily have been detected by an expert practitioner, should poison have been administered; if, on the other hand, death had been occasioned

by excess of food, the proofs would have been plainer still—"E. M. B. A." concludes the narrative of his woes with a statement that for the future he means to invest in nothing but Baily's Roup and Condition pills, which, as far as my experience extends, are a most valuable and efficacious medicine; should they, however, fail to cure a case similar to the one above-mentioned, I hope that "E. M. B. A." will refrain from "hurling them into the fire" until he has satisfied himself thoroughly as to the nature of the disease that the pills were expected to cure. It would be hard indeed to expect roup and condition pills, however good, to serve as an antidote to poison, or a cure for paralysis, inflammation of the stomach, and a variety of other ills by which our feathered friends are liable to be attacked.—H. S. FRASER, *Headley, Hants.*

LIGHT-COLOURED BRAHMA POOTRAS.

In your last number you notice the forthcoming Southampton Show, and mention the cup contributed by Light Brahma breeders, the most valuable prize given in the Show, for the best pen of Light Brahma chickens. Allow me, as one who exhibited Light Brahmas when they had but few friends, and no prizes offered them, and who has seen them grow with but little help from shows, into one of the largest, in some cases the very largest class, at our exhibitions, to thank you cordially for giving expression, as you did last spring, to the feelings of so many friends of the Light Brahmas, and to assure you that those utterances have borne fruit in an increased number of Light Brahma classes. And now Southampton, which through its excellent Secretary has liberally recognised the claims of the "Lights," is at hand, and the largest classes there will be those for Light Brahmas, so that these birds may fairly hope to compete for the cup for the best pen in the show.

All that we exhibitors want now, is good and careful judging, and that we shall have, if our leading judges officiate, with one proviso—namely, time enough allowed them, which is not the case everywhere, so that they may have the opportunity for careful examination, and not merely look at size, or symmetry, or colour, but notice and compare the special points—for example, the comb, which in Brahmas, both Light and Dark, is not always so good as it should be even in prize-winners.—JOHN PARES.

BRISTOL AND CLIFTON POULTRY SHOW.

In the early part of this year, had I been asked when there would be another show at Clifton, in somewhat doleful mood I should have replied, Never! Twice bitten is once too often; but whatever may be the fortunes of our Bristolian friends, there is one quality that cannot be denied to them—that is, pluck. They have held two decidedly unfortunate shows as regards the poultry exchequer, though graced in every other way; yet, nothing daunted, here they are again, with a schedule more inviting than ever, and an array of silver cups, twenty-two in number, varying in value from £3 3s. to £10 10s.

Dorkings have eight classes, and two silver cups; Cochins twelve (!) classes, and two cups; Brahmas eight classes, and two cups; Spanish four classes, and two cups; French fowls two classes, and two chances of cups; Hamburgs eight classes, and two cups; Game six classes, and two cups; Bantams eight classes, and four cups; Any other distinct variety, two classes. Polish, I regret to say, have only two classes. No division into classes of these truly ornamental fowls, even to our friend "NEWMARKET'S" idea, in spite of the splendid array in the Show held two years ago, when it may be justly said this class was the gem of the collection! Malays, too, that made a fair muster two years ago, certainly larger than some of the retained classes, are unceremoniously cut out altogether. Ducks have four classes; Geese and Turkeys one each.

The Dorking, Cochin, Brahmas, Spanish, French, Hamburg, Polish, and Any other variety, have classes of single cocks and pairs of hens. This is a very good change. In the Game, the classes are single cocks and single hens; the latter might have been advantageously extended to the Game Bantams, but these classes consist of a cock and two hens, with the addition of two classes for single cocks. After the Bantam classes, the remaining classes are composed of one male and one female. These, the Duck, and the Geese classes, are not fairly dealt with. The entry-fee being the same for each class, it is not, to my thinking, just to give prizes so disproportionate in value. For instance, the same entry has in many classes prizes to the value

of £5, but in Geese and Ducks only £3. The entry is 7s. 6d. per pen. This is full high. I should have thought 6s. ample; the present, however, is a far better arrangement than making it necessary to subscribe 5s. first before entering, or that of making the first entry 15s., two for 20s., and so on.

Each exhibitor will have one not-transferable ticket of admission. Personally I object, for the sake of the birds, to exhibitions being open till 10 p.m. Still, with what little blots there may be on the escutcheon, Bristol pluck deserves success. I hope they will get it. As it is "the third time of asking," may there be nothing either in weather or any other drawback to forbid the bans between the Bristol and Clifton Poultry Show, and a paying crowd of visitors.

I forgot to mention that there are fifteen classes for Pigeons, with two prizes in each, and three silver cups also devoted to Pigeons.—Y. B. A. Z.

THE LONDON POULTRY MARKET IN EDWARD 1st.'s REIGN.

In 1274, Henry le Waleys being at the time Mayor of London, a civic ordinance was issued, that no *Poletria*—that is, no dealer in poultry, should fore-stall the market by going out of the city to buy, nor buy even within the city, until the purchasers for the King, lords, and citizens had completed their bargains—namely, until after three o'clock. The prices were also fixed—a good fowl, 1½d.; a good Capon, 2d.; a fed Goose, between Easter and Whitsuntide, 5d., and from Whitsuntide until the festival of St. Peter ad vinculas, 4d.; and for the remainder of the year, 3d.; an "Ancam roseram," 4d.; three young Pigeons, 1d.; a Pheasant, 4d.; a Swan, 4s.; a good Peacock, 1s.—(*Liber Custumarum.*)

BLACK-LEGGED FOWLS.

In your number for October 22nd was a very sensible letter on the folly of the objection to dark-legged poultry for table. I can fully corroborate that. I have for many years kept Polish fowls, which have blue legs, and I generally have to kill some which are imperfect in feather, or otherwise not up to the mark. They are most excellent in flavour; in fact, I do not know a fowl, which for its size, is so good as the Polish. Not being large, it is, perhaps, not so much esteemed as some, but for plumpness and general excellence, I quite believe that there is not a better fowl than the Polish.—G. W. BOOTHBY.

PIGEON PRIZES.

We are authorised to state that Messrs. John Baily & Son offer for the Birmingham and Manchester Shows of 1869, at each place, a silver cup or other piece of plate, value five guineas, for the best pair of Runts exhibited.

EXHIBITORS AND JUDGES OF PIGEONS.

My last letter on the subject of dealers being allowed to exhibit in competition with fanciers, and on the custom of showing birds that are not pairs, having met with general approval in the fancy, I venture to address a few words to you on another subject—namely, the objectionable practice of exhibiting borrowed birds.

There was a time when the most conscientious exhibitors would borrow or lend a bird or two, and look upon the act only as a proof of kindly feeling, but since Committees of so many of the principal shows have begun giving cups to the most successful exhibitors, the custom of borrowing and lending birds for showing has become so general and so extensive that it is likely to be a means of bringing the fancy into disrepute.

Fanciers ought to consider that they do a great injustice to the man who only exhibits about a dozen pens or so, as it is an absolute impossibility for such a man to win a cup for the most points. I cannot be charged with selfish motives in writing this, as I never show more than half a dozen pens at once. I take the practice on the broad basis of right and wrong.

In certain quarters, and from interested motives, one particular "firm," as the phrase goes, has been pretty roughly handled, but we should bear in mind that we ought not to make one offender the scapegoat for the rest. The offence was committed by more than one, both at Birmingham and

Glasgow, and at the last Halifax Show there were no less than four of those combinations, and by the most prominent exhibitors too. Now, I ask, if it is not time for this to be discontinued?

There is another matter which I wish to name, and that is the appointing of judges. The confidence of exhibitors has been very much shaken, and Committees ought to be careful to appoint judges of the highest ability and integrity. For my own part I consider Messrs. Corkor, Cottle, Hedley, Weir, and Charlton to be all first-class Pigeon judges, and I think the Committees of large shows would do well to secure the services of some of the number.—J. FIRTH, JUN., *Webster Hill, Dewsbury.*

IPSWICH POULTRY SHOW.

THE third annual meeting of the Ipswich Poultry Association has just closed, and with an increase of upwards of one hundred entries over the shows preceding it. The quality of the birds shown has also improved quite as much as the number of competitors. This is, of course, most gratifying to all parties, and the Show, thus fairly established, promises to vie with the largest of our poultry exhibitions. Great praise is due to the indefatigable Honorary Secretary, Mr. W. B. Jeffries, a gentleman who is always at his post, and ever willing to do the utmost to oblige every one who has any interest in the exhibition.

As to the arrangements for the Show, they are somewhat hurried owing to the very short time available after the conclusion of the market in the Corn Exchange, for putting all the pens in readiness for the birds. If, also, those varieties whose excellence depends generally on ground colour and marking, could be placed in the upper tier of pens instead of the lower one, they would be far more readily judged, and more easily inspected by visitors. The care taken by the Committee of the birds consigned to their trust, merits our highest praise.

The *Game* classes were excellent, Messrs. Fletcher & Matthew being very desirous to secure the Society's silver cup. It was taken by the latter gentleman's Duckwings, the other Game prizes falling pretty equally to both of these well-known Game breeders. *Dorkings* were unusually good, but many pens had been overshadowed. *Cochins* were first-rate classes, especially the Buff hens, and pairs of the Partridge-coloured ones. In the class for pairs of Cochins hens, two pens of Buffs were shown that are only very rarely equalled. *Hamburghs* were exceedingly good, and decidedly beyond precedent at Ipswich. In *Polish* only three pens competed, one a very good pen, but the birds so much overshadowed as to be listless, the cock was almost thoroughly exhausted; the first prize, consequently, was withheld. The *Brahma* cockerels were decidedly good, but with the exception of a pen or two the pullets were just as indifferent in markings and colour. The class for *French Fowls* was one of the best in the Show. The Selling class was a great success, and the *Pigeons* comprised numbers of the very best pens in the fancy.

This Show, as too frequently the case of late at many others, had many empty pens, upwards of 50, the birds for most of which arrived "too late for competition." When we state that judging did not begin until long after mid-day, that the birds by the rules were to be in the night before, that pens were coming in at intervals all the afternoon, and some so late as 6.30 p.m., after all the decisions were finally given in, we cannot but express a hope that some fresh arrangement may be made, particularly as so late in the year forenoon judging is most to be depended upon, and the most beneficial also to the interests of exhibitors. Certainly the last consignment of pens would have obtained four first prizes had they been received in time for general competition. These mishaps are annoying to all parties concerned.

Before closing our remarks, we cannot but briefly allude to the serious state of ill health from decided roup, that not a few pens of Bantams manifested. It is serious in two ways, it entails almost certain death on the birds so suffering, and again brings about every probability of contagion to other birds placed near them.

A very extensive and pretty collection of *Pheasants* was shown, and the general collection of *Ducks*, *Geese*, and *Turkeys* was magnificent. There was also a good show of *Canaries*, and other *Singing birds*. The weather was favourable.

GAME (Black-breasted and other Reds).—First and Third, J. Fletcher, Stoneclough. Second, S. Matthew, Stowmarket. Commended, S. Matthew; R. Hall, Cambridge; C. F. Hore, Tunbridge; Rev. F. Watson, Kelvedon.

GAME (Any other variety).—First, Cup, and Highly Commended, S. Matthew (Duckwings). Second, W. Gray, Margareting. Third, J. Fletcher *Hens or Pullets*.—First, Rev. F. Watson (Black Red). Second, S. Matthew. Highly Commended, G. M. Sexton (Black Red). Commended, S. Matthew; H. Loe, Appuldrecombe; R. Hall.

DORKINGS (Any variety).—First and Cup, F. Parlett, Great Baddow. Second, Viscount Turnour, Shillingle Park, Patworth. Third and Highly Commended, D. C. Campbell, M.D., Brentwood. Commended, J. Frost, Parham; H. Lingwood, Needham Market. *Hens or Pullets*.—First and Second, D. C. Campbell, M.D. Very Highly Commended, H. Lingwood, Highly Commended, Viscount Turnour; A. Beaumont, Ipswich; C. F. Hore. Commended, J. Frost; Hon. W. H. W. Fitzwilliam, Wentworth Woodhouse.

COCHIN-CHINA (Cinnamon or Buff).—First, Mrs. P. R. Burrell, Ipswich. Second and Third, H. Lingwood. Commended, C. Sidgwick; F. W. Rush, Hastings; H. Mapplebeck, Moseley, Birmingham.

COCHIN-CHINA (Any other colour).—First and Cup, E. Tudman, Whitchurch. Second and Highly Commended, Horace Lingwood, Martlesham.

Third, J. R. Bodhard, Wrington. Commended, C. Sidgwick, Ryddlesden Hall, Kelghley; J. K. Fowler, Aylesbury. *Hens or Pullets*.—First, H. Lingwood. Second, H. Mapplebeck. Highly Commended, Rev. G. Gilbert, Claxton; Mrs. P. R. Burrell. Commended, Mrs. Pattison, Maldon; Rev. C. Spencer, Attleborough; Horace Lingwood.

BRAHMA POOTRA (Any variety).—First, Mrs. P. R. Burrell. Second, Hon. Mrs. A. B. Hamilton, Ridgeman Viarage. Third, Major C. J. Ewen. *Hens and Pullets*.—First and Cup, Hon. Miss D. Pennant, Penrhyn Castle, Bangor. Second, J. K. Fowler. Highly Commended, H. P. Leech, Woolpit; S. Felgate, Ipswich; Mrs. Woodcock, Rearsley House; Mrs. Astley, Tring.

FRENCH FOWLS.—First and Third, Col. Stuart Wortley, London. Second and Highly Commended, J. K. Fowler (La Flèche and Crève-Cœur). Commended, O. E. Creaswell, Hanworth (Houdan); W. Dring, Faversham (Crève-Cœur).

SPANISH.—First and Cup, H. Beldon, Goltstock. Second and Highly Commended, H. Browne, Putney Heath. Third, G. M. Sexton. *Hens or Pullets*.—First and Second, F. James, Pockham. Commended, H. Browne; M. Farrand, Huddersfield.

HAMBURGH (Golden-pencilled).—First, J. B. Jessop, Hull. Second, W. K. Tickner, Ipswich. Third, H. Beldon. Very Highly Commended, G. Clarke, Long Sutton; W. & T. Bairdston, Fearncliffe, Bingley. Commended, W. Turner, jun., Ipswich.

HAMBURGH (Silver-pencilled).—First, E. Pittis, jun., Newport, Isle of Wight. Second, G. Clarke. Third and Highly Commended, H. Beldon. Commended, J. R. Jessop; Viscountess Maldon, Hertford.

HAMBURGH (Golden-spangled).—First, H. Beldon. Second, J. Laming, Cowburn. Third, T. Walker, jun., Denton. Highly Commended, H. Beldon; S. & R. Ashton, Mottram. Commended, W. McMillon, Glossop.

HAMBURGH (Silver-spangled).—First and Cup, H. Loe. Second, H. Pickles, jun., Earby. Third and Highly Commended, H. Beldon. Commended, Wren & Rly, Lowestoft.

HAMBURGH (Any variety).—First, T. Fenn (Silver-spangled). Second, Mrs. P. R. Burrell. Highly Commended, H. Beldon; F. Pittis, jun.; J. Roe, Hadfield; W. Turner, jun., Ipswich (Gold-spangled); W. K. Tickner (Gold-pencilled).

POISH (Any variety).—Second, H. Beldon. Third, Mrs. P. B. Burrell. **ANY OTHER DISTINCT VARIETY**.—First, C. Sidgwick. Second, J. K. Fowler. Highly Commended, T. Walker, jun.; Mrs. P. R. Burrell.

GAME BANTAMS.—First and Cup, W. Adams, Ipswich. Second, G. M. Sexton. Third, Rev. C. H. Crosse, Cambridge. Very Highly Commended and Highly Commended, Miss Kate Crosland, Wakefield. Commended, J. J. Cousins.

BANTAMS (Any other variety).—First, Mrs. Woodcock (White Japanese). Second, E. Cambridge (Black). Third, H. Drycock, Hummerstone. Highly Commended, J. R. Jessop; T. Walker, jun. (Black); Rev. F. Tearle. Commended, G. Manning (Golden Sibrigh); S. & R. Ashton (Black); H. Beldon.

BANTAMS (Any variety).—First, Miss K. Crosland. Second, E. Cambridge (Black). Highly Commended, J. J. Cousins (Game). Commended, Rev. E. S. Tiddeman, Brentwood (Black Red); E. Prentice, Stowmarket (Game).

SELLING CLASS (Any variety).—First, J. R. Rodhard (Partridge Cochins). Second, J. Frost (Coloured Dorkings). Third, Mrs. P. R. Burrell (Aylesbury Ducks). Very Highly Commended, W. Tjippler (Houdan). Highly Commended, Mrs. W. Brackenbury, Downham (Spanish); G. Manning, Springfield (Golden Schrights). Commended, J. K. Fowler (Silkies); Mrs. P. R. Burrell (Cochins); G. M. Sexton (Buff Cochins); H. Beldon; D. C. Campbell, M.D. (Coloured and White Dorkings).

DUCK (Rouen).—First, S. H. Stott, Rochdale. Second, J. K. Fowler. Third, F. Parlett. Highly Commended, A. Robertson, Kilmarnock. Commended, Hon. Mrs. A. B. Hamilton.

DUCK (Aylesbury).—First, Mrs. P. R. Burrell. Second, Mrs. Seamons. Third, J. K. Fowler. Highly Commended, Mrs. Pattison; J. K. Fowler; Mrs. Seamons; Mrs. P. R. Burrell. Commended, E. Lawrence, South Weald.

DUCK (Any other variety).—First and Second, T. C. Harrison, Hull. Highly Commended, F. Pittis, jun. (Black East Indian).

TURKEYS (Any colour).—First and Highly Commended, J. Berners. Second, G. M. Sexton. Commended, S. H. Stott; E. Packard, jun., Bramford.

GEESE (Any variety).—First, J. K. Fowler. Second, Mrs. Seamons. Very Highly Commended, S. H. Stott. Highly Commended, J. Berners; Mrs. W. Brackenbury (White).

PHEASANTS (Any variety).—First, P. Podd, Ipswich (Gold). Second, F. Waller, Ipswich (Gold). Very Highly Commended, Mrs. P. R. Burrell (Silver). Highly Commended, J. K. Fowler (Kaleege); Mrs. P. R. Burrell (Gold).

SINGLE COCKS.

GAME (Any variety).—First, S. Matthew (Brown Red). Second, J. Fletcher. Highly Commended, S. Matthew; G. M. Sexton (Brown Red).

DORKINGS (Any variety).—First, Miss Hales, Canterbury. Second, W. King, Ipswich. Highly Commended, Viscount Turnour; D. C. Campbell, M.D.; Mrs. Seamons, Aylesbury. Commended, F. Parlett.

COCHIN-CHINA (Any variety).—First and Commended, Horace Lingwood (Partridge). Second, C. Sidgwick (Buff).

BRAHMA POOTRA (Dark or Light).—First and Commended, Mrs. P. R. Burrell. Second, H. P. Leech.

SPANISH.—First, H. Beldon. Second, H. Browne. Commended, Hon. Miss D. Pennant.

HAMBURGH (Any variety).—First, Rev. F. Tearle, Newmarket. Second, H. Beldon. Highly Commended, W. K. Tickner.

BANTAMS (Any variety).—First, G. M. Sexton (Black Red). Second, R. R. Parker, Ipswich (Black Red). Highly Commended, E. Sberman, Chelmsford (Pile Game); C. F. Hore (Black Red). Commended, J. J. Cousins (Black Red); Rev. F. Tearle.

ANY OTHER DISTINCT VARIETY.—First, Col. Stuart Wortley. Second, H. Beldon. Very Highly Commended, Mrs. P. R. Burrell (Houdan). Highly Commended, H. Pickles, jun. (Silver Poland). Commended, Miss Hales; J. K. Fowler (Silkies).

PIGEONS.

CARRIERS (Any colour).—First and Highly Commended, R. Fulton, Deptford. Second, P. H. Jones, Fulham.

FOUTERS (Any colour).—First and Second, R. Fulton. Highly Commended, P. H. Jones.

TUMBLERS (Almond).—First and Second, R. Fulton. Highly Commended, P. H. Jones.

TUMBLERS (Any other variety).—First and Second, R. Fulton (Agate, Mottled and Short-faced). Highly Commended, P. H. Jones.
JACOBS (Any colour).—First, P. H. Jones, Second, R. Fulton. Highly Commended, J. Percival.
FANTAILS (Any colour).—First, C. Baker, Atherstone. Second, H. Yardley, Birmingham. Highly Commended, P. H. Jones.
TRUMPETERS (Any colour).—First, P. H. Jones. Second, E. Sheerman.
TURBITS (Any colour).—First, P. H. Jones. Second, J. Percival.
BARBS (Any colour).—First and Highly Commended, P. H. Jones. Second, R. Fulton.
MAGPIES (Any colour).—First, J. Percival. Second, H. Yardley. Highly Commended, C. Baker.
ANY DISTINCT VARIETY.—First and Second, P. H. Jones (Blue Owls and Yellow Dragoons). Highly Commended, Mrs. W. Woodhouse, Lynn (Blue Beards); P. H. Jones (White Owls). Extra Prize, Miss Hales (Bsgadotte). Commended, Mrs. W. Woodhouse (Blue Baldheads); Rev. F. Watson (English Blue Owls); H. Yardley; P. H. Jones (Nuns).
SELLING CLASS (Any variety).—First and Second, P. H. Jones (Barbs and Dragons). Highly Commended, C. Baker (Blue Fantails); P. H. Jones (Fantails); J. Percival (Brunswick). Commended, G. M. Sexton (Red Barbs); D. H. Feltham, Mildmay Park, London (Dun Carriers); Rev. F. Watson (English Blue Owls); H. Yardley.

CAGE BIRDS.

CANARY (Clear Yellow).—First, G. J. Barnesby. Second, Third, and Commended, R. Mackley, Norwich. Very Highly Commended, T. Fenn; G. J. Barnesby. Highly Commended, T. Fenn.
CANARY (Clear Mealy).—First and Second, R. Mackley. Third, G. J. Barnesby. Highly Commended, T. Fenn; G. J. Barnesby. Commended, T. Fenn.
CANARY (Mottled Yellow).—First and Highly Commended, R. Mackley. Second, Third, and Commended, T. Fenn. Very Highly Commended, R. Mackley; T. Fenn.
CANARY (Mottled Mealy).—First and Very Highly Commended, R. Mackley. Second, G. J. Barnesby. Third and Commended, T. Fenn.
CANARY (Mottled Crested Yellow).—First and Third, W. C. Williams, Ipswich. Second and Commended, T. Fenn. Very Highly Commended, W. C. Williams; R. Mackley. Highly Commended, R. Mackley.
CANARY (Mottled Crested Mealy).—First and Third, T. Fenn. Second and Highly Commended, R. Mackley. Very Highly Commended, G. J. Barnesby.
CANARY (Belgian).—First and Second, R. Mackley.
CANARY (Lizard).—First, Second, and Very Highly Commended, T. Fenn.
GOLDFINCH MULE (Yellow).—First and Second, G. J. Barnesby. Third, T. Fenn.
GOLDFINCH MULE (Mealy).—First, Second, and Third, G. J. Barnesby. Very Highly Commended, R. Mackley. Commended, T. Fenn.
ANY OTHER VARIETY OF MULE.—First, G. J. Barnesby (Linnct). Second, R. Mackley.
SELLING CLASS (Any variety).—First, Second, Third, and Very Highly Commended, T. Fenn. Highly Commended, R. Mackley; T. Fenn. Commended, R. Mackley.
LINNET, GOLDFINCH, OR OTHER ENGLISH FINCH.—First, Second, and Third, T. Fenn. Very Highly Commended, A. T. Cole. Highly Commended, J. Clover, Ipswich.
ANY OTHER CAGE BIRDS.—First, Second, and Third, T. Fenn.
EXTRA CLASS.—Extra Prize, Hon. Mrs. Paget, Scole.

The Judges were for *Poultry*, Mr. E. Hewitt, of Birmingham; for *Pigeons*, Mr. Tegetmeier, of London; and for *Canaries* &c., Mr. Wilmore, London.

CHESTER POULTRY SHOW.

This was held on the 28th and 29th of October, and was very successful both as regards the number of entries and the attendance of visitors. Subjoined is a list of the awards.

GENERAL COMPETITION.

DORRINGS.—First, — Arkwright. Second, A. Potts, Chester. Highly Commended, J. P. Campbell. Commended, — Arkwright.
SPANISH (Black).—First, W. Woolley. Second, J. Walker. Highly Commended, W. R. Bull, Newport Pagnell; H. Wilkinson; J. Walker.
GAME.—Cock.—First, J. Wood. Second, C. W. Brierley. *Hens or Pullets*—First, J. Wood. Second, W. Bourne. Highly Commended, — Wilcox Commended, Church & Houlding, Nantwich.
COCHIN-CHINA (Any variety).—First, T. Bott, Elton, Bury (Buff). Second, B. L. Lowndes (Partridge). Highly Commended, C. Sidgwick, Keighley (Buff).
BRAHMA POOTRA.—First, W. Hargreaves, Bacup. Second, Hon. Miss Douglas Pennant, Penryn Castle, Bangor. Highly Commended, E. Leech; Hon. Miss Douglas Pennant; J. K. Fowler, Aylesbury.
GAME BANTAMS.—First, J. Heushall. Second, R. Cooke. Highly Commended, R. Barton, Birkenhead; J. Holmes, H. Goulden.
ANY OTHER BREED.—First, J. Sichel, Timperley (Crève-Cœur). Second, P. Unsworth, Lewton (Silver-spangled Polands). Highly Commended, P. Unsworth (Black Polands); J. K. Fowler (French); Hon. H. W. Fitzwilliam, Wentworth Woodhouse (Crève-Cœur).
DUCKINGS (Aylesbury).—First, E. Leech. Second, J. K. Fowler.
DUCKINGS (Rouen).—First, J. Wood. Second, C. W. Brierley, Heywood. Highly Commended, J. J. Stott, Rochdale.

LOCAL COMPETITION.

DORRINGS.—First, E. Roberts, jun. Second, T. Burgess. Highly Commended, Earl Grosvenor. *Chickens*.—First, Cup, and Second, Miss Davies. Highly Commended, A. Potts, Chester; Bury & Barlow; Earl Grosvenor.
SPANISH (Black).—First, R. Hulse. Second, S. & R. Ashton, Mottram.
Chickens.—First, Cup, and Second, W. Woolley. Highly Commended, R. Davies; W. Woolley; J. Jeison.
GAME COCK (Any variety).—Cup, J. Platt, Swanlow. Highly Commended, Bury & Barlow (Black-breasted Red).
GAME (Black-breasted Red).—First, H. Ashley. Second, Withheld. *Chickens*.—First, A. C. Lockwood. Second, R. Ashley.
GAME (Brown-breasted Red).—Prize, T. Whittingham. *Chickens*.—First, J. Platt. Second, J. Pedley. Highly Commended, T. Whittingham.

GAME (Any other variety).—First, R. Ashley. Second, J. Wilkinson (Duckwings). Highly Commended, R. Ashley; J. Wilkinson (Duckwing).
COCHIN-CHINA (Cinnamon or Buff).—First, Withheld. Second, J. Sichel. *Chickens*.—First and Highly Commended, J. Sichel (Buff). Second, C. Layland (Buff).
COCHIN-CHINA (Any other variety).—First and Second, W. Gamon, Chester. *Chickens*.—First and Second, W. Gamon (Partridge).
BRAHMA POOTRA.—First, J. Heath, Nantwich. Second, W. Gamon.
Chickens.—First and Second, W. Gamon. Extra Second, J. Little. Highly Commended, C. Layland; C. Turner.
POLISH (Any variety).—First, J. Heath (Silver). Second, T. Walmsley (Golden-spangled).
HAMBURGS (Golden-spangled).—First, T. Burgess, Burleydam. Second and Extra Second, S. & R. Ashton.
HAMBURGS (Silver-spangled).—First, Ashton & Booth. Second, W. Lamb.
HAMBURGS (Golden-pencilled).—First, W. Lamb. Second, J. Sichel, Extra Second, J. Little.
HAMBURGS (Silver-pencilled).—Prize, W. Lamb.
GAME BANTAMS.—First, G. & W. Beckett. Second, Bury & Barlow. Highly Commended, W. Griffiths & W. Berry; J. Sichel; H. Goulden; T. Burgess.
BANTAMS (Any other variety).—First, S. & R. Ashton (Black). Second, Mrs. E. T. Belyse (Scbright).
CROSSBRED.—*Chickens*.—First, Withheld. Second, J. Little.
ANY OTHER VARIETY.—First, C. Layland. Second, W. Lamb. Highly Commended, J. Sichel; Earl Grosvenor. Commended, Rev. A. O. Pittar.
SELLING CLASS (Any breed).—First, Miss Davies (Porking). Second, W. Bourne (Brown Red Game). Highly Commended, W. Bourne (Brown Red Game); E. Davies (Black Spanish); Miss Davies (Dorking and Rouen Duck).
TURKEYS.—First, J. P. Campbell. Second, J. Chamberlain. Highly Commended, Mrs. E. H. Filling.
GOSSINGS.—First, Rev. J. Harrison, LL.D. Second, T. Rigby.
DUCKINGS (Aylesbury).—First, Mrs. M. Horby. Second, E. H. Filling.
DUCKINGS (Rouen).—First, Miss Davies. Second, Miss H. Walker. Highly Commended, Miss Davies. Commended, J. Pickering; J. Little.
DUCKS (Any other variety).—First, J. Sichel (Carolinas). Second, J. P. Campbell (Call Ducklings).

PIGEONS.

CARRIERS.—Cock.—First, Second, and Highly Commended, W. Gamon. *Hen*.—First and Second, W. Gamon. Highly Commended, F. Graham; W. Gamon. Commended, J. Pitt.
POUTERS.—Cock.—First, Second, and Highly Commended, W. Gamon. *Hen*.—First, Second, and Highly Commended, W. Gamon.
TUMBLERS (Almond).—First, J. S. Skidmore. Second, F. Graham. Highly Commended, J. S. Skidmore; A. Boote.
TUMBLERS (Balds or Beards).—First, C. A. Bowles (Blue Beards). Second, F. Graham.
TUMBLERS (Any other variety).—First, F. Graham (Mottled). Second, F. C. Bradley (Kites). Highly Commended, J. S. Skidmore (Kites); J. Grice (Agate).
TUMBLERS (Any variety, not Short-faced).—First, E. J. Baillie (Yellow). Second, W. Deuson (Rough-legged Yellow).
DRAGONS.—First, F. C. Bradley. Second, Master C. Gamon. Highly Commended, E. Butterworth; H. Prince; Master C. Gamon.
BARBS (Black).—First and Second, C. A. Bowles.
BARBS (Any other colour).—First and Second, C. A. Bowles.
NUNS.—First and Second, W. Bankes.
FANTAILS.—First and Highly Commended, J. F. Lowe. Second, J. S. Skidmore.
JACOBS.—First, C. A. Bowles. Second, F. C. Bradley.
TRUMPETERS (White).—First and Second, Master J. Gamon. Highly Commended, T. B. Bowers; Master J. Gamon.
TRUMPETERS (Any other colour).—First, Second, Highly Commended, and Commended, Master J. Gamon.
OWLS (Foreign).—First, C. A. Bowles. Second, F. Graham.
OWLS (English).—First, A. Boote. Second, C. A. Bowles. Highly Commended, F. Graham.
TURBITS.—First and Second, J. F. Lowe. Highly Commended, J. F. Lowe; H. Prince.
RUNTS.—First, C. A. Bowles. Second, F. Graham.
ANSWERS.—First, W. Bourne. Second, T. Walmsley.
ANY OTHER VARIETY.—First, J. F. Lowe (Black Lahores). Second, J. S. Skidmore (Spots). Highly Commended, J. F. Lowe (Black Swallows and Yellow Magpies); F. Graham. Commended, C. A. Bowles (Lahores).
 Amateur's Cup for greatest number of points in Pigeons awarded to Mr. C. A. Bowles.

The Judges were Mr. Joseph Hindson, Everton, Liverpool, and Mr. John Douglas, Clamber.

NORTH ORMESBY CANARY SHOW.

The second annual Exhibition of this Association was held October 24th. It was a decided improvement on the Show of last year, in the number of entries, variety, and quality of the specimens. There were 207 entries. The Belgians were not numerous, but the prize birds were very superior. The Norwich class prizes were numerously competed for, and all the prize birds were of excellent quality. Variegated Mules formed a good class, and the first-prize bird was of rare merit. The Lizards were remarkably good, there not being an inferior bird entered. The Crested were really excellent specimens; Mr. Blakston, whose "Guide to Canary Fanciers" appeared in our columns, took the first and second prizes in the Dark Crested class with two very superior birds. In the Clear Crested class, Mr. Moore, of Northampton, took the first prize with one of the most perfect specimens ever exhibited, the second-prize bird was also a rare bird. The Cinnamons were good, and the prize birds very deserving. In the "Variety class" Mr. Hawman took the first prize with a perfectly marked Belgian; the other birds in this class were also good. In the other classes the competition was close, and the quality excellent.

Annexed is the prize list:—

BELGIAN (Clear Yellow).—First, W. Bulmer, Stockton. Second, J. Robson, Middlesborough. Very Highly Commended, W. Inson, Redland.
BELGIAN (Clear Buff).—First and Second, G. Tomlinson, Stockton. Very Highly Commended, W. Bulmer.
NORWICH (Clear Jonque).—First and Very Highly Commended, Irons and Brothers, Northampton. Second, R. Simpson, Whitby.
NORWICH (Clear Buff).—First, Irons & Brothers. Second and Highly Commended, R. Hawman.
NORWICH (Variegated Jonque).—First, G. Moore, Northampton. Second, J. Baxter, Newcastle. Equal Second, R. Hawman.
NORWICH (Variegated Buff).—First, J. Wynn, Northampton. Second, R. Hawman. Very Highly Commended, S. Tomes, Northampton.
GOLDFINCH MULE (Variegated Buff).—First, R. Hawman. Second, J. Robson.
LIZARD (Golden-spangled).—First, J. Taylor, Middlesborough. Second, J. Stainby, Darlington. Highly Commended, W. Burniston, Middlesborough.
LIZARD (Silver-spangled).—First, J. Taylor. Second, J. Jackson, Crook. Highly Commended, J. Stainby.
ANY BREED (Dark Crested).—First and Second, W. Blakston, Sunderland. Highly Commended, G. Moore.
ANY BREED (Clear Crested).—First, G. Moore (Norwich Crested). Second, Irons & Brothers (Norwich Crested). Very Highly Commended, S. Tomes.
CINNAMON (Jonque).—First, Irons & Brothers. Second, W. Bulmer. Very Highly Commended, S. Tomes.
CINNAMON (Buff).—First, G. Moore. Second, W. Cotton. Highly Commended, J. Baxter.
COMMON (Clear Yellow).—First, W. Winter, Gnisborough. Second, E. Winter, Gnisborough. Very Highly Commended, J. Jackson.
COMMON (Clear Buff).—First, C. Swanson, North Ormesby. Second, J. Iocley, Highly Commended, J. Yeoman, North Ormesby.
COMMON (Variegated Yellow).—First, R. Hawman. Second, E. Graham, Middlesborough.
COMMON (Variegated Buff).—First, R. Hawman. Second, J. Stevens, Middlesborough-on-Tees.
CANARY (Green).—First, J. Jackson. Second, M. Stelling, Willington, Durham.
ANY OTHER VARIETY.—First, R. Hawman (Variegated Belgian). Second, W. Bulmer (Variegated Belgian).
GOLDFINCH MULE (Dark).—First, C. Burniston, Tanstall. Second, T. Robinson, Middlesborough. Very Highly Commended, M. Stelling.
GOLDFINCH (Mottled).—First, J. Baxter. Second, J. Taylor. Commended, M. Stelling.
BROWN LINNET (Mottled).—First, W. Bulmer. Second, W. Burniston. Commended, M. Stelling.
ANY OTHER VARIETY OF BRITISH BIRDS.—First, T. Mann (Blackbird). Second, H. Garbutt (Magpie). Very Highly Commended, J. Eggleston (Bullfinch).
CAGE OF CANARIES.—First, J. Yates, Middlesborough. Second, J. Stevens. Very Highly Commended, W. Inson; W. Cotton.
JUDGE.—Mr. J. Chapman, Bishop Auckland.

orange as at once to distinguish it from all other Canaries, and especially from the common Canary, in which, let the colour be as high as it may, there is always a nasty tinge of green peculiarly distasteful to the eye of a fancier. Why the common Canary should find its way into our exhibitions I cannot imagine, unless it be from its having strong local interests. Some men ignore colour altogether, breeding only for markings, and with such these birds find favour. However, I intend next week to say a word on exhibitions and prize schedules, when I shall be able to go into this circumstance more fully.

When a bird is troubled with the "pant," *alias* the "blow," *alias* "asthma," warmth is the grand panacea. Keep your bird warm. Your diet is good.—W. A. B.]

THE BERKSHIRE BEE HIVE.

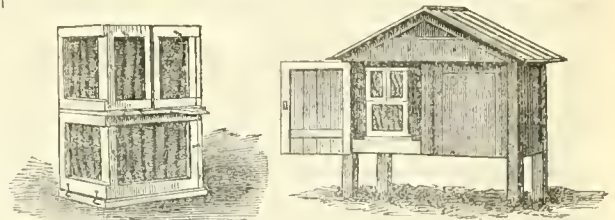


Fig. 1.

Fig. 2.

Fig. 1 represents the Berkshire bee hive, comprising a store box and two supers, with framed glass sides and back, bottom board, slides, &c. The shutters are withdrawn to show the honeycomb. The supers would each contain about 20 lbs. of honey; by removing a full one and replacing with one empty they admit of unlimited room being given, and so prevent swarming. They have the advantages of glass without its disadvantages; and each super is made to cover half the hive, and so to economise the space.

Fig. 2 is a back view of the Berkshire bee shed for two hives, with two framed doors, and a ventilating door in the gable. One door is open to show the interior.

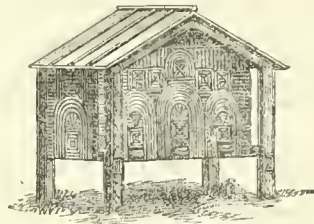


Fig. 3.

Fig. 3 is a front view of the Berkshire bee shed for three hives. The patterns are rustic and ornamental, being worked with green rods of various shades, interspersed with fir. These sheds have a projecting front, sheltering the bees, and are made to stand very firmly.

THE HONEY HARVEST IN IRELAND AND EN SCOTLAND.

A CORRESPONDENT who writes from the neighborhood of Manchester says:—"It has been a great year for honey in Ireland as well as in Scotland. One hive came to Liverpool without bees or board, which weighed 9 stones (126 lbs.); and the huge cakes of honeycomb now being carried about for sale in this neighbourhood indicate both large and heavy hives."

VARIETIES OF THE CANARY—DISORDERED BREATHING.

WHAT is the difference between a Norwich Canary and a common Canary? I see at all the best shows the Norwich is put first in the schedules, the Belgian second, and the common third. I have never seen a good show where prizes were offered for all; but I have had birds offered to me for sale said to be real Norwich, but I could never see any difference in them from our ordinary Yorkshire birds.

Is there any cure for the disease which I believe Canary fanciers term the "pant," but which I think you describe in your little book on Canaries as asthma? I have bred a few for the last ten years, and they have never been troubled with any other complaint. They sit gaping and wheezing, and the pulsation is so strong it can be seen to move the feathers—in fact, the whole body of the bird. What is the cause of it? You state that asthma is caused by the birds hanging in draughts; but it cannot be so in my case, as the birds are in breeding cages with both ends closed, and stand where there is no draught. I give seed in the following proportions—2 lbs. canary, 1 lb. rape, and $\frac{1}{2}$ lb. linseed, with soaked bread, egg, and green food at intervals. It has always come on during the breeding time.—CANARIENSIS.

[There is a very wide difference between a Norwich Canary and an ordinary York-shire bird. The latter is the larger, stronger, and coarser bird of the two, and vastly inferior in colour, which in the Norwich bird is of such a pure shade of

LIGURIANS FOR, AND ANONYMI FROM, THE CAPE OF GOOD HOPE.

RATHER more than two years ago, a gentleman about to leave this country for Cape Town applied to me to supply him with a stock of pure Ligurian bees, packed in such a manner as should enable him to convey them by mail steamer to his new African home with a fair chance of their surviving the voyage. After having in 1862 succeeded in the far more difficult task of transporting Italian bees to the antipodes, I had, of course, every confidence in my ability to pack them for the shorter journey to the Cape of Good Hope, and had, therefore, little fear as to the result, when, on the 10th September, 1866, the Royal Mail Steamer, belonging to the Union Steam Ship Company, took her departure from Plymouth for Africa with decidedly more emigrants on board than usual, seeing that in addition to her ordinary complement of passengers, she conveyed some thousands of the genus *Apis*, probably the first of their species ever exported to that continent, which already possesses more than one indigenous variety of the honey bee.

Although, as I have said, feeling but little anxiety as to the result, I have from time to time given a thought to the fate of

these involuntary little voyagers, and have often wondered whether, after being the first to succeed in introducing the Ligurian variety of honey bee into England, and afterwards in exporting it to Australia, I should also be successful in transmitting it to Africa. These speculations, however, remained in abeyance until February in this year, when a letter reached me from the Cape by which I learned that the Italian stock had reached that colony in safety, but vastly diminished in numbers, nearly five thousand having died. However, after sundry difficulties, they had ultimately been established, and the object which my correspondent had in writing was to obtain from me two more Ligurian stocks, he having unfortunately lost his only pure-bred Italian queen through an accident at a time when there were no drones in the hive.

He also informed me that he had found at Cape Town two native varieties of the honey bee—"one small black, and the other, except in size, the exact counterpart of the Ligurian," and most kindly offered, if I would like to have a stock, to try his hand at packing one, and to send it by steamer to Plymouth. Turning this description over in my mind, I came to the conclusion that the variety which, except in size, was the exact counterpart of the Ligurian, could be no other than my old friend, or, considering the terms on which we eventually parted, I might rather say, enemy, the ferocious Egyptian bee, *Apis fasciata*, which so nearly simulates the Italian variety that the Rev. H. B. Tristram, author of "The Land of Israel," who found it amazingly abundant in Palestine, was misled into declaring that *Apis ligustica* was the common Holy Land insect. This conjecture was confirmed in a subsequent letter from my South African correspondent, wherein he stated that his experience of the "diminutive of the Ligurian" was similar to my own in that they were "very savage." It is certainly not a little singular that identically the same variety of honey bee should be found in the extreme south as exists in the north of Africa and adjoining parts of the Asiatic continent; but as, although separated by so vast a distance, it was but too apparent that there was no amelioration in the pugnacity of their disposition, I respectfully declined to avail myself of the opportunity thus offered of renewing my acquaintance with the "pretty yaller gals," electing rather to transfer my attentions and pay court to the very interesting but anonymous little African "niggers," which my friend had somewhat vaguely described as "small black" bees.

Pending the receipt of farther intelligence, I made an effort to penetrate the incognito of my intended *protégées* by submitting the question to my friend Mr. F. Smith, the distinguished hymenopterist of the British Museum, who, however, could only surmise that "the small black bee possibly is the *A. Adansonii* of Latreille, which I suppose to be synonymous with *A. nigritarum* of St. Fayeau—*A. unicolor* of Latreille, and which M. Gerstaecker considers a variety of *A. mellifica*." I am of course unable to say how far this hypothesis may be correct, but supposing the small black bee of the Cape to be merely a variety of *Apis mellifica*, it is difficult to imagine how the native species or varieties can exist together in the same locality and yet keep themselves distinct. We know with what facility *A. mellifica*, *A. ligustica*, and *A. fasciata* will cross and interbreed with one another, and that this is at least equally the case on the continent of Africa is proved by one of my correspondent's letters, wherein, referring to the breeding of Ligurians in connection with Mr. Köhler's process, he says "it is the one thing required here, where bees of at least two or three kinds are common." These speculations can, however, only be set at rest by the arrival in England of the anonymi themselves, which I now hope may be deferred until next spring, although I have been expecting them during the past two months. My last letter from the Cape, dated the 18th of July, says, "Our native bees do not much like the notion of taking a voyage, at least so it seems, as two or three I have been preparing for you have deserted their boxes entirely, leaving brood in all stages, and betaken themselves to their native mountain wilds. I have four or five, however, now well established, and hope either by next mail, or perhaps a month hence, to be able to pack one or two off in such condition as to reach home alive. So don't be surprised at hearing some *Africanders* knocking at your door."

Although no "*Africanders*" have as yet knocked at my door, it will not now be very long before their own country is again the scene of an Italian invasion, for the Royal Mail steam ship "*Saxon*," which took her departure from the port of Plymouth early in the morning of the 10th of October, was freighted with two strong bodies of apian *Caribaldini* in the shape of a couple

of Ligurian stocks, which by the kind offices of a local friend were carefully stowed on board in capital condition, and which, by the time this article appears, will be fast nearing that coast "where Africa's sunny fountains roll down their golden sand."
—A DEVONSHIRE BEE-KEEPER.

OUR LETTER BOX.

KEIOULEY POULTRY SHOW (T. Dean).—Poultry committees usually announce in the rules of their exhibitions, that they will not be responsible for losses. You have been very unfortunate, but we do not see where blame attaches.

PROMOTING FEATHERING (Lemon Buff).—The food that is most beneficial to fowls when moulting, is that which is at the same time nourishing and cooling. Ground oats mixed with water; these may be given twice every day, say morning and evening; at midday, give some whole barley, with at times a few peas, say once a week; green food at all times, and lettuce is very beneficial. The growth of feathers from the skin of the bird is very much like that of vegetables, root crops, or corn from the earth. Both require moisture. As the sun dries up the earth and prevents growth, so stimulating and heating food causes fever of the skin, and prevents the formation of feather.

GAME COCK'S BEAK BROKEN (Inquirer).—We can hardly understand how your Game cock's beak is broken off up to his nostril, and yet that the lower part projects but the eighth of an inch. The accident is not very important, as it could not have been done to conceal a defect. In close competition it would be sufficient to turn the scale. If, however, the bird in every point were superior, the broken beak would not be important.

SELECTING A WHITE DORKING COCK FOR EXHIBITION (White Dorking).—You should state the weight of the three birds. The first is clearly an unfit bird for exhibition. The second may be heavy enough to carry a slightly crooked breast through. Send us next week the weight of the last two, we can then advise you with confidence. The hens should be square, full in shape and hand, short-legged, five-toed, pure white, and have sharp intelligent heads. There is a contrast between the red faces and white plumage that we do not get in the coloured varieties.

HOUANS (October).—Red feathers disqualify a Houan cock hopelessly. Choose the heaviest pen provided all are equally well-shaped. Take those with the black body colour well splashed with white. See that the legs are mottled, and the five toes well defined. They must be well bearded.

WHITE AND BLACK BANTAMS (Idem).—Yellow and white legs are preferred to blue for White Bantams. Black Bantams should have black or blue legs. Single or double combs may be shown in a White pen provided all agree. In Black the double is so much preferred as to be almost essential to success. The Black Bantam must have a white ear-lobe. It is immaterial for the White.

CHARACTERISTICS OF A LA FLÛCHE COCK (Irish Subscriber).—The La Flèche cock should be very tall, upstanding, and heavy. He should have white ear-lobes, scrupulously black plumage, rich in metallic lustre. The hen should have the same points, and both should have the two-horned comb; and the cock should have the small comb below the principal one, just over the nostrils.

MANAGEMENT OF BUFF COCHIN-CHINAS (A. D.).—You can only make your perches round at top and raised 24 inches from the ground. Many of the birds (being Cochins), will still prefer to roost on the ground. If the ground is kept quite clean they will not suffer from it. We speak from experience. The Light are preferred to the Dark. The desideratum in colour is to get them of a pure lemon. The white feathers on the wing are what are called "merly," and are not desirable. The hackle should not be much darker than the body. The tail feathers will be always a little darker than the others, but nothing is more appreciated both in cocks and pullets than one uniform colour of plumage, without mixture of black or any other colour.

CHEA BLEY (—).—Apply to some farmer in your neighbourhood.

INCUBATOR (L. B. Bushell).—Several have been advertised in our Journal, and we cannot recommend one more than the others, never having tested them.

ROBBER BEES (J. Riell).—What are ordinarily called robber bees are those from strong hives which when honey is scarce are continually on the look out for the opportunity of pillaging the stores of others. The insect which you enclose is not a bee, but like the house fly has only two wings, and belongs therefore, to the Dipterous order.

REMOVING BEES—TRANSFERRING BEES (A Subscriber).—The removal of a strong stock of bees by market cart, rail, and cab in the middle of June was rather a risky operation, and considering that you appear to have kept the hive on its floor-board and to have possessed no facilities for affording extra ventilation, we think you were fortunate in effecting it with no greater loss than about a quart of bees and one comb. The check which the stock sustained was, however, sufficient to account for its not swarming. If you wish the bees to take possession of the bar hive you should leave but one entrance, and that the one which is at present in use. In April transpose the two hives so as to compel the bees to work from their old entrance but to traverse the empty apartment, which they will probably soon take possession of and rapidly fill with combs. In due time the seat of breeding will be transferred to the bar hive, and then the old one, with its contents, may be taken possession of by the owner. The objections to this apparently easy mode of proceeding are, that the bee-keeper obtains only inferior honey in old combs, whilst so great a proportion of drone comb is liable to be built in the new hive as may seriously interfere with the future prosperity of the stock. We doubt whether your bees have sufficient food to last the winter, but cannot tell without knowing the weight of the hive when empty. Its nett contents should be at least 20 lbs.

POULTRY MARKET.—NOVEMBER 4.

We are tired of recording that there is no trade, and that things look dull and unprofitable, but it is so, and we see little prospect of a change.

WEEKLY CALENDAR.

Day of Month	Day of Week.	NOVEMBER 12—18, 1868.	Average Temperature near London.			Rain in last 41 years.		Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moens' Age.	Clock after Sun.	Day of Year
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	m. h.	Days.	m. a.	
12	TH		50.5	34.0	42.2	17	14 af 7	13 af 4	21 af 4	46 3	28	15 39	317	
13	F		60.0	35.5	42.8	22	16 7	11 4	37 5	13 4	29	15 30	318	
14	S	Royal Horticultural Society, Promenade, 23 SUNDAY AFTER TRINITY.	48.4	33.6	41.0	19	18 7	10 4	52 6	44 4	30	15 20	319	
15	SUN		48.9	34.8	41.8	19	21 7	9 4	4 8	19 5	1	15 10	320	
16	M	[and General Meeting.	49.0	35.0	41.0	14	22 7	7 4	10 9	1 6	2	14 58	321	
17	TU	Royal Horticultural Society, Fruit, Floral, Royal Jersey Horticultural Show.	48.1	33.9	41.0	19	23 7	6 4	9 10	48 6	3	14 48	322	
18	W		48.1	33.0	40.5	20	25 7	5 4	59 10	33 7	4	14 33	323	

From observations taken near London during the last forty-one years, the average day temperature of the week is 49.0°; and its night temperature 34.3°. The greatest heat was 63°, on the 12th, 1841; and the lowest cold 18°, on the 15th, 1848. The greatest fall of rain was 1.16 inch.

WHAT TO DO AND WHAT TO AVOID IN THE VINERY.



MR. ROBERTS, at page 279, has, in an able and elaborate article, stated his views on Grape-shanking in a manner sufficiently clear and logical to be understood by all interested in the subject.

I agree with Mr. Roberts to the full extent of the opinion he has stated so explicitly, but it is because I wish to go a step further that I enter on the subject which he has opened. I give Mr. Roberts credit in going

to the "root of the matter." He has literally bottomed the subject. I am more ambitious, and aspire to a higher view, and will spend an evening's hour at the top of the question; for, after all, it is there that our hope and interest centre.

Good Vine borders are absolutely necessary for the production of good Grapes, and what constitutes a good border may be clearly gathered from Mr. Roberts's article—viz., material, warm, dry, open, and lasting. Unfortunately these good borders, which have been prepared with so much care and at so much cost, are very capricious in the quality and quantity of the Grapes they were confidently intended to produce. I once heard a gentleman say he had sunk £100 in Vine borders, and had lost both principal and interest in the transaction, although he had waited ten years for a return. Notwithstanding the lapse of this period, he was premature in his judgment; he ultimately, without changing the border, or the varieties of the Vines, obtained good Grapes.

I have seen shanked Grapes cut out by the bushel. Bad border, of course! A new one made, but still the shanking, like a pestilence, held sway in the house. These Vines are now changed in character—not in variety—but the border is still there, and both are now doing good and satisfactory service.

In these instances, and I think they are not solitary ones, the cause of the mischief was primarily at the top. I believe, indeed, that the roots of the Vines were not in a healthy state, but I hold this to be the effect and not the cause of the unhealthy state of the Vines. Reciprocity of action between root and branch is a law of nature which cannot be broken or checked with impunity. As soon as a diseased root-state occurs, it is followed by diseased branches and fruit; and as soon as a diseased or imperfect state of branch or leaf development occurs, it is followed by decayed roots. This last fact is sometimes, I think, overlooked, and, as a consequence, a wrong stand point is occasionally taken as the basis of reasoning in diseases of the Vine and other subjects of the vegetable world.

No hesitation need be felt before concluding that much disappointment is felt and expressed as to the disproportion of the value of the Grapes received in return for the outlay incurred in the preparation of borders. Nor is this disappointment confined to amateurs; on the contrary, many very industrious and worthy gardeners have keenly suffered on this point. They have made borders, and not only invested in them the owner's capital, but their own

good reputation, in the hope of a return commensurate with the outlay, but in place of the bountiful harvest so confidently anticipated, have had to mourn over a comparatively barren and indifferent yield. This is no mere sketch of fancy, but an everyday fact. I grant that a great expenditure of money and labour does not necessarily result in a good and in-every-way suitable border. Many egregious mistakes have been made on this head. I am at the same time unwilling to believe that the majority of borders carefully made are incapable of growing good Grapes, if managed in conjunction with careful and proper top treatment.

I do not seek to depreciate good Vine borders—I advocate the best possible border formation. It is these, combined with the best top treatment, which afford the finest specimens of Grapes; but it is only by this combination that a Vine border can insure the perfect growth of the Vines. A good border will do much, but will not do all that is required. Vines planted in ordinary garden soil, and receiving sound and careful top treatment, will be more satisfactory than Vines which are planted in a really first-class border, and receive only indifferent top management.

It may reasonably be asked, What constitutes good summer management of a vinery? Here there is a slight difference of opinion amongst cultivators. It will only be fair, then, if I state my views on the question, and the principles on which they are founded.

A just equilibrium between root and branch—a perfect harmony between supply and demand—is the object to be attained. This is the essence of the whole matter.

To obtain these essentials for the leaves—light and air, the great point to be attended to is to train Vines thinly; 3 feet 6 inches should be the minimum distance apart for the rods, training them 16 inches from the glass, and the eyes or spurs on the rods should not be less than 15 inches apart. These distances will allow for the full development of foliage and its exposure to the light, provided the pinching of laterals is properly attended to. Train the young growths regularly and equidistant, stopping them soon enough to prevent overcrowding. Two or three leaves beyond the bunch may be allowed. As a rule my best fruit is obtained by stopping at the third leaf, and the worst by stopping at the first leaf beyond the bunch. Get these primary leaves in working order as soon as possible by pinching out all axillary productions.

As a rule, this persistent summer pinching is not sufficiently attended to. That letting laterals run by the yard, and cutting them out by the armful, can be beneficial to the Vines I cannot comprehend. Talk of inducing root action, that is doing it with a vengeance, and for what purpose? I am aware it is not that the roots should decay, yet this is too often the result, and then the border is blamed! Secure seven or eight properly-developed leaves on every spur, and they may safely be left to govern the roots, which will progress far more naturally and beneficially than by the push-and-erop system, which we are obliged to see so commonly adopted. It was by the adoption of the system above described that the Vines

first noticed at the beginning of my paper, were renovated without making a new border.

I will now glance at the ventilation. I am sure mischief is done in many instances by the careless and lax manner in which this is attended to. An error always to be avoided is the admission of a great amount of external air by the front lights during the early stages of the Vine's growth. Unless means are adopted so that the air entering by the front ventilators is previously rendered warm and moist, it is the safer and better plan to conduct ventilation solely by the top lights, at least during the months of February and March, and part of April—that is, if the Vines are in active growth at this period. One of the most inveterate instances of Grape-shanking which has come under my notice was caused by injudicious ventilation, and, by changing the system adopted, striking and beneficial effects were produced. This instance, and others which I have met with in my practice, have impressed me with an opinion that ill-managed ventilation is a predisposing cause of shanking. In the case referred to the front lights were regularly opened, and left open for hours together during the spring months, and the dry cutting air was suffered to enter uninterrupted. The consequence of this influx was that the warm, moist, genial air was immediately forced out by the top ventilators, and was replaced by the dry, heavy, and ungenial air admitted. Further, the cold rush of the external air constantly striking the stems of the Vines would seriously check the ascending sap, and not only so, but the very dryness of the air would abstract the moisture from the young shoots and leaves, the surfaces of which would be so much cooled by evaporation as to give them a serious and disastrous check. Here is a combination of evils which must naturally flow from such a system—evils which must and did tell on the Vines during the whole season of their growth. Unless the hand can be held for a length of time to the apertures by which front air is admitted without any feeling of discomfort from cold, it is better to keep them closed, and rely solely on top ventilation. The natural expansion of air on its being heated will always insure its escape, and the weight of the cold external air, as compared to that in the interior, will always insure the descent of the former.

Another important point is to give air early, and increase it gradually as the temperature rises, and not let the house attain its maximum heat, and then have to give an excess of air at once to reduce the heat. In short, let ventilation follow a rise of temperature, instead of a fall of temperature follow an increase of ventilation. As a safety valve it is a good practice to admit a little air at top all night.

As to temperatures, I will begin by saying, Avoid high temperatures, especially by fire heat, and at night. If the border is heated, the Vines are not so susceptible of injury from a rather high temperature. If, however, the border is not artificially heated, keep the house temperature as low as possible consistently with a steady healthy growth. This is doing the best we can to secure an equality of temperature between root and branch—a great desideratum. Let light and temperature always go together. This may be called old advice, but that simply suggests that it is sound by its having stood the test of time.

A sun heat of from 80° to 85° will not be excessive if in conjunction with a good system of ventilation. The solar heat must be economised; therefore as soon as the thermometer shows a falling tendency reduce ventilation, and continue to reduce it until the house can be closed at the heat above named. This economy of sun heat enables us to economise in another quarter—the coal heap, and the Vines will be the better of it. If the maximum day temperature be 80°, a minimum night temperature of 55° will be safe. This applies to the period when the foliage is expanded. Before the leaves reach this stage the temperature must be proportionally lower. Except, perhaps, just at the time when they are setting their berries, I find Black Hamburgs receive no injury by a night temperature of 50°, and one of 60° is quite high enough for a day temperature by fire heat solely. High night temperatures arouse unduly the natural excitability of the Vines. Comparatively low night temperatures cause a cessation of the vital, and assist the secretory functions. Some varieties, as Muscats, require a somewhat higher temperature. When relying solely on fire heat, be up in the morning and have the day temperature up to its figure as soon after daylight as possible. I would specially press this point.

Now, as to moisture, during a high temperature use it liberally, and during a low temperature sparingly. Syringing twice

a-day under all circumstances of temperature is bad practice. On some days damp the paths, walls, &c., half a dozen times, on others scarcely damp at all. In this, as in all other things, exercise thought. The absorbing power of the foliage is greatest in the afternoon, when the house is closed with a good sun heat. This is the time for feeding. Give ammonia freely. The Vines enjoy it; insects detest it. Water the paths, pipes, flues, &c., with water, in which guano is dissolved at the rate of 2 ozs. to the gallon. More than this will not hurt them, but this is a safe proportion, and will not fail to act beneficially; but use it only when the leaves are expanded, and not before.

The last, but not least important is cleanliness. Uncleanliness, from whatever cause arising, is entirely subversive of success in Grape-growing, and renders all previous care and attention of little or no effect. The foliage must be kept free from dirt and insects. To guard against the former, I never allow any dust to rise in sweeping the paths of the house, &c. This is a trifle of some import. Neither do I syringe, so that I avoid any sediment and incrustation from the water. Red spider I never see; any other insect seldom. In some localities syringing may be necessary to cleanliness. I do not find it so here. I know something of the atmosphere of a manufacturing city; good washings with the syringe and pure rain water are there occasionally requisite. Use this and any other means at command that may be needed to ensure cleanliness. This treatment will give fine, dark green, leathery foliage, which will bring up the best elements of the border, and render them fit for appropriation by the Vines. Injudicious top management will negative the best effects of the best border that ever was made.

And, now, do I practise the system described? Yes, except on one point; and though I have an outside border just 10 feet wide, and the roots a foot and more beneath the surface, I obtain a satisfactory yield of Grapes, and have next to no shanked berries. I have for the border in winter wooden shutters, which I highly recommend; yet, notwithstanding, were I to allow the laterals to grow, and cut them out by the armful, instead of being able to put those pinched from an entire house in my pocket, or were I to allow the dry chilling air to cut or dry the young growth, or otherwise allow the Vines to be subjected to any course of unnatural treatment, I should expect—and I know from experience that my expectations would be realised—shanked Grapes in quantity.

But the exceptional point. Well, I am a servant. My employer is explicit in his requirements, and my duty is plain. Two or three ordinary-sized bunches are more useful than one large one. With a rather limited expanse of glass devoted to Vines, my object is to make the Grape season as long as possible. We cannot easily cut half a bunch of Grapes, or a bunch and a half; but by having a number of different-sized bunches I can meet daily demands to a nicety. My Vines, then, are not all 3 feet 6 inches apart; some are, and they give the best Grapes, but as a whole they answer their purpose so well, that I do not feel justified in recommending a change. But were I required to grow large individual bunches, I should at once thin the rods. I should then bare the roots, and put on a few inches of light turfy loam and bruised charcoal, and draw the roots upwards by covering the border with heating material to accomplish my object. This treatment will keep Vines in vigour and fruitfulness for many years.

I will conclude my evening's exercise by quoting and placing together a maxim from Mr. Roberts's article and one from my own:—"Afford the Vines a warm, dry, and open soil, and shanking will be less frequently seen." "Devote as much care, attention, and study to the house management of Vines as is given to border formation, and inferior and shanked houses of Grapes will be far less common."—J. W.

[We have seen specimens of the Black Hamburg Grapes and the foliage of the Vines obtained by our correspondent—they were all that can be desired in Vine culture.—Eds.]

A FIGHT WITH A FLUE.

One night in November, some year ago, I was sitting very comfortably before a warm fire in my study, talking with a younger brother, an engineer in London, who had come down to spend a few days with me, when my servant came in to say that John wished to speak to me. It was after nine o'clock, and I wondered very much what John wanted; so I went out at once to see him, and was thus greeted.

"Please sir, I am sorry to say I can't get the fire to go in

the span-roof." This "span-roof" was a greenhouse I had just finished. Everything belonging to it had been planned by myself after much consultation with many friends skilled in horticulture, and I felt very proud of it, thinking I had built a very perfect little house at a moderate cost. I particularly rejoiced in the flue, which went up the centre of the house and returned over itself, thus forming a neat pathway, while the heating apparatus was nearly hidden from sight, and consequently took up no valuable room in my little "place." About two thousand cuttings of Pelargoniums struck in boxes were placed in this house; and as it had been cold and cloudy all day I rather expected a frost at night, and had given John directions to light a fire. This John was a young man of eighteen or nineteen, and had only just come to me. I did not like to be very round with him on so short an acquaintance, but I asked him rather sharply why he had not come to tell me sooner.

His reply was, "Please sir, I heard 'em say Mr. Tom was down from London, and I did not like to trouble you, for I thought I could make the fire go; but I have lighted it ever so many times, sir, and it won't."

I said, "I don't think you've tried the right way, for 'old Walker put a fire in the house several nights before you came." (But "old Walker," who managed my garden when I happened to have no regular man, had told me to my great chagrin that "there seemed to be no draw at all in that new-fangled flue, and I had better have it altered before winter, or I should be certain to have the frost in the house and have all my plants killed.") John replied, "I have tried all I know, sir, and it won't burn."

I said, "What sort of a night is it? Have you any dry sticks?" John answered that it looked likely for rain, but might clear off and freeze when the "moon" got up. He had burnt all his dry sticks and shavings, and had not one left.

This was a nuisance, but John was already a favourite with the women of the establishment, and to my surprise the housemaid offered part of her stock of firewood. Armed with this and a shovelful of red-hot cinders from the kitchen fire, we marched to the greenhouse and tried again to light a fire. As I went down into the firehole John told me to be careful, for the fire "plopped back;" and so it did, nearly singeing me badly, and filling the pit with flame and smoke. But it was of no use; the fire would not burn, and soon died out as before. We gave it up for that night, and I directed John to have a great quantity of wood dried as soon as possible in the morning, and we would begin early and have a day at it if necessary. I went to bed, but not to sleep, for I was very anxious about my plants, and got up many times in the night to look out of the window. Fortunately it did not freeze, and towards morning began to rain steadily and heavily.

Well, then, after breakfast next morning I set off with my brother to attack the flue, and John having provided a tremendous lot of dry firewood, we commenced operations. I tried every dodge that I could possibly think of, but the kindling was all done before I could raise a fire. I felt beaten with my own invention, and having sent John to the wheelwright's shop for "a few more shavings," I turned to my brother and asked him how it was. I had bragged rather largely of my house and the skilful way in which the flue was built, and I saw he smiled when he replied, "I think you are like a great many more I have heard of; you have contrived a very wonderful machine, but it is quite beyond your power to work it. Neither you nor your man knows anything at all about what you are trying to do. What will you give me to put you both right?"

"Anything you like," said I; "but I am afraid we shall have to get the flue altered."

"I think not," said my brother; "but we shall see. You fetch an armful of dry straw from the stable while I crack up some of this coal."

Putting on John's slop my brother set to work lustily, and I brought him some dry straw. He opened a small soot-door at the bottom of the chimney, and put in a wisp of straw and another larger wisp in the furnace, took out a match and lit a piece of paper, with which he set fire to the straw in the chimney, and when that was fairly going he shut up the soot-door and lighted the straw in the furnace below. How it roared away to our great satisfaction, and when the straw had caught fire all over he threw on lightly a shovelful of slack, closed the top door of the furnace, and we left it about half an hour. When we returned it was all in a glow. My brother pushed the fire all back, and put on a lot of coal in front, and closed

both doors of the furnace, leaving a little draught on in the bottom door. This he did because the day was wet and foggy, but on a bright day or night I find the fire burns away quite fast enough without leaving any air on there at all.

I have no trouble now, and often light all my other greenhouse fires from this furnace, because I can so easily and so quickly obtain a good stock of fire there. If any of your readers are troubled with a flue which does not draw well, let them put a small door at the bottom of the upright chimney, and burn a wisp of straw there when they light the fire in the furnace. They will soon have fire enough.

I may add that this plan has been adopted in our parish church with Mitchell's patent hypococaust system of heating, and answers admirably. When this method of heating our church was first adopted the fires were very refractory in dull weather; and although it is said, "Where there is smoke there is fire," it was much more common for us to see a church full of smoke than to feel any good effects of a fire. *Nous avons changé tout cela*; and wet or dry, wind north or south, our sexton can always ensure us good fires and a warm church free from smoke any cold Sunday in winter.—A. R. L.

VARIEGATED ZONAL PELARGONIUMS.

HAVING promised in my last article on bedding Pelargoniums to send you some further remarks on the Variegated section of Zonal Pelargoniums, I do so now, not as the result of a particular set of trial beds, but as the result of general personal observation, in my own garden, in my friends' gardens, or in the public gardens which I have seen during the last two years. One difficulty in treating of the subject, is to separate the varieties properly into their different sections; and without endeavouring to lay down any very fixed rules, I shall divide them—1st, into the Gold-edged and Gold Selfs, including both Tricolor and Bicolor. 2nd, Silver-edged, Tricolor and Bicolor. 3rd, Bronze-zoned.

To begin then with the GOLD-EDGED section, we will take the Tricolors first, of which Mrs. Pollock is the type. Their names now are legion, and many of them differ only by the slightest shade, either in breadth of zone, or habit of growth, or colour of the leaf-margin, &c., and one of the great difficulties which we have at present, and which I foresee looms still more heavily in the future, is to reduce the number of different sorts; and to do away with all those which are not *bona fide* improvements on existing varieties.

Many of the best of the Tricolors, in point of colour, as Mrs. Allen, Lucy Grieve, &c., will only do as pot plants, and there are very few as yet in my opinion, which surpass Mrs. Pollock as bedders. Those which I think can be safely recommended are Lady Cullum, Sophia Dumaresque, Sophia Cusack, Countess of Tyrconnel, Edwina Fitzpatrick, and Sunset. The first three are, if anything, an improvement on Mrs. Pollock. The Countess of Tyrconnel is not easily distinguished from Sophia Dumaresque, and both have rather an upright habit of growth. Sophia Dumaresque has a good vigorous habit, but I think both for pot plants and bedding purposes there is not one better than Lady Cullum, the breadth of the dark zone giving a very fine contrast to the yellow belting, and the flame colour in my opinion being brighter than in any other variety.

There are several others of which I have only seen a few plants either at exhibitions or in nursery gardens, &c., and of these, Smith's (of Dulwich) Sunray, Retaliator, Coronet, Defiance, and Souvenir de Sir Joseph Paxton; and Carter's Prince and Princess of Wales, Ettie Beale, and Dr. Livingstone, seem to be very promising. Especially so is Retaliator, which was shown in fine colour at Leicester, and seems to have a vigorous habit. Ettie Beale, though fine in colouring, will, I am afraid, be only a pot plant. Miss Watson has, in my opinion, been much overrated.

Here I may make a general remark, that the effect of Tricolor Pelargoniums for bedding is by no means commensurate with the beauty of the plants as individual specimens. Their effect in the distance is not so good as the older plain Gold-edged kinds, and I believe that many of our finest and most effective pot plants will eventually prove but second-rate bedders. The fact is, the contrasts of colouring are contained in the leaves themselves. Gold, red, green, and dark brown, are so mixed together that it is difficult to place another band of colour alongside, which contrasts well with them, and large masses of Mrs. Pollock, and Pelargoniums of its type, are by no means effective in beds. The proper place for these varieties in the

flower garden is in beds which are to be seen near to the eye, or in lines close to the windows of the house, or as edgings to vases on terraces; and the best contrasts, in my opinion, are white-leaved plants, especially *Poa trivialis*, and *Dactylis elegans variegata*, or small plants of *Centaurea*. *Blue Lobelia*, again, does very well, especially the dwarf kinds—*pumila elegans* and its varieties; but, unfortunately, there are very few kinds of *Lobelia* that last long enough, and when the flower goes off, there is nothing which looks much worse. I am, however, trespassing on another subject which ought to be treated by itself.

I will now pass on to the Gold-edged Bicolor varieties. Of these there are happily not so many, the best being Golden Chain, Gold Pheasant, Crystal Palace Gem, Cloth of Gold, Golden Fleece, and to these I will add at once, the GOLD SELFS, Gold Leaf, and Pillar of Gold.

Golden Chain is still with me the best of the Gold-edged varieties; it will not thrive in cold or clay soils, and ought to have some well-decayed farmyard manure or leaf soil forked into the soil for the plants at bedding-out time. Crystal Palace Gem, Cloth of Gold, and Golden Fleece, are, as a rule, too green, but are good wet-weather and autumn plants. Gold Pheasant has too upright a habit, but the colour is good. I forgot to mention *Stella sulphurea marginata*, which I think is very promising; but of all the plants in this section I like Pillar of Gold, sent out by Mr. C. Turner, of Slough, the best; it is far the most golden of any I have yet seen, both in-doors and out. The leaf when dying off turns to a lighter yellow, which enhances the effect of the plant, instead of burning-up at the edges, as many kinds do, and I venture to prophesy for it a long and prosperous career. In point of habit it seems to be all that can be desired, with abundance of foliage. Gold Leaf, the other Gold Self I mentioned, has not constitution enough.

I will next take the SILVER-EDGED section, commencing with the Tricolors—viz., Beauty of Guestwick, Italia Unita, Burning Bush, Picturata, Countess, Queen's Favourite, Waverley, &c. Many of these have not sufficient strength of habit for bedding purposes, and I have seen none I think so good as Italia Unita. Beauty of Guestwick has a more vigorous habit than most of them. Burning Bush is still as good as any for dwarf front edgings, &c.

Among the Bicolors come most of our old sorts: Alma, Bijou, Brilliant, Mrs. Lennox, Countess of Warwick, Variegated Nosegay (Beaton's), Flower of the Day, Flower of Spring, and Jane. Of these I would place foremost Flower of the Spring, as certainly the best both as a pot plant for conservatory decoration, and also for bedding purposes. Bijou, which is one of the whitest, has a very bad upright habit of growth, hardly ever throwing out a side branch, unless pinched-in. Jane is a very good variety, especially for Self beds, having a very free-growing branching habit, and the leaf-margin distinct and good.

Brilliant I only name to condemn. It is good as a free-flowerer, but, as in the case of Mrs. Benyon among the Gold Tricolors, its flowering habit is rather a demerit than a merit, as nearly all variegated-leaved plants are better with their flowers cut off. Flower of the Day is, like Bijou, too leggy.

Alma is still one of the best, especially in large plants. Mrs. Lennox has a very pure white edge, and is very good in light rich soil. Countess of Warwick has so dark a zone sometimes that it might almost be called a Tricolor, though in that case Lady Cullum, Mrs. Pollock, &c., ought to be called Quadricolor; it is a good plant for ribbon borders. Another old sort which I had almost neglected, Mountain of Light, is still very good for front edgings, having a neat, dwarf habit and a pure white margin.

This brings me to the last, the BRONZE section, of which I must confess I have not had much experience of my own. The most effective that I have seen bedded is Bronze Queen, the habit being exceedingly compact, and the foliage very dense. Among the best are Beauty of Oulton, Beauty of Ribblesdale, Beauty of Calderdale, Egyptian Queen, Perilla, Model, Luna, and three which Messrs. Smith, of Dulwich, exhibited at Leicester, Criterion, Plutus, and Sybil.

As a general rule, I have been disappointed with the effect of the Bronzes when bedded out. Many of them are very beautiful as pot plants, and they will be very good as garden decorations for all places where they can be brought near the eye; but the same remark I think applies to these as to the Tricolors, where distant effect is required. It will be some time before a definite fiat will be pronounced upon them, but I think it will be found eventually, that both the Bronzes and Tricolors will be best used as panels in contrast with other

colours, like gems, or in small circular beds as edgings or centres along with other ornamental-foliaged plants.

There are some other Variegated sorts I have omitted, as Mangles's, which is still a most valuable sort, and one of the most effective beds I have seen this year was at Llangattock, near Abergavenny—blue *Lobelia* and Mangles's, plant for plant, in a circular bed about 8 feet in diameter, the small pink flowers of Mangles's being allowed to remain on.

L'Elegante is a very promising Variegated Ivy-leaved Pelargonium, and will be valuable as edgings to raised beds and baskets, and also for hanging baskets for conservatories. The old sweet-scented Lady Plymouth is also a useful plant, when it can be placed in a position where it may be allowed to grow as much as it likes, as it is of much too strong a growth to mix with other bedding plants.

I must now conclude these remarks, as it is my intention to trespass upon your space again another time, with a paper on the winter management of Pelargoniums; what most persons will, I am afraid, consider a trite subject, but concerning which there is yet something to be said.—C. P. PEAUCH.

CAN BEET BE HAD AS AN EARLY BEDDER?

I beg to thank Mr. Mason for his courteous reply in page 323 to my inquiries respecting certain occupants of the flower garden, and seeing we agree in opinion about the merits of Tricolor Pelargoniums for that purpose, I am not surprised we differ in some degree about that of Beet for the same purpose. My wish was to ascertain whether its appearance before August 1st was such as to entitle it to a place in a flower garden that was to look well before that time. Not having grown it here for decorative purposes, I could only judge of what it might have been by the appearance of the kitchen-garden crop of the same plant at that time, and this was merely coming into condition at the end of July. Early sowing, no doubt, might have rendered Beet intended for decorative purposes more forward; but unless the plant can take its proper place along with *Calceolaria* and Pelargoniums by the 1st of July, or even earlier than that, it will not answer my purpose. The question is, Can it be made to do this, and afterwards continue in good condition throughout the season? I fear not. Hitherto I have been obliged to depend on Perilla for early and late work, and I would willingly exchange it for Beet if the latter could be coaxed into useful condition so early in the year, and would yet continue to do good service as late as at present. The fine colour and graceful habit of this plant place it much higher in the scale of merit than any of its compeers, Iresine, when good, excepted; but the difficulty of obtaining it early enough and preventing its running to seed, has with me been a great drawback to its use; but in places where appearance after the middle of August is of more consequence than before that time, a good variety of ornamental Beet may be of great service. With me, however, it ought to come into use in June and July. I again ask if the same plants can be made to do duty so early, and yet look well in October?—J. ROBSON.

TRUE SCOTCH KALE.

I enclose a small packet of the true "Lang Scotch Kale" seed, which is not now to be had genuine in the seed shops, and if sown now (June 17), in your southern clime you may have a next-winter supply of greens from it.

It is the "Lang Kale" of Robbie Burns, also known by the name of Kilmaura Kale, from Kilmaura, near Kilmarnock, once the Birmingham of Scotland, having been no less famed for its Kale seed than for its "whittles" or clasp knives, and "lang Kale gullies." Hence the old Ayrshire saying that a person of acute mind or smart habits was "as sharp as a Kilmaura whittle." The clank of the whittlemaker's hammer has, however, been long silent in Kilmaura, which is now a curious old country village, and the Lang Kale are no more seen in its Kale yards, their place being usurped by the finer-looking but inferior-flavoured German Greens; but they are still to be met with in the high moorlands of the county, where they are retained and esteemed for their hardiness as well as excellence by the shepherds and other thinly-scattered cottagers, most of whom grow their own Kale seed.

Similar but somewhat shorter-growing races of Kale are also still grown in the Western Isles, as well as among the central Grampians, such as the Tullybeagles Kale of Perthshire, &c.

named from the plants being largely grown by small farmers in that upland district, and sent north in spring for sale in the Highland markets.

The Kilmaurs Kale forms the best of Hallowe'en stocks, being "muckle anes and straight anes," with reddish bark and reddish leaf-veins, while the "flat of the blades" is of a reddish green colour, and these should be plane, or only very slightly curled.—WILLIAM GORRIE.

SUBTROPICAL GARDENING.

How delightful it must be for those who live in the neighbourhood of Battersea Park, who can at any moment enjoy the magnificence and the luxuriance of the tropics! To have a bit of Brazilian scenery in the neighbourhood of London, and that in the open air, is really wonderful. We remember something of Pine Apples in the open air at Bicton, growing, so we were told, like Cabbages; but really the description in the *Journal of the tropical—I beg pardon, subtropical—gardening in Battersea Park*, is enough to make us who live in the northern parts of the kingdom go delirious. How I could wish all persons who feel an interest in this matter, and most gardeners should do, to coolly argue the extent of its practicability and application, and in what parts of the kingdom it is likely to succeed, and where it would be folly to attempt it. These are more important operations than many are aware of. Unreflecting people, who are, perhaps, whirled from Battersea Park into the North of England in a few hours, forget that the climate of Battersea Park does not travel with them; and no doubt many an intelligent worthy man will have the cold water of "You should see Battersea Park" thrown in his face. And while the system may be lauded by enthusiastic visionaries on one hand, and opposed by the matter-of-fact man on the other, let the question be set at rest by a little good-natured agitation. Honour to the man who has the sense or the boldness to deviate from the beaten track; and the testing of the capacities of plants for given purposes is very commendable, especially where people are honest enough to record failures.

Most gardeners know something of the marvellous change in, and effect produced by, overgrown specimens of stove plants turned out to play a false character for a brief season and die. There may be something false in thus giving these vegetable worthies a character quite unnatural to them; it is perhaps the most rational way of getting rid of our ponderous Cycas, overgrown Brugmansias, and lumbering Agaves; still the thoughts of these fine things being brought out to perish create an idea similar to seeing a great personage brought out to execution. Hence a question arises, Is tropical or subtropical gardening compatible with English climate and English scenery?

Now I solicit information. Would the gentleman who has written the description of Battersea Park tell me what is *Sedum glaucum* like "charming little buttons"? I am a great lover of *Sedums* and *Saxifrages*, and should much like to make the acquaintance of any *Sedum* compact as a button. I have noticed several allusions to *Sedum* where evidently *Sempervivums* were meant. Are they amalgamated? Again (I am quoting from page 299 of the *Journal*), "and *Sedum ochroleucum* formed very pretty dense tufts, those of the last-named in particular being almost like small berries." Dense tufts like small berries! I am much interested in these little alpine creatures, but cannot at all understand the above. *Sedum glaucum* is a British plant, pretty enough in its place, but of a loose straggling nature, not at all like a button; and *S. ochroleucum* is also a very straggling plant. Please to set us right on these little matters.—T. WILLIAMS, *Bath Lodge, Ormskirk*.

[The writer of the above is right in suggesting a cautious line of procedure in matters connected with subtropical gardening, and especially in the north; and that gardeners should "coolly argue the extent of its practicability and application, and in what parts of the kingdom it is likely to succeed, and where it would be folly to attempt it." The descriptions in the report on Battersea Park were faithfully given, and the fancied error, for it is only fancied, as regards *Sedums* and *Saxifrages*, and *Sempervivums*, does not affect the matter of fact, that those plants figured conspicuously in the arrangement described. The general ignorance of subtropical decoration is permeated by an idea which has no foundation in truth, that great losses accompany it, whereas 1 per cent. covers at Battersea Park the losses of "these vegetable worthies," such as "Cycas, overgrown Brugmansias, and lumbering Agaves," and plants of many other genera, and they are used year after

year successively. It should be known, however, that this does not apply to annuals, as many *Solanums*, nor to *Ricinus*, *Wigandia*, *Ferdinanda*, and a variety of softwooded kinds, that are raised annually from cuttings, or from seeds in the spring, and are allowed to remain until destroyed by frost. Subtropical gardening is as successfully practised at Cliveden as at Battersea, on a smaller scale, and at other places round London, and also at Aston Park, Birmingham. These are hints which we throw out for our friends in the north, in the hope that if their operations are directed by discretion, and a thorough knowledge of the subject, at least many failures will be prevented, and that success will, to a considerable extent, attend their efforts, and enable them ultimately to enjoy, in their own gardens, the magnificence and luxuriance of tropical vegetation.]

ROYAL HORTICULTURAL SOCIETY.

THE following arrangements have been made by the Royal Horticultural Society for their Exhibitions and Meetings next year:—

March 13th, Show of Hyacinths and Spring Flowers. At this meeting prizes to the amount of nearly £50, offered by the principal bulb-growers in Holland, will be competed for; and Mr. William Paul, of Waltham Cross, will continue his exhibition of spring-flowering plants. April 17th, Show of Roses and Spring Flowers. May 8th, Show of Early Azaleas and Spring Flowers. During this month a Show of *Pelargoniums* will be held, at which subscription prizes by the growers of these plants will be competed for. June 2nd and 3rd, Grand Summer Flower Show. June 15th, Special Prize Show. June 29th, Great Rose Show. The National Rose Show is incorporated with this Exhibition. A Grand Summer Exhibition of Flowering Plants and Fruits will be held at Manchester in July, at the same time as, and adjoining, the Royal Agricultural Society's Show.

The Fruit and Floral, and General Meetings for the election of Fellows, &c., will take place as follows—viz., January 19th; February 16th; November 16th; and December 21st; and on the first and third Tuesday in each month from March to October inclusive.

PETUNIAS APPEARING [THOUGH UNSOWN.

THIS season we have seen what I presume would be considered a horticultural rarity. In the garden attached to my house, which is 300 feet above the level of the sea, and in a most open and exposed situation, *Petunias* have sprung up spontaneously in the open ground in large quantities, and some very beautiful ones were among the number; also, on a heap of clay and rubbish several came up, but how the seeds reached the place at all is a mystery. During my residence of two years I have been making the flower garden, in which no such thing as a *Petunia* had ever been; added to this the house and grounds are thoroughly detached, and how the seeds came to be in the heap of clay and rubbish especially, is inexplicable. Added to this, the earth for the border in the garden in which they were also found, was taken from a pasture and some inches below the surface soil. Your comments on the above will much oblige.—JAMES G. DANGAR, *Vicar, Boyton, Cornwall*.

[Years ago, perhaps either *Petunias* seeded in your or some other garden, and were thrown on to the manure heap, and the manure was dug into the soil of your garden, or washed by the rains into the soil of the pasture; and when once seeds are buried so deeply in the soil as to be prevented germinating they often keep sound for many years, and vegetate when by any means they are brought nearer to the surface, and, consequently, within the influence of the requisite amount of warmth and air. Seeds in the Egyptian mummy cases, and the seeds of Charlock in soil raised from great depths, Celery seed ten years old, and other instances are within our knowledge, demonstrating how long seeds retain vitality.—EDS.]

STOKE NEWINGTON CHRYSANTHEMUM SHOW.

THIS was held on the 10th and 11th inst. in the Luxembourg Hall, near Dalston Junction, a place very convenient of access from nearly all parts of London. The display was, as usual, excellent, and very effectively arranged; the specimen plants being placed all round the room, and the cut blooms on the centre table forming a bordering to a fine collection of fruit exhibited by Mr. James, of the Rochester Castle, Stoke Newington, part of which was English-grown, consisting of Apples, Pears, Grapes, Medlars, Walnuts, &c., and another part of Apples and Pears grown by Mr. Langlois in Jersey, and many of

them very remarkable for size and beauty. At the end of the room facing the entrance, Mr. F. Waltz, of Walthamstow, exhibited a collection of neatly arranged bouquets of dried flowers; at the other, Mr. Smith, florist, Kingsland Road, a number of bouquets and a pyramid of fruits adorned by a Pine Apple; whilst in the centre Mr. George, gardener to Miss Nicholson, Stamford Hill, had a tastefully arranged table decoration, for which he received a first prize. Prizes were also awarded to several of the other exhibitions just referred to.

For six plants of Chrysanthemums Mr. Forsyth was first with beautifully grown and flowered specimens of Christine, Golden Christine, Annie Salter, Prince of Wales, Dr. Sharpe, rich crimson, and Mrs. George Randle, pure white. Mr. Drain, De Beauvoir Town, who was second, had very good specimens of Beverley, Prince Albert, Mrs. G. Randle, Dr. Sharpe, and Prince of Wales. With three plants the same exhibitors occupied the same relative positions; Mr. Forsyth being first with Dr. Sharpe, Mrs. G. Randle, and Golden Christine, and Mr. Drain second with Prince Albert, Golden Christine, and Golden Beverley.

In the class for six Pompons Mr. Butcher, who took the first prize, had the Golden, Lilac, White, and Brown forms of Cedo Nulli in fine condition, and the richly coloured Sainte Thais. Mr. Forsyth, to whom the second prize was awarded, had fine examples of Aurore Boréale and the different forms of Cedo Nulli, but his had not all come into full bloom. For three, Mr. Drain was first, Mr. Butcher second. Standard Pompons were very fine, especially those from Mr. Beattie, gardener to J. Watson, Esq., Stamford Hill, who had plants with flattish heads about 23 inches in diameter, and masses of bloom. The most noticeable were Cedo Nulli, Brown Cedo Nulli, Golden Cedo Nulli, Durufet, and Calliope, the last very showy, being of a ruby colour. Mr. Forsyth was second with some of the above, and Lilac Cedo Nulli very fine; and Mr. Howe, Shacklewell, third, with White Trevena, Antonius, yellow Anemone-flowered, and others also very good.

Collections of large-flowering and Pompon varieties were also exhibited in an extra class by Mr. James, Mr. Forsyth, and Mr. Butcher, to each of whom prizes were awarded, also by Mr. Goodenough, who took a special prize offered by Mr. Crute. Among these were finely-bloomed plants of Bronze Jardin des Plantes, Lady Harding, Mrs. G. Randle, Prince of Wales, Dr. Sharpe, and the splendid white large Anemone-flowered Lady Margaret, also Bob and several other Pompons. The number of cut blooms exhibited was, perhaps, scarcely so great as last year, but the quality of a large proportion was most satisfactory.

The best stand of twenty-four came from Mr. Row, Roehampton, and consisted of Lady Slade, Mrs. Halliburton, Aimée Ferrière, For mosum luteum, Nil Desperandum, Formosum album, Oliver Cromwell, Aureum multiflorum, Venus, very large; Yellow Perfection, Mâchéal Duroc, Princess of Wales, 4½ inches in diameter; John Salter, very fine; Lady Harding, Gloria Mundi, Mrs. Sharpe, White Globe, an immense flower, quite 5 inches in diameter; Queen of England, also of very large size; Empress Eugénie; Prince of Wales and Empress of India, both magnificent; Jardin des Plantes, Beauty, and Prince Alfred, quite 4½ inches across. Mr. Morgan, of Plympton, was second with fine blooms of Empress of India, John Salter, Oliver Cromwell, Prince of Wales, Princess Beatrice, Mrs. George Randle, and several other varieties already named. Mr. Howe was third, and Mr. Slade fourth. Prince and Princess of Wales, Hereward, and several others in these stands were fine.

The best twelve blooms came from Mr. Morgan, and the second best from Mr. Row; Mr. Wheldale, of Holloway, and Mr. James being third and fourth. In Class 9, also for twelve blooms, Mr. Goodenough, Mr. Shield, Mr. Beadle, and Mr. Heard took prizes in the order named. Among the varieties shown in these classes were good examples of Empress of India, John Salter, Prince and Princess of Wales, Prince Alfred, Princess Beatrice, White Globe, &c. For six, Mr. Wheldale was first, Mr. Morgan second, Mr. Heale third, and Mr. Row fourth. In another class for the same number of varieties, the prizes went to Mr. Shield, Mr. Beadle, Mr. Heale, and Mr. Goodenough. The prizes in the "maiden" classes went to Mr. Beattie, Stamford Hill, and Mr. Baldwin, Kingsland.

Of Anemone-flowered varieties, both Mr. Row and Mr. Howe exhibited beautiful examples, the former being first and the latter second. Lady Margaret, white, Fleur de Marie, Gluck, Prince of Anemones, and George Sand were especially fine. For thirty-six Anemone-flowered Pompons, Mr. Howe and Mr. Row changed positions, both, however, having remarkably fine examples of these varieties.

Mr. Morgan exhibited several seedlings. Mr. Crute sent fine blooms of Red Dragon and Daimio, two of the new Japanese varieties, large and extremely showy. The rosy lilac colour of the latter kind is very pleasing.

GOLD AND BRONZE PELARGONIUMS.

WHILE I readily admit the desirability of having round flat leaves in bedding Pelargoniums, I ask, Are they altogether such indispensable conditions to render a variety first-class for bedding, as Mr. Cannell would have people suppose? I say that they are not: for instance, his Ivy-leaved Duke of Edinburgh is first-class as a bedding plant, while we all know that it is very far from having a regular outline. Again, his com-

parison of Kentish Hero with Perilla is singularly at fault, for no two varieties can possibly be more distinct from each other than these in the most essential particular—namely, coloration of the leaf, Perilla being a green-leaved variety, and Kentish Hero a bright golden-leaved one, with bright red zones; and till we obtain a variety as effective as it proves to be, with round flat leaves, I must coincide with the opinion expressed on at least two occasions this season by the judges at Chiswick, that for effectiveness as a bedder it is the best at present in commerce.—W. B. G.

PRESENTATION TO MR. DAVID THOMSON, OF ARCHERFIELD.

ON Thursday last some of the friends and well-wishers of Mr. David Thomson, head gardener to the Right Hon. R. C. N. Hamilton, Archerfield, embraced the occasion of his leaving his present situation for the service of the Duke of Buccleuch at Drumlanrig, to show the high esteem in which he has long been held by them. At one o'clock, a deputation from the subscribers to a very beautiful testimonial assembled in the Dirleton Castle Inn, for the purpose of presenting it in public to Mr. Thomson. Among these present were Mr. Hope, Fentonhams, and many other eminent agriculturists of East Lothian, and the Rev. Mr. Howieson, Dirleton; horticulture being represented by Mr. Downie, of Downie & Laird, Edinburgh; Mr. Mitchell, of Lamont & Mitchell, Edinburgh; Councillor Lewis, Edinburgh; Mr. Thomson, Dalkeith; Mr. Lees, Tynninghame Gardens; Mr. Balden, Nidry House, &c.

Mr. Hope, who presided, said the present meeting was a deputation from the numerous personal friends and professional admirers of Mr. Thomson, who, before he left this part of the country, desired to present him with a small but tangible token of their high esteem for his personal character, of their great admiration for his professional and scientific attainments, as evidenced in his published works, and of their appreciation of the success he had attained in the highest walks of practical gardening. (Applause). In regard to Mr. Thomson's literary attainments, he (Mr. Hope) believed that the merits of his works had been cordially acknowledged by his professional brethren, while, to amateurs like himself, he had found them of the greatest use; and he had no doubt as they were better known they would be more and more admired. Their style was invariably terse and clear, while his felicitous choice of words was only equalled by the correctness of the principles and the practice which they inculcated. It was now upwards of ten years since Mr. Thomson came to the parish; and year after year as his friends became better acquainted with him, the more their esteem for him increased. (Applause). In regard to Dirleton Gardens, he (Mr. Hope) recollected when they were regularly cropped with Potatoes and Wheat. A short time before Mr. Thomson came they were laid out in flower beds, but since his magic wand was waved over them they had become famed over the length and breadth of the land. Mr. Thomson was now going to take charge of one of the largest, if not the largest, gardens and grounds in Scotland; and so far as it might be considered a professional step, it was one of the highest in the kingdom. All his friends rejoiced in this, though they could not but regret the loss they would experience in being deprived of that social intercourse with him which they had had the happiness to enjoy, and still more the ready advice which he always cheerfully bestowed in aiding them to obtain increased luxuries from their gardens. He (Mr. Hope) had no doubt that Mr. Thomson would soon gain for himself new friends as attached as those he now left behind him. He carried with him the best wishes of every one, and in the name of the subscribers to the testimonial, he now begged Mr. Thomson's acceptance of it, and to add that it was their earnest wish that he might long be spared to enjoy health, happiness, and prosperity. (Applause).

The testimonial consisted of a very elegant gold watch and chain, a timepiece, and a silver tea service to Mrs. Thomson. The watch, which was of the most massive character, bore the following inscription:—"Presented to Mr. D. Thomson on his leaving Archerfield by a large number of friends, as a token of their admiration of his professional abilities, and esteem for his private virtues, 5th November, 1868."

Mr. Thomson, in acknowledging the gift, said—I feel it to be quite beyond the compass of my power to command words which shall convey to you a proper impression of my feelings on this, to me, memorable occasion. When a person finds himself placed in such a position as mine at the present moment, it is most difficult to avoid putting the question to one's self—Have I in any way merited or deserved such tokens of esteem and regard, and such a recognition as I am now honoured with, and presented with such a valuable and splendid testimonial as you have bestowed upon me? To say to you that I feel quite unworthy of all this is undoubtedly my feeling; but I will not dwell on that topic, seeing that I have been judged otherwise by you and those whom you are here to represent. I am one of those who think it an honourable ambition to act so as to earn the good will and respect of my fellow men, and Solomon says that "A good name is better than riches, and loving favour better than silver and gold." Since I came amongst you, ten and a half years have rolled over

us—to look back it seems but yesterday. These years present many happy and pleasant resting places for my mind to rest upon, and though clouds and gloom—the common lot of us all at times—have passed over my fireside, we can always look back with gratitude and thankfulness to the kindly feeling and many acts of disinterested kindness which we have experienced in Dirleton. The event of this afternoon has brought these many expressions and acts of good will to a climax, and for these all, and especially for this, I beg to thank you with a sincerity of which I am profoundly conscious. Reference has been made to my professional labours and ability. Whatever of these can be laid to my credit has been acquired, to a very considerable extent, by contact with the long-celebrated gardeners of East Lothian, and to them I owe a double debt of gratitude for much substantial aid and good fellowship. I leave this district with great reluctance, and not for the sake of greater emolument, nor for any hankering after change. Circumstances have, however, arisen which have made it not consistent with self-respect for me to remain any longer here. In the kind providence of God I have been successful in getting into the service of an employer who stands unrivalled as a nobleman of high honour, good sense, and kindly feeling, and I trust I may be enabled to fill that situation with as much credit to myself and satisfaction to the Duke of Buccleuch as Mr. McIntosh has filled it for the long period of twenty-eight years. Mr. Thomson concluded by again thanking his friends for their great kindness and good feeling towards him, in making such a splendid present.

PLANTS IN BLOOM DURING OCTOBER.

- Oct. 5. *Clethra missouriensis*
- Chloococc racemosa*
- Berberis Darwini*
- Vinca major*
- Aster paniculatus*
- Chelone barbata coccinea*
- Eryngium planum*
- Parnassia palustris*
- Ajuga reptans variegata*
- Sedum Sieboldii*
- 8. *Campanula garganica*
- Zauschneria californica*
- Dianthus laciniatus*
- Geum splendens*
- Saponaria officinalis plena*
- Rudbeckia fulgida*
- Polygonum amplexicaule*
- Scabiosa columbaria*
- 12. *Achillea millefolium rosea*
- Helianthus diffusus*
- Verbena venosa*
- Aster tenellus*
- Lupinus mutabilis versicolor*
- Mimulus tigrinus*
- Centranthus ruber*
- Rose, Maria Leouida*
- various
- 14. *Phloxes*
- Cheiranthus Marshallii*
- Gilia tricolor*
- Agrostemma barba-Jovis*
- Linaria bipartita*
- Koniga maritima*
- Petunia grandiflora*
- Artemisia annua*
- Corydalis lutea*
- Double Lilac Primrose*
- Sweet William*
- Viola tricolor*
- Mentha rotundifolia*
- Statice armeria*
- 16. *Fuchsia coccinea*
- gracilis*
- fulgens*

- Oct. 16. *Salvia patens*
- fulgens*
- Aster dumosus*
- Eschscholtzia californica*
- Morina persica*
- Rhododendron ponticum*
- 19. *China Asters*
- Aproclinium roseum*
- Phlox frondosa*
- stolonifera*
- Enothera macrocarpa*
- 22. *Campanula pumila alba*
- Erica ramentacea*
- Gnaphalium lanatum*
- Laurustinus*
- Linum flayum*
- Anemone japonica*
- Arbutus unedo*
- Daphne laureola*
- Rhododendron dauricum*
- Stachys lanata*
- Lobelia speciosa*
- 23. *Linaria cymbalaria*
- Tradescantia virginica*
- Asperula odorata*
- 28. *Tritoma uvaria*
- Glycerium argenteum*
- Pyrethrum parthenium*
- Viola montana*
- Silene rubella*
- Aster levis*
- Sedum dentatum*
- Virginian Stock*
- Calandrinia umbellata*
- Centaurea moschata*
- Wallflowers*
- Viscaria oculata*
- 30. *Reseda fruticulosa*
- Briza maxima*
- Silene compacta*
- Ivy*
- Lonicera*
- Schizostylis coccinea*
- Viola lutea*
- cornuta*

—M. H., Acllam Hall, Middlesborough-on-Tees.

CLARKE'S INSECT-DESTROYING COMPOUND.

In answering questions in reference to my Compound, I wish to remark that I do not recommend Grapes to be syringed after the bloom has begun to form, which it generally commences to do before they begin to colour. They may be syringed up to this time without injury to the fruit, but immediately the Vine has been syringed every bunch should also have a good syringing with clean water in order to wash the solution out of the bunches, or it would lodge between the berries, dry on them white, and spoil their appearance.

I had last year one or two Peach trees much infested with scale, and in the spring of the present year I thought I would try a decoction recommended by one of your correspondents. It consisted of soft soap and bitter aloe, at the rate of 2 ozs. to the gallon, boiled; but I found it discoloured the fruit, and how to remove it I did not know. The scale was also making its appearance again. The fruit was in its second swelling when I discovered my Compound. I gave both trees and fruit

a good syringing, and it not only cleansed the fruit but killed all the scale. Nothing more was required until the fruit was ripe, when the red spider attacked them; but when it was gathered I gave the trees another dressing, and next morning not a red spider could be found.—T. C. CLARKE.

THE MIRABELLE PLUM.

For very many years I have admired this charming little Plum, and have often felt surprised that it is so seldom cultivated in England. It is not to be thought of as a dessert Plum, for uncooked it is rather dry, with a dull sweetness, and of no taking flavour, but when cooked or made into jam its flavour is delicious; and what is very remarkable, although there are hundreds of varieties of Plums, not one has the peculiar aroma of this sort. If bottled (without water), the flavour is fully preserved, and a tart or pudding of Mirabelle Plums at this season is a real treat.

Some years since, when Louis Philippe was king, I happened to visit the *potagerie* at Versailles, and there to my surprise I saw scores of baskets of this sort of Plum gathered ready for the Royal kitchen. On inquiry I found it was the favourite Plum of the Royal Family, no other variety equalling it in flavour for *compotes*, &c. I afterwards learned that in the east of France it was equally esteemed, as it is now—it is, in fact, called *Mirabelle de Metz*. Its small oval fruit, bright yellow mottled with red, are most ornamental on the trees, and its stone the smallest of all Plum stones, being smaller than that of the Morello Cherry. The tree is best cultivated as a bush, and when in blossom should have a covering of light flannel when the nights are frosty. It requires a dry warm situation, and is well worthy of extra care.—T. R.

LUMINOUS INSECT.

I USUALLY walk round my garden paths in the evening, and continually have my attention attracted by finding one at my feet—I think a glowworm. First it is the bright body in a firm mass; it then appears to separate, and part of it like a thread moves away from what was the main body, leaving an illuminated piece behind, which, with the part in motion, gradually becomes feebler in light until it ceases altogether. The peculiarity is, that it makes a circuit and returns to the first spot, the whole train being slightly illuminated.

Sometimes two are performing the same movement simultaneously.—R. J. S.

[The insect above described is not a glowworm, but one of the small species of centipedes, which in the autumnal months, which is the pairing season, become luminous. From the last paragraph it would seem that both sexes have the power of emitting light. The species is scientifically named *Geophilus electricus*.—W.]

NEW BOOKS.

The Miniature Fruit Garden. London: Longmans.

It is with great pleasure that we announce the appearance of the fifteenth edition of Mr. Rivers's "Miniature Fruit Garden," just issued from the press. After passing through so many editions as this useful little work has done, it may appear superfluous to say anything in its praise. There are new generations always arising to whom all things are new, and to whom "The Miniature Fruit Garden" forms no exception. To them we will convey an idea of what the work is, by an extract from page 83. "A French pomologist," says Mr. Rivers, "who visited me in 1864, said, 'Ah! now I find an Englishman planting for himself as well as for his children.'" This is the text of the treatise, to teach a man how he may eat the fruit of trees which his own hand has planted. For the benefit of those who already are acquainted with this work, we may state that they will find in this new edition much useful matter which has not appeared in any of the former.

The Gooseberry-Grower's Register.

THIS is the new edition of an annual which has appeared, we believe, without intermission for more than a century. It is a most unpretending little volume, and, therefore, is not so much known as some of its more pretentious cotemporaries, but it is, nevertheless, to fruit-growers one of the most interesting and useful publications, while to the general public it is an object

of the greatest curiosity. It is a record of all the Gooseberry exhibitions throughout the year 1868, the names of the exhibitors, the berries shown, and their weights. The largest berry shown was London, 29 dwts. 19 grs., at Brough, Derbyshire, by Mr. Phineas Higton, Alderwashley, near Wirksworth. Whoever sends 1s. 8d. to Mr. Leicester, nurseryman, Crompton Road, Macclesfield, will have a copy of the Register returned to him.

VINE ONE YEAR OLD BEARING TWENTY THREE BUNCHES OF GRAPES.

THE truth of the statement, at page 279, being doubted by more than one of our correspondents, we wrote to Mr. Roberts, and the following is his reply:—

"I wrote to Mr. Meredith's, at Garston, forwarding the letter you enclosed for me, also the Journal containing my statement, and I now give Mr. Meredith's foreman's reply. He also sent me a sample of the eyes the Vine is furnished with, which I have shown to several of my gardening friends, who all say they never saw more fruitful-looking eyes and wood, for the eyes look like mts. This certainly shows that the crop has not taken all the vitality to mature the fruit, but that there is wood able to bring to perfection double the quantity next season if allowed.

"When I entered the house in which Mrs. Pince's Black Muscat is planted, for it is in an inside border, if the question had been asked, How long I thought the Vine had been planted? I certainly should have guessed six or seven years, for it looked quite as vigorous in growth as if it had been planted that length of time, the bunches being in such fine condition, and the wood so strong and firm. I can assure your correspondent who is so fond of Vine culture, that he would never regret paying Mr. Meredith's vineyard a visit; there he would have the pleasure of seeing the powers of Mrs. Pince's Black Muscat tested, and the wood it is furnished with for next year's crop, after bringing to maturity a greater quantity of bunches than he states in his letter.—CHARLES ROBERTS, *Dorfold Hall Gardens, Nantwich, Cheshire.*"

The letter from Mr. Meredith's foreman is as follows:—

"Your statement concerning the Vine of Mrs. Pince's Black Muscat is substantially correct, but you have underrated the weight of fruit. The facts are as follow:—The Vine was planted in the summer of 1867, and was then a small one, certainly not more than 3 feet in length. It bears now twenty-one bunches, two having been taken off, a berry at a time, for tasting. The weight of the twenty-three bunches would be at least 30 lbs., several of them being nearer 2 lbs. than 1 lb. in weight.

"I have measured the stem this morning, the circumference at the base is 6½ inches, and at 2 feet from the bottom it is 5¼ inches. I enclose a sample of the eyes it is furnished with, which certainly do not look like barren ones.—WM. TAYLOR, *The Vineyard, Garston, near Liverpool.*"

COST OF HEATING AND MANAGEMENT OF A BOILER—GARDENERS' WAGES.

IN answer to "C. C." and others, for single small houses where only a little heat is wanted to exclude frost, there is no other plan so economical as having a brick or an iron stove, with a small funnel through the roof.

2. A fire will heat such a house more cheaply than a boiler, because in proportion less heat will escape at the top of the chimney.

3. Much heat is always thus lost from a boiler unless the stoker is careful, and do what he will much will go to ameliorate the temperature of the surrounding air. We have passed furnaces heating boilers, with fire and furnace doors open, and a glaring red fire in the furnace, and the flickering of the air at the top of the chimney told at once the quantity of heated air that was thus escaping.

Now, as commonly arranged, the following precautions are necessary, so far as securing economy in fuel is concerned:—Clean out the furnace before lighting, close the furnace door after lighting, and leave the ashpit door open until the fire has fairly taken hold and is burning freely; then shut the ashpit door, and if there is a revolver in it just open it a little to secure more perfect combustion, and by the time the fuel is incandescent place the damper in the chimney, just leaving a little opening to allow the gases to escape. To make sure of this, in experienced hands, in the centre of the damper a hole may be made half an inch in diameter, and then the damper may shut in closely, as that opening will obviate all danger, and the heated air, instead of all rushing up the chimney, will to a great extent be sent back to play over and around the boiler. Opening the ashpit door half an inch or less will admit sufficient air to support a slow combustion. When the boiler and pipes are

heated, a slow-burning fire will keep up the heat for a long time. When only a sudden heat for temporary frosts is wanted, we prefer a brisk fire burning itself out. The ashpit door and the damper must be looked to if a continuous heat is to be maintained economically. The whole matter is simplicity itself; but we know practically how very difficult it is to make otherwise clever active men attend to such matters of detail, such seeming trifles.

We can hardly tell whether "C. C.'s" architect, ironmonger, and friends are right in saying he ought to heat his conservatory, hall, and greenhouse, all on a small scale, for £7 or £8 per annum. This we do know, that there will be much waste if the stoking is not attended to as if a man were determined to do it well as above, and without waste; but this we also know, that the veriest rubbish has been affirmed by architects, ironmongers, and hot-water tradesmen as to the little fuel that heating by hot water needs. Hot water will always be economical as respects fuel, in proportion to the great quantity of work done by one boiler, and therefore one chimney. When we use a boiler for a small place, we think of efficiency, cleanliness, &c., rather than the cost of the fuel. Even then the stoker can do much.

As to the other question asked by "C. C.," such a boiler, and with 1½ acre of kitchen and flower garden, and lawn, could in a certain way be attended to by one man and a boy with occasional assistance; but much will depend on the occasional. We have known small houses, such as we may judge his to be, that would almost require the whole of a man's time. We have known them tidy with a few hours' work each day. We can form less idea of the 1½ acre of park or paddock. Altogether, we should judge that where fine plants and much forcing were required, the labour would not be sufficient. Nor do we think that £1 per week would tempt a good man to remain. It would likely have been a saving if, instead of having half a dozen changes, there had been a few shillings a-week more given to a good man. A gentleman never gave more than from £55 to £60 per annum, and generally changed every year, or at the longest every second or third year, and every change cost him a considerable amount of money for alterations. By giving £10 or £20 more, he has told us, he has effected a great saving. He found out that everybody he had before came to his place merely as a fill-gap, and was on the look-out for something else, and consequently felt little or no interest in the work. It was very wrong, no doubt, but it cannot be expected that all the virtue is to come from the wage-getting man.

POMOLOGICAL GLEANINGS.

"PERMIT me to add a few words to the excellent description of the MYROBALAN, or CHERRY PLUM, given by "ARCHAMBAUD," page 296. In my youth a gigantic tree of this kind grew in the "front court" of our house, and every season was a mass of snowy flowers, and now and then, perhaps twice in seven years, would give a sprinkling of its pretty fruit, but never an abundant crop, such as I have seen in Tonrairie, where every branch is often a rope of fruit more numerous by far than the leaves, and most beautiful to behold. I have heard that in some sheltered places in England, perhaps near the sea, it occasionally bears in like abundance. Here, owing to its putting forth its flowers in March, before our spring winter is over, it is rarely that any escape the severe frosts of that or the following month.

"This Plum is evidently as distinct a species as the Sloe (*Prunus spinosa*), for although many thousands are annually raised here from seed to be used as stocks for a few sorts of Plums, which succeed well when grafted on it, no variation in habit is ever seen—they are as constant as Quick raised from haws. There are, however, two or three kinds that vary in the colour of their fruit, one bearing yellow and another greenish yellow Plums, but their leaves and shoots seem never to vary. The latter kind is common in Belgium, and is used in their sandy soils for stocks for Plums, Peaches, and Apricots. This kind strikes freely from cuttings in the light peaty soils of Belgium, where it is called the Mirabelle Plum. One peculiar characteristic of this stock is its immunity from the attacks of the Plum or any other kind of aphid, often so injurious to all other kinds of Plums. Seedling Cherry Plums form finer trees than those that are grafted, as they have naturally a graceful pyramidal habit, and would, if planted in shrubberies, require no care, soon becoming trees, always ornamental and sometimes fruitful.

"Some years since a kind of Plum was introduced to the Hor-

ticultural Society's gardens at Chiswick, which (trusting to memory), Mr. Gordon, who then had the care of the new introductions, told me was sent from the Himalayas as the original species from which the Green Gage Plum had been raised—in other words the wild Green Gage Plum. I looked at its vigorous glossy shoots with great interest, and obtained some buds, being then as now a Fellow. In a year or two my young trees were placed in pots, and I gloated over the idea of seeing our favourite Plum of the shape and size of a Sloe, only green instead of purple, and thus being able to trace it to its origin. Alas! my trees, placed in one of my orchard houses, bore abundantly, and gave a death blow to my hopes, for they produced a fine crop of true Cherry Plums.—T. R.

— ANOTHER proof of the influence of last summer in ripening fruit has been sent to us by J. B. Danbury, Esq., Buckingham Villa, Ryde. It is a well-ripened though rather small POMEGRANATE, borne by a standard tree in the open garden, and which never bore fruit in any previous year.

BENTLEY PRIORY.

(Continued from page 187.)

BEFORE entering the conservatory Mr. Rutland called my attention to a fine quarter of Strawberries in front of the long range of vineries. They had preserved their fine foliage and vigour all through the trying season, and the quantity of fruit they had produced was extraordinary; I am afraid to say how many bushels were gathered from a plantation about 30 yards square. This was owing to the mode of preparing the soil adopted by Mr. Rutland before making his plantations. It is one which I have before described, and will amply repay the cultivator for the extra trouble taken at the commencement. For the benefit of those who may contemplate making new plantations, and who may not be acquainted with this system, I will here give a brief outline of it as pursued by Mr. Rutland with so much success.

In the first place, the ground should be trenched to a depth of 2 feet 6 inches, or more if the subsoil is good. Secondly, plenty of manure should be placed in the bottom of every trench (when I say plenty, it means from 3 to 5 inches); then after the whole of the piece intended for the new Strawberry plantation has been trenched over, another slight coating of well-decomposed manure should be spread all over the surface of the ground and pointed-in with the spade, leaving the surface as rough as possible, so as to expose it fully to the action of the air and frost. The present is an excellent time to prepare the ground as above described, and it may so remain till March, when a favourable opportunity should be selected for planting out the Strawberry plants in the new ground. If an early lot of runners was taken off in the previous summer and pricked out about 6 inches apart in a piece of rich ground, by this time they will have grown into fine healthy plants, and care should be exercised in their removal to injure the roots as little as possible. If a small trench is taken out at the commencement of the nursery bed the plants can be removed row after row, with balls of earth attached to them, without the slightest injury to their roots. They should then be planted with the same care in rows about 3½ feet apart, and 2½ feet from plant to plant in the rows. After planting, the soil may be just pointed over with a fork between the plants, shaking a little manure about them as each row is finished, to shelter them from the March winds and spring frosts.

In such a season as we have experienced, the benefit to be derived from placing the manure at the bottom of the trenches will at once be seen; the roots go down in search of moisture, they are also attracted by the manure, and the plants will then be able to withstand uninjured any amount of dry hot weather such as we have had this year, and in this way they produce immense quantities of first-rate fruit. The manure pointed into the surface of the soil is for the purpose of encouraging root action as soon as the plants are planted out, and to enrich the soil brought up from the bottom of the trenches, which is generally very poor unless the same piece of land has been subjected to a similar course of treatment in previous years.

The conservatory, one of the most magnificent buildings of its kind in the country, is situated on the west side of the mansion, and is approached by three entrances; one communicating with a splendid suite of rooms in the mansion, another with the terrace gardens, and the third with the corridor mentioned at page 187. From the last-named approach I entered this noble structure, which gives one an idea of the great wealth

and taste which the owner of this fine estate possesses. The building is 130 feet long, 23 feet wide, and 36 feet high in the centre. There is a path through the centre paved with Minton's tiles, and on each side at intervals fine pedestals, on which are placed some of the costly Majolica vases, which were purchased at the Great Exhibition of 1862. They are exceedingly handsome, and appear to preserve all their colours perfectly. They are filled with flowering plants, Ferns, and two or three of them with large plants of the graceful *Adiantum cuneatum*, about 3 feet in diameter.

Behind the vases are arranged numerous flowering and ornamental-foliaged plants, amongst which I noticed fine specimens of the following—*Musa ensata*, Oleanders, Oranges, Camellias splendidly set with flower-buds; noble plants of *Dicksonia antarctica* and *D. fibrosa*, *Cyathia medullaris*, having a clean stem, and fronds in perfect health from 12 to 14 feet long, a splendid *Seafortbia elegans*, and *Chamerops excelsa*, with several handsome trees of *Araucaria excelsa*.

In the centre of the conservatory is a beautiful fountain, and at the back of this a magnificent half-circular seat, the background of which must have cost a very large sum, the painting being very rich and good. Opposite to this there is a grand entrance to the terrace gardens, and on each side of the door is the finest pair of *Dicksonia antarctica* I have ever seen. The plants are dwarf, but have fronds of great length and beauty, which have a very pleasing effect. These noble plants now require more than double the space at present allowed to them.

Whilst standing at the door of the conservatory, one of the most charming views I ever beheld was presented to my gaze. In the distance is seen a beautiful undulating country thickly clothed with trees, and directly opposite me was the classic hill of Harrow, with the beautiful spire peeping up above the dense masses of trees. As soon as the mind has comprehended these beautiful distant views, and there is time to look around, one of the grandest scenes of floral beauty which it is possible to imagine commands our admiration and invites inspection. Here, upon a position eminently calculated to produce an effect, much care and thought have been brought to bear. Accordingly the ground has been made the most of, and the arrangement of the terraces are thoroughly in keeping with the mansion, and other surrounding objects.

A noble flight of stone steps leads down to the first level of the flower garden. In front of the conservatory there is a mixed border, which had a very pleasing effect; this border is continued eastward for some distance in front of the mansion, and terminates where a fine flight of steps leads up to a balcony at a considerable elevation above the terrace gardens, and from which a view can be obtained of the whole of the beds, as well as of a large tract of beautiful woodland beyond. The walls of the mansion are covered with large scarlet and other *Pelargoniums* and with suitable climbers; and in front of the balcony wall a narrow border, on the same level as the first terrace walk, was filled with a miscellaneous collection of flowering plants. Beyond the balcony, and at the eastern extremity of the mansion, there is a recess, which seems to me a most suitable place for a handsome orangery or tropical conservatory, which would be a very important addition, and would give the mansion and the terrace in front a more uniform appearance. On this piece, which is only grass at present, there are three large circular beds (see a in the accompanying plan), which are filled with Roses and scarlet *Pelargoniums*, and trained in the form of pyramids. The bed filled with the scarlet *Pelargoniums* was the best I have ever seen, being at the time of my visit one complete mass of scarlet from top to bottom. These beds were about 12 feet high in the centre, and as many feet in diameter at the base. The effect produced by such masses of scarlet flowers at a distance was magnificent, backed up as they were by large masses of evergreens.

Retracing one's steps along the first gravel walk, which is 17 feet 6 inches wide, to the west end of the balcony, on the side of the walk nearest the mansion there is a very pretty group of beds. These have a neat chain of beds round them, and were planted as follows:—The eight-sided bed with *Mrs. Pollock Pelargonium*; the two long angle beds with *Pelargonium Lady Middleton*, splendid masses of colour; the two triangular beds, yellow *Calceolaria*; the narrow border, Purple King *Verbena*; the chain beds surrounding the group, Gold and Silver-edged *Pelargoniums* alternately; outer border, *Verbena Tweediana*. This was a very pleasing and tastefully-arranged group.

Continuing to pass along the walk towards the west, we come to two more groups of beds in front of the conservatory, the

steps leading up to the conservatory dividing the groups from each other. The beds in both were planted alike. The centre is a group of lobed beds, with two circular beds on each side, and a triangular bed between each pair of circular beds. The central group was filled with a mixture of flowering plants; the narrow-lobed border, surrounding the group, with Golden Chain Pelargonium. In the two triangular beds the centre was formed by a fine standard plant of Madame Vancher white Pelargonium, and the ground beneath it covered with a scarlet Verbena. In each of the circular beds are handsome standard Laurustinæ.

Here the straight portion of the walk terminates, and curves gradually towards the south-west, leading to the pleasure grounds and park, and from thence to the kitchen gardens, which are about half a mile distant. On the south side of this walk there is a handsome panel garden, 350 feet long and 42 feet wide, surrounded by grass. It is about 4 feet below the walk, and a handsome flight of stone steps at each end of the terrace communicates with the garden. There is a sloping bank of grass between the first walk, which is parallel with the mansion, and the panel garden. This portion I shall designate *v*. The west end consists of a group of twelve beds. The centre of the group is an oblong bed, the central portion of which was planted with Pelargonium Clipper; then there was a double row of Christine, and at the outside, next the grass, an edging of yellow Calceolaria. There are four corner beds, which were planted to pair crossways, the centre of two of them being filled with Pelargonium Flower of the Day; then there was a band of Lobelia speciosa, with an edging next the grass of Cerastium tomentosum. The other two were planted in a similar manner to those just mentioned, the only difference being the substitution of Pelargonium Bijou for Flower of the Day. There are four circular beds in the intervals between the angle beds. Those on the north and south sides had a standard Pelargonium for the centre, with a groundwork of Coleus Verschaffeltii and Centaurea candidissima; the other two, facing east and west, had for their centres standard Calceolarias, with a carpeting of Iresine Herbstii and Centaurea candidissima. This was the first time I had ever seen standard Calceolarias used in any bedding arrangement. They were exceedingly fine plants, each with a clean stem about 3 feet high, and above this a fine head trained to a wire frame, and completely covered with bloom. The variety used is Amplexicanlis, and this mode of training is certainly novel and effective, giving at intervals a pale primrose tint, which is very pleasing, and producing along with the bright colours beneath a beautiful combination, without that vulgar appearance too often met with where the common yellow Calceolaria is extensively used with scarlet and other brilliant tints.

On the east side of this group there are three round beds; the centre one was filled with Heliotropes trained in the form of pyramids about 8 feet high, and completely covered with flowers, which diffused a sweet perfume, and helped to tone down the bright dazzling colours of the two large pyramids of scarlet Pelargoniums on each side of it.

At this point a walk 12 feet 6 inches wide crosses the terrace from north to south, the north end facing the entrance to the conservatory; and at the east end of the terrace there is another cross walk, of precisely the same width as that at the west end of the terrace, and beyond it another group of beds planted just the same as that last described. Between these two cross walks, and directly opposite the principal portion of the mansion is the finest and most elaborate display in this division. There are three groups of beds, forming a very pleasing and tasteful arrangement even in winter, for the beds composing it are interspersed with evergreen shrubs, which relieve the bright floral display in the summer, and prevent the beds assuming a barren appearance in winter. They may, however, be filled with spring-flowering plants or evergreens, but I forgot to ask Mr. Rutland whether such was the plan adopted or not. In the centre of the middle group, if my memory serves me rightly, is a vase considerably elevated above the level of the ground, and it was filled with Tom Thumb Pelargonium. Round it there are eight beds, with semicircular ends, also planted with Tom Thumb, and between these eight handsome plants of Thuja aurea. On the east and west sides of these beds there are oblong beds, with the sides facing the central group slightly incurved. The centres of these were filled with a Petunia called Smith's Superb, a beautiful crimson-shaded purple, something like the old Countess of Ellesmere. It is one of the finest and most useful in colour I have ever seen, and was conspicuous among all the other colours which were employed in the arrangement, bright and beautiful though many of them

were. Surrounding this Petunia, in each bed was a broad band of Mangles's Silver Variegated Pelargonium; its neat silvery foliage and pink flowers looked very pretty in conjunction with the beautiful crimson purple of the Petunia.

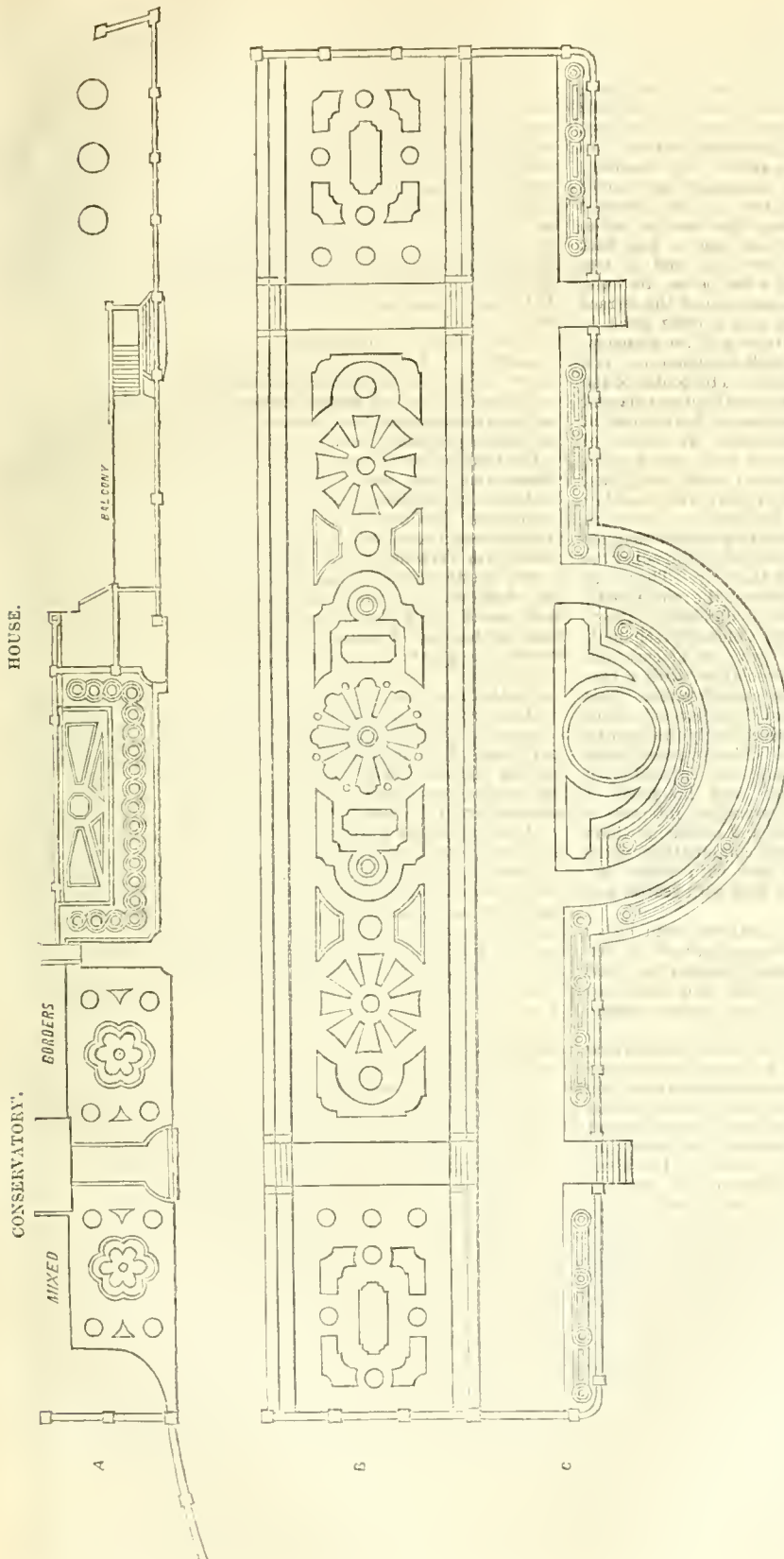
Directly behind the oblong beds just referred to was a pair of very handsome pyramidal Box trees. Partly embracing these, is a sort of winged scroll on each side of the Petunia beds. The ends of the scroll were filled with Pelargonium Golden Chain, which is still one of the most useful of our bedding Pelargoniums. Right and left of these scroll beds are round beds, having on each side a somewhat triangular bed slightly incurved on three sides. The round beds had in the centre of each a standard scarlet Pelargonium, with a groundwork of white Verbenas; and the other four beds were planted as follows:—Centre, Beaton's Silver Nosegay, one of the finest of all the Silver-leaved Pelargoniums, bearing above its foliage a dense mass of violet-shaded rose-coloured flowers, which looked extremely beautiful; next came a broad band of Lobelia speciosa, then an edging next the grass of Cerastium tomentosum. These four beds, and the two beds with their centres filled with the Petunia mentioned above, I considered the finest of the whole series. Those who do not possess these old but valuable plants should lose no time in procuring them, in order to propagate them for a splendid display next year.

The next beds are round, having for their centres standard Calceolarias, and the ground carpeted with Purple King Verbena. Surrounding each of these is a series of beds, eight in number, having straight ends. In the centre of each of these was a standard Calceolaria, the ground covered alternately with Verbena Purple King and Tweediana. These had a very pretty effect. Next to the beds last referred to is a pair of circular beds filled with Calceolaria Amplexicanlis pyramid-trained. The plants were about 6 feet high, and a perfect mass of bloom. A pair of crescent-shaped beds, incurving towards the pyramids, comes next; the centre being filled with Pelargonium Stella, with a broad band of Mangles's Silver Variegated next the grass.

This concludes the principal division, *v*, and in reading this account, it must be understood, that after describing the two end groups, I commenced in the centre of the main group, extending right and left from the central group of beds to the walks which cross the terrace, dividing the group of beds on each side from the main or central one.

At the south end of the cross walks a flight of steps brings us down to another level, and here another broad gravel walk traverses the whole length of the division of the garden described above. This noble walk is 20 feet wide, and 350 feet long. On its south side there is another fine green sloping grass bank, and between the bank and the gravel walk a level margin of grass about 4 feet wide. On this there are planted at intervals of about 18 feet, the finest standard Portugal Laurels I have ever seen. To a casual observer, it would appear that the whole of these fine trees were in tubs, standing on square blocks of stone, and I was on the point of asking Mr. Rutland how he managed to keep such large trees luxuriant in tubs so small, and containing such a small quantity of soil. I began to fancy he had been giving them Standen's Gardener's Friend, as it had served him so well with Azaleas and Camellias, but Mr. Rutland said, pointing to the splendid row of trees, "This is one of many of Mr. Kelk's excellent ideas." These trees are planted in the ground, two pieces of stone have been made to fit closely together, a place for the stem of the tree being cut out of the centre of the stones, then an ordinary-looking square Orange tub, about 2 feet 6 inches square, and about the same in depth, has been fitted round the stem of each of the trees. The stone on which the sides rest forms the bottom. Into these square tubs soil has been filled round the stems to within an inch or two of the top, then on the soil a covering of neat white-looking stones is placed. This finishes Mr. Kelk's system of potting his Portugal Laurels, and every one who has seen this splendid row of trees, will say that Mr. Kelk devised an excellent plan of deceiving the eye, and providing for the well-being of the plants. They are in fine health, with beautiful straight stems, and finely-formed heads of bright glossy green foliage, which give a very fine effect to the terrace.

On the other side of the walk, and between the terrace wall, which is very substantially built, there is another margin of grass, about 10 feet wide, on which there is a chain of flower beds (c in plan), which runs parallel with the walk for about 125 feet. At each end of the terrace these sections are cut in two by the walks which cross the three levels from north to south, both leading by a fine flight of steps through the terrace wall



to the arboretum and pleasure grounds below the terrace. So there are five flights of steps to be seen, one above the other, rising from the various levels at the west end of the terraces, the uppermost leading to the conservatory. At the east end four flights of steps are seen, the uppermost leading to the balcony previously described. In the centre of the interval between the cross walks, and directly opposite the grand portion of the terrace, a fine semicircle is described beyond the parallel line of the terrace wall, and the chain of beds referred to above is continued round that section of the terrace wall. This chain was planted as follows, and had a very charming effect. There were round beds which formed the centre of the chain, or round dots in it, filled with *Christine Pelargonium*, surrounded by a band of yellow *Calceolaria*. Between these there are oblong beds, the centres of which were filled with *Pelargonium Stella*, with a mixed band of *Lobelia speciosa* and Golden Chain *Pelargonium* outside, next the grass. The arrangement was just the same on each side of the semicircle, but that of the chain inside the latter was varied, by the oblong portions of the chain having for their centres *Pelargonium Stella* next a double row of *Verbena Purple King*, with an edging next the grass of yellow *Calceolaria*.

In the centre of the half circle is a very fine basin built with clear white marble, and east and west of it two angular beds, which were filled with *Pelargonium Lady Middleton*. These were the finest masses of bloom I have ever seen. In front of these, and forming a crescent on the south front of the basin is another chain of beds, and between this and the chain which follows the course of the terrace wall there is a walk 7 feet wide. The chain, which is the last portion to be described of this grand floral display, was planted as follows:—The round portions had centres of *Pelargonium Crystal Palace Gem*, with a broad edging of *Alyssum variegatum*; the oblong beds had for their centres *Pelargonium Mountain of Light*, with the white portion of its foliage as white as the driven snow. This is certainly one of the finest of the white-edged bedding *Pelargoniums* we have in cultivation; indeed, I will go farther and say, it is the best of them all. Round this was a double row of blue *Lobelias*, with an edging of *Alyssum variegatum*.

The south front of the terrace wall is partly covered with *Roses*, and in front of it there is a border filled with *Mignonette* and other sweet-scented plants, which shed a grateful perfume, which is borne on the breeze to distant parts of the beautiful terraces, conveying pleasure to the sense of smell, whilst the eye is enjoying the beauties which surround one at every step. But knowing, however, that there was still much more to be seen, I very reluctantly turned away from the enchanting scene, and on my way to the kitchen garden, the thought occurred to me, How does Mr. Rutland propagate such quantities of bedding

plants? In walking through the houses, I saw no building specially adapted for such a purpose, nor any place very suitable for their growth, after they had been propagated. The fruit houses must, therefore, be crammed with plants throughout the early spring months, thus requiring a vast amount of care and attention on the part of the gardener to keep his Vines and other fruit trees free from the many insects which breed on the plants used for bedding purposes, and which, if allowed to establish themselves on the fruit trees, very often spoil the crop. The bedding plants most certainly take from the atmosphere a very large amount of food, and thus rob the fruits of what is most essential for their proper development. I therefore thought it was a pity that an establishment so replete with almost every other convenience, should not have a proper propagating house, and a few ranges of heated pits for the propagation and growth of what constitutes the great feature of this establishment during the summer. But it is the same in almost every place; this provision is generally forgotten, or the proprietor of the establishment cannot be persuaded that such places are necessary. It is to be hoped that their necessity will be recognised in the formation of establishments where large numbers of bedding plants have to be produced, and now that small glass structures, which are the most suitable for the purpose, can be erected so cheaply, few ought to be without them.—J. WILLS, F.R.H.S.

NOTES AND GLEANINGS.

ACORNS have been introduced into the London corn market at Mark Lane, and have been sold within the past fortnight at £4 per ton in the warehouse; a ton is about 5 quarters = 40 bushels, at the estimated weight of 56 lbs. per bushel. In another case they were sold at 12s. per quarter, to be delivered at the Great Western Railway terminus in London. Some kiln-dried acorns have been offered at £7 per ton, but that is not considered a paying price, as the waste in drying is so great. It is of interest to remember that the price of Potatoes is not double that of acorns, and that these, when cooked, are good for all kinds of poultry, as well as for pigs. As for the absurd stories which have been told about their causing disease in pigs, they are refuted by the universal experience of mankind. Polybius, speaking of the plains of Lombardy, 200 years B.C., says, "Their forests, which are spread over the country, afford so large a number of acorns, that, though great numbers of swine are consumed by the inhabitants of Italy, as well in the use of private families as in their armies, yet are they chiefly furnished with them from these plains."—(*Medical Times*.)

— A MOST useful work on the EATABLE and POISONOUS FUNGI of Sweden has lately been completed, containing a very valuable series of drawings, for the most part illustrating those of which it is most desirable to have good and trustworthy figures. The text, indeed, is in Swedish, but the drawings are so good that we can conscientiously recommend the work, which is entitled, "Sveriges ättliche och giftiga Svampar," as a really valuable acquisition. Professor Fries has now commenced another work, of which the first number has just appeared. It is entitled, "Icones Selectæ Hymenomycetum nondum delineatorum. Folio, tab. pictæ X." We trust that this very excellent work will meet with support in this country as well as in Sweden, and the more especially as its progress will depend very much on the patronage which it can command.

— THE pig was formerly employed in all parts of France in hunting for the TRUFFLE, which has just appeared in the Paris markets, and in an abundance which has not been equalled for the last sixty years. There is a celebrated caricature of Gavarni's, in which two women of the people are represented as discussing the vintage. "They say there will be plenty of wine this year," says the first lady; and the other replies, "How we shall get trounced!" Looking at the plentiful supply of Truffles, *gourmet* and *gourmand* will probably exclaim, "How we shall suffer from indigestion!" In Provence, the ancient country of the troubadour and ballad, the pig is still employed in searching for the Truffle. It is a lean sort of animal, very clever in its way, and is called a *porc de course*, or racing pig, who is duly trained to his business, and for every tuber he discovers he is rewarded with an acorn. In the department of the Haute-Marne the pig has been replaced by the dog; the ordinary cur of the country is trained for the pursuit, and readily masters his craft; his training is neither long nor costly, and his education consists in being kept for a certain time without food, and then set to dis-

cover a Truffle placed with a piece of bacon in a *sabot* filled with earth. As soon as the dog has found the Truffle he is rewarded with a small bit of bread, and the manœuvre recommences. After a few days of this exercise the dog is generally found to be sufficiently trained, and his value reaches as high as £4 at times. There are peasants who make this system of education their trade. A curious fact has lately come to light, which proves that the dog and the pig have not the entire monopoly of finding Truffles. The Truffle poachers trust to a certain fly to guide them to the beloved tuber. A paper on the subject of this fly has been addressed to the Botanical Society of France by M. Gubler, who reports that the insect is large, that he ever returns to the same spot, and, after numerous circuits, settles, and where he settles a Truffle is sure to be found.—*Land and Water*.

— ON the 2nd inst., aged 85, died Mr. JOHN WATERER, nurseryman, Bagshot. He supplied the annual exhibition of Rhododendrons at the Royal Botanic Society's, in the Regent's Park.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Cauliflowers.—This has been a fine autumn for late Broccoli and Cauliflowers, but it is not safe to let the latter remain much longer in the open air, as if a sudden hard frost come it will put an end to them. *Endive*, a few plants may be potted at intervals through the winter, and especially early in spring, and placed in a cellar to blanch; they will do exceedingly well treated in this way. *Peas* and *Beans*, from this time to the beginning of next month some may be sown on a warm border if there is little convenience for forcing early crops in the spring. *Store-house*, Carrots, Onions, Parsnips, and Potatoes, will require looking over occasionally, also Dahlia roots before they are finally put by for the winter. All these roots have been housed in a rather green state this autumn, and may, therefore, require more attention in keeping.

FRUIT GARDEN.

Let the hammer be kept constantly at work at nailing every fine day, beginning with Pear trees and following with Plum and Cherry trees. Apples and Pears for spring use may now, or at any time soon, when you are driven in-doors by bad weather, be packed in hampers, boxes, or jars among thoroughly dried fern or kiln-dried straw, and if they are in a good sound state they will then keep better than on the shelves of the generality of fruit-rooms. All trees or bushes that are to be planted or removed on this side of February, should now be finished out of hand without delay, as, after the beginning of next month, we shall be in danger of rough or frosty weather unfavourable for planting. Have the quarters dug and trenched before frost renders the ground too hard, if it is at all in a fit state, and the more heavy work of making new borders, walks, &c., may be left for the dead of winter. Few things are more annoying than canker to those who delight to see their trees healthy and producing good-flavoured fruit. As this is the season of planting or preparing for it, considerable attention should be given to procuring hardy as well as good sorts in all cases where the situation is not the most favourable. In addition to examining the lists of kinds suited to different localities, so often given in answers to correspondents, the planter should take the trouble of ascertaining what varieties thrive best under circumstances similar to his own. One of the chief causes of canker is planting too deeply, the result of which is, that the roots are supplied with more nourishment, such as it is, than the heat and sunshine of the place can duly elaborate, so as to give ripeness and firmness of texture to the young wood. Other causes are the roots striking into an unfavourable soil and furnishing the trees with vitiated juices, the climate of the situation being too cold, or the season too damp and unless to permit the healthy action of the plant. Where canker exists the diseased parts should be cut out in spring or summer, and the wound covered over with clay and cow dung; but all applications of this nature will be of very temporary influence unless attention be paid to the following things:—Plant varieties the wood of which may be expected to ripen in the situation, improve the climate by thoroughly draining the soil, raise the trees on hillocks above the surrounding surface, after laying a substratum of concrete, tiles, slates, &c., at the requisite depth to prevent the downward progress of the roots, never bury the collar of the tree, expose the soil well to the air before planting, and use no manure except as mulching. You will then generally be rewarded, not by astonishing quickness of growth, nor by your Apple and Pear trees having tower-

ing heads like forest trees, but by seeing them produce healthy though stunted wood covered with fruitful buds, and if you imagine that you must wait a long time for your ground being fully occupied by such moderate growth, you may increase the number of trees.

FLOWER GARDEN.

The subject of the winter decoration of the flower garden was so fully discussed in the last calendar, that it is not necessary to do more at this time than refer the reader to it. An arrangement of this kind gives a garden a highly interesting appearance through the dull months of winter, and the only objection that can be urged against it is, that when bulbs are cultivated they cannot be managed so conveniently as if the beds were unoccupied. This, however, might be obviated by growing both the shrubs and bulbs in pots, but it is very questionable whether the latter could be so well grown as if planted in the open soil. Keep the ground as neat and clean as possible, and roll the walks and grass as frequently as the weather will admit of your doing so. Auriculas will still require well looking after, all dead or yellow leaves must be gently slipped off, taking care not to wound the stem, the top soil must be frequently moved, and if there should be any appearance of bad drainage the soil must be carefully turned out, keeping the ball entire, and more broken pots added. During rainy weather the lights of the frames must be kept on, but tilted behind, and a free circulation of air amongst the pots must be insured by raising the frames a few inches from the ground. Should autumnal blooms be thrown up, pull off the pips as soon as formed; when they happen to be heart blooms it is better to let the stem remain. Carnations in frames will require all the air and exposure possible, avoiding continuous wet. Should any plants appear mildewed, or the leaves become spotted, the diseased parts should be immediately removed, and the plants be placed away from the general stock in a frame to themselves. Pansies that have made long and straggling shoots may now be cut closely leaving a joint above the ground, and hoops should be placed over the most choice beds that protection may be given in the event of sudden frost, which, at this season, is apt to occur after excessive rain.

GREENHOUSE AND CONSERVATORY.

Pelargoniums and Cinerarias require the warmest end of the greenhouse unless there is a compartment for them among the frames and pits. Except these, almost all the greenhouse plants require constant air, and the house to be kept in a sweet and rather dry state. When collections of fine new *Chrysanthemums* have been brought into the conservatory this season, now is the time for making memoranda of their habits, earliness and lateness, &c. There are a few inferior varieties among them yet, but they are all beautiful and fill up a blank between autumn and forced flowers. See that *Luculia gratissima* does not receive too much water; it is very delicate in that respect and must have comparative rest as soon as the flowers are gone.

STOVE.

The *Combretum purpureum* was never known to flower so long as it has done this season, it has been scarcely a day out of flower since last April, and will go on to Christmas to all appearance. Everyone admires the beautiful markings of the *Gesnera zebrina*, one of the most easily-managed of our winter flowers; and *Gesnera longiflora* is by no means to be despised at this late season. Then there is the old *Eranthemum pulchellum*, the best of all the blue-flowering winter plants; while *Justicia pulcherrima* is a blaze of purple. *Aphelandra cristata* and *Justicia pulcherrima* are two distinct winter flowers, although under one name in some books. There is much more danger in overheating stoves than in their being now too cool.

FORCING PIT.

This being crammed with all sorts of plants for flowering in the conservatory and drawing-room, it is now the most critical part of our garden establishment. Forced flowers are coming more and more into use every year, and in these a new branch of trade is fast rising in London, which will soon spread into the provinces. The steady bottom heat from tanks will effect a great change in forced flowers, as many who could not formerly venture on this now difficult branch of culture, will be able to do so with certainty.—W. KEANE.

DOINGS OF THE LAST WEEK.

MARKSHEETS.

Beetroot.—The frosts in the end of the week made us take up our Beetroot, middling for size, but beautiful in colour,

fearing the frost might be too much, and still more dreading the rats, which had commenced on it in earnest. Much of it which was bitten will come in useful if wanted, as the wounds are well healed over, and quite hard on the outside. Good Beet, and fine Celery, enable one to pass through the winter more comfortably.

Parsley.—Gave a good watering to the row in the orchard house, to which we will go only in severe weather, when the outside beds are hard frozen, or covered with snow. We pity the gardener who cannot gather a handful of Parsley several times a-day in winter. Some good cooks, to their credit, are careful, and make it do several times for garnishing.

Cauliflowers, Endive, &c.—As we could not manage to place these under cover from the sharp frost, we did the next best thing, threw some rough litter over it where it was, treating beds of Radishes in the same way.

Celery.—As we did not earth-up high we covered the remaining part with long dry litter, stuffing it between the plants pretty well up to their tops, but leaving all the tops exposed. We will only cover the tops in very severe weather, but the litter will keep all the upper part of the stems secure, and even the ground free from much frost.

Securing Litter.—Litter is chiefly the dry cleanings from the stable from which all the droppings, &c., have been shaken. It is all very well to speak about straw for covering, but we fear less and less of it will come in the way of the gardener. Dry dung is a good substitute, and it is well to make the most of it. In all places of any considerable extent, it is best for all parties that the gardener should have a certain quantity of this litter, and regularly, and not a load now and then, which in all likelihood he will not be able to obtain when he wants it. Such a system also teaches forethought, and the habit of looking beyond the present. In many places the gardener is allowed all the dung, or part of it, that comes from the home stable, where carriage and riding horses are kept, and this suits very well, as the droppings and short litter come in as the very best for Mushroom rooms. Of such litter we would never have enough in winter, for protecting frames and pits, Celery, borders, &c., but we have generally more than enough in summer, and this we shake carefully out during a fine day, and then build it in a stack, and to it we go in any emergency, and can thus have litter for use without troubling anybody. Within the last week we have made fair inroads on our store, but still we have a good heap left, which we trust will not be all gone until the bedding plants are safe for the outside beds in spring.

Took up a quantity of *Sea-kale* and *Rhubarb*, placed the roots in the Mushroom house, and will give them a little more heat in a week or so. Neither is any better of too much heat at first. Packed with litter, and a little earth thrown over it to keep it down, stools of *Globe Artichokes*, *Sea-kale*, *Rhubarb*, and even *Horseradish*, so that the frost shall not penetrate much into the ground. A very little loose litter prevents injury from frost. For protecting the roots of plants at all tender, nothing is better than an inch or two of moss. Even north of Edinburgh, huge bushes of *Fuchsias* used to bloom freely in the open air, the shoots cut down to the ground every autumn, and the stools covered with moss, which was nearly decayed as the young shoots came in the spring, and in severe springs these sometimes were helped for a few weeks with a hand-light. Thus treated the huge bushes were magnificent, far before those even in the south, where the stems stood the winter.

FRUIT GARDEN.

Strawberries in pots began to give us some concern, owing to the heavy rains and the frosts of the 6th and 7th inst. We had some litter laid on them where they stood, but that was in a conspicuous place, and did look untidy, and after a fine day there was always the chance of the pots, when exposed, being caught with a severe frost. We thought of several plans for making them safe, and at last, on the 7th, adopted the following:—As already stated, we had put some litter on the Vine borders; and that of the latest house, in addition, had been covered with some old sashes, which were condemned twenty years ago, but without the help of a bearer or rafter, or much done to them, they have done good service in turf and earth pits, &c., ever since, though old and shabby enough. Well, on the border we made a bed for Strawberries, forking the litter over, adding a little more, and making a wall of litter from our stored-up heap back and front, on these laid longitudinally the boles of some young trees, on which to lay the ends of the sashes, top and bottom. The pots were plunged in the bed, as the heat given will scarcely be appreciable, and,

the sashes placed over them, they will need nothing whilst they remain there, except a little litter thrown over the sashes, if the weather as respects frost should turn out very severe. We would have preferred an earth pit for this purpose, but we had none at liberty, and though part of the border may ere long need a little more covering, the pots will mostly be elsewhere before then. Our plants were protected last year for the most of the winter where they stood; but this involves much trouble, and a mistake in leaving the pots exposed to sudden and severe frost does them much injury.

We have been able to do nothing as yet with our *orchard-house trees in pots*, and fear we cannot begin potting afresh, which we think they must need; but if not, we will remove some 2 inches of the top soil and fresh surface with rich compost. We should have liked to have done the repotting, if we had used the same sized pots again, before the leaves had all lost their green tint, so that the green leaves would have helped, by reciprocal action, to send the fresh roots into the new soil. Some of these trees have been from five to six years in the same pots, and produced heavily every year—in fact, there is no saying how long they might remain in the same pots if they were rough root-pruned every year and fresh-surfaced in autumn as above, and fresh-mulched every month at least during the summer. Our pots are fully one-half plunged in the border to save watering, and in most cases the roots will pass out a little in summer, and the rough root-pruning to which we shall presently subject them will be the lifting the pot up, consequently breaking the roots beyond. When we replace the pots we put a little fresh rich loam in the bottom of the hole. To make the most of the room, we sometimes take all the pots up, place them on the surface as closely together as possible, and pack a little litter among and over the pots for the winter, and then we have the space thus secured for Strawberries, Lettuces, Endive, Cauliflowers, &c. This plan, however, involves considerable labour, and a little risk of injuring the trees in moving them about.

A few weeks ago we dwelt on the importance of *planting fruit and other trees early*, and the mode of doing so, especially with the view of meeting the circumstances of the possessors of small gardens, and as we can add little or nothing, we would refer intending planters to what has been previously said. From the accounts that reach us, all planting of trees that took place since last March has been attended with unfortunate results where no extra attention could be given to them, but they had to take the chance of the season as it came. With the number of nurserymen all over the country, it is advisable not to have trees from very long distances, unless the roots are packed so as not to be dried in the journey. In fact, it would be true economy to have the trees not drawn up, but taken up and carefully packed in damp litter, and to pay a little more for the additional trouble. We had men digging holes for a plantation of trees and cover yesterday, and despite of the frost on the surface, and the cool air, the soil was delightfully warm, and neither too wet nor too dry. It requires no reasoning to prove that if we put the trees into these places now they have more chances to do well than if planted after the New Year, and onwards. In order to perform such work now, it is worth while making sacrifices, and we must make them, by allowing some matters to be in abeyance that ought to be attended to. In digging or making holes now, wherever water is found, it is a sure sign that drainage must be attended to before even the commonest trees will thrive.

Glazing.—As winter approaches, care must be taken to have sashes, even if old, in pretty good order, and free from drip, and this can only be secured when the old plan of glazing is followed by having the putty sound. Even though late, we have cleared off the loose putty from many sashes, in dry days run a paint brush along the sides, using rather thick paint with driers and turps, so as to dry quickly, and then the putty nicely put on will adhere well, and will not move, especially if in a sunny day we draw a small brush of paint over it when dry. It is all very well when mending a square in a hurry, not to trouble with the paint brush, but in all lengths of glazing of any extent, it is true economy to run the paint brush with a thin coating of paint over the wood, and allow the paint to become dry before applying the putty. The best putty is made of the best oil and whiting, and as a rule is good then according to its age, and the time it has been kept in a heap. Had we much glazing to do, we should like it to be made a twelvemonth; this accounts for the different prices of putty, though made in the same way. Allowance must be made for working and stowage room. For particular purposes, a little

white lead is useful for making the putty firmer. At one time we used to find our sash-bars as rough in the morning as the back of a hedgehog, and pieces of putty all over the glass. We found that the rats, hard-driven, had commenced on the putty. A little lead in the putty either was too much for them, or soon poisoned them. At one time we had to guard fresh-glazed sashes from their depredations.

ORNAMENTAL DEPARTMENT.

The sharp frosts will do good so far, they will enable us as soon as we can find time to clear up the pleasure grounds, and remove all the remains of the dead plants in the flower gardens. We hardly think many leaves will stand the first breeze after the frost of the morning of the 7th. Even the *Salvia fulgens*, a mass of scarlet a few days before, gave way on that morning. Dahlias being a mass of blackness which we could not find time to raise, they had earth piled up above their roots. We have lots of Scarlet Pelargoniums, &c., taken up and stored in sheds, with a little litter over them, but we have not had time to dress and put them away for the winter as yet; but they will keep safe enough for a time, though we always find they do rather better when taken up, cleaned, dressed, and boxed or potted at once. There has been, however, such a press of work needing attention, that we were glad to leave such things to a drizzling day, or a morning unsuitable to other work. Except the Dahlias, we have nothing out now that we care about keeping.

Centaurea candidissima.—We took up the last lot before the frost came on Friday, potted it, and placed it in a little bottom heat. We merely removed the large lower leaves, and left all the more upright ones untouched, and just reduced the ball enough to place it in a 6 or 7-inch pot. These potted a fortnight ago are now showing the fresh roots at the sides of the pot already, and will soon be deprived of all their bottom heat. We have no doubt the others just potted will do equally well. The worst of it is, that such plants take up much room, and they are too large to use, without dividing, for edging purposes in another year. Small plants are best for that purpose, but we could not take cuttings from our out-of-door plants early enough this season. We shall try the following plan with some of our plants, each having several stems:—Take as much earth away from the roots as will permit these roots going so deeply that the base of these separate shoots may be covered with from 1 to 2 inches of sandy soil. These, with the assistance of bottom heat, will soon root, and then by the spring each of the shoots or stems composing the plant will also have emitted roots, and so the old plant may be cut up into as many parts as there are stems, much as may be done with a *Chrysanthemum stool*. These potted will make fine strong plants. When thus managed, extra care must be taken to prevent damp, as that would rot the stems. The plants of our main lot are potted rather high, but we could accomplish the above object when they are well rooted, and still have no danger of damp, by putting a rim round each pot and filling up from 1 to 1½ inch higher round the base of the stems. However treated, these old plants are better for the secondary or inside, than for the outside or edging row. Young plants are best for that purpose.

The old plants, if the centre is nipped out of each shoot after the days lengthen, will furnish side shoots by the beginning of March, which will strike freely in a hotbed, and which, hardened off, will be quite large enough for edging beds, &c. The difficulty of striking late in autumn, is owing to the liability of their damping-off, and especially when small succulent cuttings are taken. Hence we used to succeed well with it in July, taking then the side shoots from old plants, as above stated, and at that time needing no bottom heat. What cuttings we took this season after those made in spring, we could not put in until near the end of September, and as the season was varied we varied our practice. Even then we did not wish to injure the outline of the rows, &c., which were never better than they were this season, and, therefore, we selected with care some hundreds, not of tidy little bits, but of good stout stems, of the size of a goosequill, or larger in diameter. These felt firm and hard at the bottom. From these we carefully stripped off most of the leaves, leaving only the smallest at the top, and put them firmly in sandy soil in small pots, and gave them a little bottom heat in a pit, with top air night and day. Not one per cent. of these has damped as yet, and on examining them the other day a good proportion of them are filling the pots with roots. There need, therefore, be little difficulty with this plant, if either old plants can be saved, or strong firm-based cuttings can be taken. At the same time as we placed these cuttings in the slight hotbed, as we could spare no more room there then, we put a number of small pots with

one or two cuttings in each, on a dry shelf in a vinery, from which the Grapes were taken, and where they were fully exposed to the sun, which was very bright in October. Here they received no attention, except a syringing in a hot, dry day, allowing the water to lie a little on the shelf. Here, in the hot days, firm as these cuttings were, the heads would droop a little, but we do not think one has suffered from damping-off, and though few are rooting so freely as they are doing with bottom heat, all we have tried are calousing freely at the base, and will, no doubt, root generally in their dry quarters before the winter is over.

We meant to have tried this plant in the same pit with Calceolarias, but we can hardly do so now without taking cuttings from these fresh-potted plants. In fact, as we prepared a light for them, most likely we will do so. That light was prepared the same as lately described for Calceolarias, but knowing how brittle the roots of the Centaurea are, and how likely, if it had the chance, these roots would be to ramble, and thus increase the risk of breakage when moving, before putting on the 2 or 3 inches of sandy loam to place the cuttings in, we covered that one-light space with slates, so that the roots should not go down. We hope such cuttings will keep in a cold pit with a little protection in cold weather, and we are told that in many places it is as hardy out of doors as the Cineraria maritima. We mean to leave some large plants out, and, after banking them up with dry ashes, &c., see how the winter uses them. Such large plants as we have potted make fine centres for moderate-sized beds in summer, and suit most shades of scarlet and purple. Both the Centaurea and the Cineraria come in well with the brown Coleus, and they will suit some of the new Coleuses equally well, if these prove as hardy as the older kind.

Of course, if the cuttings stand in a cold pit, we cannot expect them to root speedily. We are quite satisfied if our Calceolarias do not make a root in eight or ten weeks. In fact, that time in a cold bed in winter will not excite the vital powers so much as a few days in a hotbed in spring. We have merely stated what has succeeded with us, and what we think might be tried. In taking up plants, though bottom heat is not essential, a little of it so far insures success that it encourages fresh rooting, and when the pot is full of roots the plants will stand wherever they can have light, and be kept rather dry. One chief element of success is the leaving entire all the upper small leaves.

Glass Cases.—We find that where we had no blinds the frosts have injured fine-leaved Begonias, Fuchsias, Heliotropes, &c., whilst where there were blinds and a glass front, even with a zinc roof, they were almost untouched. At one end, with a lofty glass roof, and backed by a wall of the mansion, even Coleus was not injured, and Heliotropes were blooming. Some day we hope to see a hot-water pipe through these corridors; but even iron stoves would keep them sufficiently warm, though attended with some little annoyance.

Took all Chrysanthemums under protection, and as soon as the weather is milder, will give the conservatory an overhauling, so as to have plants that will bloom more in winter. All climbers now need pruning-in, that more light may be given to the plants.

Several points we wished to allude to, but one we must not forget, and that is, to use as little water as possible in the present and succeeding month, and to spill as little as possible when watering. When plants are in beds, and a few need watering, it is best to lift these few out, and replace them when the pot has drained itself. To see water thrown about a house now, or a man watering cuttings in a frame with the rose of a watering pot, is enough to horrify one, and so is using cold water for any plant under glass, except, indeed, it is of the hardiest description. If glass is afforded at all, little or no cold water should be used now for some months, and slightly heated water will be a help to success.

One or two words more, as timely. See that all *furnaces* and *flues* are cleaned. We have just given ours a general overhaul. We would do it thoroughly much oftener than we do, if we could, though in the case of flues, &c., round boilers we do this more frequently than many. This cleanliness of flues round boilers is essential to economy in the use of fuel. The more soot there is round the boiler, the less heat is communicated to the water, and the more heat is taken up the chimney. Again, all joints of flues and pipes should be secured. Let it be remembered that the boilers and pipes of houses only used in winter, will not wear so long as those constantly in use. Many wrought-iron boilers will leak a little when the first fire is

lighted, but will be all right when the metal is kept a little expanded. Hot-water pipe joints will last longer when the joints are not quite full. We found this season, that in a conservatory the large flat pipes set upright, were far gone as respects the joints, so that they would not hold water. We could not take them out just now. Fortunately these pipes run in a bricked-in trench, and we made all tight for the present, by packing all round these joints pieces of brick and Portland cement.—R. F.

COVENT GARDEN MARKET.—NOVEMBER 11.

We have an abundant supply of both fruit and vegetables, but nothing that calls for any special remark. Prices are the same as last week.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½	slave	1	6	to 2	0			
Apricots.....	doz.	0	0	0	0				
Cherries.....	lb.	0	0	0	0				
Chestnuts.....	bush.	10	0	16	0				
Currants.....	½	sieve	0	0	0				
Black.....	do.	0	0	0	0				
Figs.....	doz.	0	0	0	0				
Filberts.....	lb.	0	9	1	0				
Cobs.....	lb.	0	9	1	0				
Gooseberries..	quart	0	0	0	0				
Grapes, Hothouse..	lb.	2	0	5	0				
Lemons.....	100	6	0	10	0				
Melons.....	each	2	0	to 5	0				
Nectarines.....	doz.	0	0	0	0				
Oranges.....	100	8	0	12	0				
Peaches.....	doz.	0	0	0	0				
Pears (dessert) ..	doz.	2	0	6	0				
Pine Apples.....	lb.	4	0	7	0				
Plums.....	½	sieve	4	0	6	0			
Quinces.....	doz.	0	9	1	6				
Raspberries.....	lb.	0	0	0	0				
Strawberries... per	lb.	0	0	0	0				
Walnuts.....	bush.	10	0	16	0				
do.	per 100	1	0	2	6				

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	doz.	3	0	to 6	0				
Asparagus.....	100	0	0	0	0				
Beans, Kidney ½	sieve	3	0	4	0				
Beet, Red.....	doz.	2	0	8	0				
Broccoli.....	bundles	1	0	2	0				
Brus. Sprouts ½	sieve	2	0	0	0				
Cabbage.....	doz.	1	0	2	0				
Capicums.....	100	3	0	0	0				
Carrots.....	bunch	0	4	0	8				
Cauliflower.....	doz.	0	0	0	0				
Celery.....	bundle	1	6	2	0				
Cucumbers.....	each	0	4	1	0				
Endive.....	doz.	2	0	0	0				
Fennel.....	bunch	0	3	0	0				
Garlic.....	lb.	0	8	0	0				
Herbs.....	bunch	0	8	0	0				
Horseradish ..	bundles	3	0	5	0				
Leeks.....	bunch	0	4	to 0	6				
Lettuce.....	per acre	2	0	4	0				
Mushrooms.....	pottle	2	0	3	0				
Mustd. & Cress, punnet	6	2	0	3	0				
Onions.....	per bushel	5	0	7	0				
Parasley.....	per sieve	3	0	4	0				
Paranips.....	doz.	6	9	1	0				
Peas.....	per quart	6	0	0	0				
Potatoes.....	bushel	4	6	6	0				
Kidney.....	do.	4	0	7	0				
Radiashes doz.	bunches	1	6	0	0				
Rhubarb.....	bundle	0	0	0	0				
Sea-kale.....	basket	3	6	0	0				
Shallots.....	lb.	0	8	0	0				
Spinach.....	bushel	2	0	3	0				
Tomatoes.....	per doz.	1	0	2	0				
Turnips.....	bunch	0	6	0	0				

TO CORRESPONDENTS.

* * We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

PRUNING FILBERT TREES (M. K.).—In Kent, where large quantities of Filberts are grown, the trees are pruned very severely, the framework of the tree being made basin-shaped, or like an inverted umbrella, the centre being open, and the outer edges may be about 5 feet high, and the same in diameter. About the middle or end of August all the gross shoots are pulled (not cut) out, leaving only the small slender twigs, which are in winter cut back spur-fashion, so that when the pruning is finished there is left scarcely any wood of the previous year longer than 1 or 2 inches; thus, with the exception of the Vine, no fruit trees so severely dealt with. Every season is not a favourable one for the Filbert, even in the district best suited to its growth. In general it does best on a dry soil with a porous stone-shatter subsoil. In such soils we have heard of upwards of a ton per acre, but this is is considerably above the average. The same treatment applies to the Cob Nuts as to the Filberts—in fact, the Cobs are superseding the Filbert for market purposes, though certainly inferior for table.

ROSES ON EAST FRONT OF A HOUSE. (*A Lover of Flowers*).—"Plant for the yellow Rose Gloire de Dijon, and Duc de Cazes for crimson. If more crimson Roses are wanted plant Charles Lefevre and Maurice Bernardin. If another yellow Rose is wanted start Triomphe de Reunes. For climbing purposes procure them on the Manetti stock, and mix up half a barrow-load of decayed manure with the soil for each Rose.—W. F. RADCLIFFE."

HIGH CULTIVATION.—LEAVES OF ROSES DYING (G. G.).—"High cultivation is intended to be synonymous with high manuring. Good cultivation may be applied to many other processes of gardening. The reason why your high standards flourish, and your low standards die, may be that

the sorts budded on the short standards are usually the more delicate kinds. If they are delicate Roses, their being near very damp ground may affect them. The formation of the buds on the terminals is, perhaps, a last autumnal effort.—W. F. RADCLIFFE."

LONG SHOOTS OF ROSES (*Idr.*).—"Shoots of Roses 3 and 4 feet long should be either tied to a stake or shortened one-third. Violent winds will otherwise break down those valuable shoots, the hope of next year. I am so open to the furious assaults of the south-west wind, that I am obliged to tie my Roses tightly. One shoot, the strongest, should in any case be tied to the stake. If the shoots are of Roses on the Manetti stock, those shoots will, if pruned back one-third, want no more pruning.—W. F. RADCLIFFE."

OLD CABBAGE ROSE—WORMS (*Tuesday*).—"Any of the large nurserymen who advertise in this Journal can supply the old Cabbage Rose Worms do no mischief to Roses, nor anywhere else. They, like moles, are natural drainers, and do good in strong land.—W. F. RADCLIFFE."

JAPANESE CHRYSANTHEMUMS (*An Amateur*).—These are varieties raised from *Chrysanthemum roseum punctatum*, introduced by Mr. Fortune from Japan. They are ornamental, and the flowers may be cut for vases. Mr. Salter, Versailles Nursery, Hamersmith, introduced them.

MINIATURE FRUIT GARDEN (*R. E. A. P.*).—Three shillings.

ICE STORING (*Ene.*).—If you enclose four postage stamps with your address, and order No. 348 of our Journal, you will find in it a plan and description.

GRASS IN PLEASURE GROUND (*H. L.*).—As you mow it to make hay twice yearly, it will require mending, and being part of your pleasure grounds, the best fertilisers to apply would be bonedust and guano fifteen bushels of the first-named and 3 cwt. of the other for each acre.

FERN (*C. T. H., Dorset*).—A novel addition to the hundreds of varieties of *Scolopendrium vulgare*. Some of the spores being in a kind of calyx on the upper surface, it might be called *calyciferena*.

ROSES IN POTS (*Rep. J. C.*).—Paul's "Observations on the Cultivation of Roses in Pots" will suit you.

PROPAGATING IVY (*J. T. S.*).—The best way to obtain strong plants in a short time is to fix a number of 3-inch pots with sandy open soil, plunge them in the ground, layer into each a shoot of the current year's growth and, placing a stick to each pot, tie the shoot to it. The shoot should be covered with about an inch of soil in the pot, and secured with a peg. If you do this now or in spring, and keep the soil in the pots watered in dry weather, you will have well-rooted strong plants by next autumn, when the layers may be severed from the parents and planted out. If you cannot obtain layers, cuttings of the young shoots may now be taken—say from 8 inches to a foot of the growing point—and inserted about half their length in sandy soil in a sheltered situation, keeping them moist and shaded from hot sun in summer. They will be good plants by next autumn.

ECHEVERIA SECUNDA CULTURE (*W. M. S.*).—It requires to be kept from frost, but you may probably winter it safely in a cold frame if you keep it dry and afford protection from frost. The Echeverias are only hardy in dry, well-drained soil and warm situations; at least, such is our experience. We should be obliged by those having tried them stating whether they have found any of them hardy, and under what condition of soil, shelter, &c.

ORANGE TREE INFESTED WITH SCALE (*E. L. B.*).—The leaf sent us is covered with black fungus, and on the under side by the midrib there is seen the cause—namely, the Orange-tree coccus or scale. It may be destroyed by washing the leaves on the under side with a sponge, using Clarke's Compound at the rate of 2 ozs. to the gallon of water, and as hot as the hand can bear. What remains after the washing may be used for syringing the tree, and the latter should then be washed so as to free the upper surface of the leaves of the black substance, using the Compound as before. The washing should be so complete as to entirely remove the black substance from the leaves and stems.

DESTROYING CRICKETS (*Eight-years Subscriber*).—Spread phosphorus paste on thin slices of bread in the same manner as butter, and rather thickly, and on the edges as well as the upper face. Put the slices at night in the places which the crickets frequent, removing them in the morning. It will poison all that partake of it, and they will be found near the baits in the morning. If they do not partake of that, mix half a pint of oatmeal, and a teaspoonful each of ground aniseed and caraway seed, with 1 oz. of arsenic, adding a little lard to make the mixture rather lumpy, but not so as to form paste. The whole should be well mixed and laid thinly on pieces of paper for the crickets to partake of it.

GRAPES IN AUGUST (*A. B.*).—To ripen the wood for young Vines, to start for fruiting next August, we would start them in December, and have the wood ripe and put to rest, by dryness and shade, by June. It requires considerable experience to manage this kind of work well.

ASPHALTING BOTTOM OF A VINE BORDER (*Saml. Robinson*).—We decidedly object to asphaltting the bottom of a Vine border with boiling tar and coal ashes. We should expect the Vine roots to be killed.

FUNGUS ON TAN (*W. Kent, Dublin*).—The fungus infesting the tan in your stove, is *Agaricus volvaecus*, Bull. We know of no means of destroying it otherwise than by removing the whole of the material on which it is found growing. It is said to be poisonous.

REMOVING ROSES (*Sunny*).—We would not cut the roots of the Perpetual Roses you are removing unless they extended more than a foot from the collar of the plant. If they were much longer than that, then we would nip off the points. The stronger-growing kinds that you are to place against a wall we would cut-in much as usual after planting this season, but next summer we would select shoots, and have them some 8 inches apart, and these we would merely top in the following autumn, allow the shoots ultimately to reach the top of the wall, and spur-in to a bud all the way up every year. Strong climbers do best on the young wood, with merely the point nipped out, and the old wood removed to make way for the young. We have seen shoots of Noisette 4 feet long, covered with short flowering spurs from end to end. Your greenhouse will answer very well with an aspect due west, but in summer you may need shade for two or three hours in the afternoon.

INSECTS ON BEET LEAVES (*F. and G.*).—We could discern no insect on the fragment of Beet leaf you sent. There were some indications of a mining grub having been at work beneath the epidermis of the leaf, and

as you say the leaves of your Celery have been similarly injured, the marauders may be the grubs of the Celery fly, *Tephritis ordanoides*. You will see it drawn and described in the "Cottage Gardeners' Dictionary." The only check is to pick off the leaves and burn them.

GARDENING (*A Mechanic*).—We cannot afford space for such details as you ask for. If you enclose four postage stamps with your direction, and order "Gardening for the Many," you will have it sent free by post from our office. After you have consulted that we shall readily answer any query to help you out of a difficulty, but we cannot undertake to teach the rudiments of horticulture.

PROTECTING ROSES—SUDDEN DECAY (*W. Birkenhead*).—"Unless the winters are very severe, there is no occasion to tie-up Roses with straw. If it is done, the air should be able to circulate through the covering. To 'overdo is often to undo' The Roses, that had started into weak growth before protection, may have been injured, or they may have died from sudden transition. The straw bands should be removed gradually after having been slackened for a few days. François Premier may be more than replaced by Charles Lefebvre, Senateur Vaise, and Madame Victor Verdier. Standard Roses frequently die from a knot in the stem which stops the circulation of the sap. I once had one that in summer 'went out' like the snuff of a candle. The roots were good. This puzzled me: I then cut the stock in half, where I saw a discoloration, like a burn, of the skin, and found the hard knot, or dead wood, which was the cause. When you buy standard Roses look well to the bark. Decay begins often before you receive them. Roses that start into weak growth after budding, should be cut down to one or two eyes in the spring following.—W. F. RADCLIFFE."

CAMPANELLA PYRAMIDALIS CULTURE (*Amazonic*).—We presume your plants are intended for specimens, that they were sown in April or May, have been potted off singly, and shifted as often as the pots become filled with roots, the pots being kept plunged out of doors in an open situation. They will now be strong plants in 6-inch pots, these being well filled with roots. We are obliged to suppose a case as you do not state what condition your plants are in. The pots being now full of roots, the plants should be shifted into 8-inch pots, providing free drainage, and using a compost of two-thirds loam from turf, and one-third leaf mould well reduced, and if at command add one-fourth old cow dung. If the soil does not contain enough of sand, one-sixth of sharp sand may be added. After potting give a gentle watering and place the plant in a cold frame, so that the foliage will not be more than a foot from the glass, plunging the pots to the rims in coal ashes. The soil should be kept no more than moist, and the plants cannot have too much air so long as they are protected from frost and heavy rain. In severe weather afford the protection of mats in addition to the lights. In February or March the plants will grow rapidly, and when the pots are full of roots, shift, before the roots become very much matted, into 9 or 10-inch pots, replace in the frame, keep well supplied with water, and give plenty of air. In these sizes of pots the plants may be allowed to flower, but if they are very vigorous and fill the pots with roots, shift them into 11-inch pots early in April, using a compost of two parts loam from turf, one part leaf mould, and one part old cow dung, with one-sixth of sharp sand. More water will be required as the plants grow; only give it when the soil becomes dry, but before the foliage flags. Manure water may be supplied once a week after the pots are filled with roots. The plants, when well grown, are fine objects for conservatory decoration, and splendid for borders.

BEGONIA MANICATA CULTURE (*Idem*).—The Begonias you name are fine for winter or early spring-flowering. They should from August have been kept rather dry, and in a cool temperature of from 56° to 55° at night. In January the temperature may be from 55° to 60° at night, and from 65° to 70° by day, with a rise from sun heat, and this, with a moist atmosphere, and a moderate amount of air, will bring them into fine bloom, which continues a long time. The flowers are very valuable for bouquets. It is remarkable that such free-flowering useful plants are not more generally cultivated. After flowering encourage a good growth, and that secured, gradually withhold water so as to induce rest, and then keep the plants comparatively cool and dry.

EUCHARIS AMAZONICA NOT FLOWERING (*A Puzzled One*).—We cannot account for your plants not flowering, except by the foliage not having been sufficiently exposed to light, and their not having been liberally treated whilst growing, and then well matured by being kept dry and fully exposed to light and air. The plant succeeds in a compost of two parts fibrous loam and one part sandy peat or leaf mould, with a free admixture of sand. Good drainage is necessary, and the plants should not be overpotted. Whilst growing afford a temperature of from 60° to 65° at night, and 70° or 75° by day, with a rise from sun heat, maintaining a moist atmosphere, and giving a plentiful supply of water. When the plants have made a good growth gradually withhold water, place them in an airy situation near the glass, and give no more water than is sufficient to keep the foliage from flagging, and to do this very little will be required. A temperature of from 55° to 60° at night, and 60° or 65° by day, will be sufficient when the plants are at rest, with an advance from sun heat.

DESTROYING COCKROACHES AND WOODLICE (*T.*).—Poison them with equal quantities of honey and arsenic mixed together and laid on strips of paper in places frequented by them. Immense numbers may be trapped, two teaspoonfuls of honey being employed for sweetening half a pint of water. This should be placed in an ordinary basin, which is to be set on the floor at night, with about four strips of wood or plasterers' laths reaching from the floor to the edge of the basin by which the cockroaches will ascend, and will then fall into the liquid, from which they cannot escape. Woodlice in rooms are best destroyed by placing a little short hay for them to secrete themselves in, and then pouring boiling water over the hay. This is best done early in the morning. If it be inconvenient to adopt this mode, take a boiled potato, wrap it in a little dry hay, and put it in a flower-pot, turn the pot on its side in the places where the woodlice are, and they will congregate in the hay about the potato. These baits should be examined every morning.

SCALE ON ORANGE TREES (*F. G.*).—We have not tried petroleum as a destroyer of insect life, but have tried paraffin successfully, but only for trees in a state of rest, and where there were no plants. We do not recommend it either for plants in leaf, and especially under glass. See answer to another correspondent in to-day's Journal, as to the destruction of scale on Orange trees.

GLADIOLI PLANTING—VARIETIES (D. H. S.).—The best time to plant is from the beginning to the middle of March according to the weather. They may be planted in April, but those planted early produce the largest and finest spikes and flowers. A few select and not very expensive varieties are—Calendulaceous, Neptune, Rebecca, Le Poussin, MacMahon, Ophir, Archimedes, The Colonel, Oriole, Madame Basseville, Madame de Vetry, Dixie, Edulla, Dr. Lindley, Stephenson, Princesse Clothilde, Goliath, John Waterer, Tippe Sahib, Berenice, Marie, Clara, Brenehleyensis, Aglio, Dr. Andry, Mrs. Lombard, Ziee, and Mrs. Siddons, all strong growers. Of lesser growth—Adonis, Fanny Rouget, Mara, Pluton, Junon, De Candolle, Laila, Reine Victoria, Lemonade, Walter Scott (Standish), Madama Duval, Diane, Isoline, Charles Dickens, Peter Lawson, Mario Dumortier, Stuart Low, Lady Morgan, Madame Damago, Achille, Eugénie Verdier, Napoleon III., Cardinal, Rembrandt, Flore, Samuel Weymouth, and Ceres.

AGAPANTHUS UMBELLATUS CULTURE (Idem).—It succeeds in a compost of two parts turfy loam and one part leaf mould. The best time to repot is immediately after flowering, or when in active growth. The plants may be placed out of doors in May, and should have an abundant supply of

water; and if the pots or tubs are not plunged, they may be placed in saucers filled with water. The plants should be housed before severe weather sets in, and merely protected from frost, and no more water should be given than will keep the foliage fresh. A light and airy situation should be given. They flower best when under rather than over potted.

ARTIFICIAL MANURES (Idem).—We tried "Paxton's Horticultural" and "Carter's Fertiliser," and consider them beneficial to plants.

NAMES OF FRUITS (A. D. A.).—The box sent by simple post was charged 4s., so we declined receiving it. (J. B. D., Ryde).—Your Apple is the Scarlet Pearmain. (Centurion).—All that we can identify are: 5, Siberian Harvey; 9 and 10, Calville Blanche; and 11, Coe's Golden Drop. There is no Apple named "French Pippin;" 2 is not "Warwickshire Pippin." (Lambert, Dublin).—1, Duc de Nemours; 2, Louise d'Orleans. The Apple we do not recognise. (C. T. H., Dorset).—1, Beurre de Rance; 2, Beurre Diel; 4, Alfriston; 5, Wheeler's Russet; 7, Ruasot Nonpareil.

NAMES OF PLANTS (Nemo).—We cannot identify plants from leaves only, we require flowers. (W. L.).—Liquidambar styraciflua, or Sweet Gum Tree. (Dr. Bryant).—Coccoloba platycladon.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending November 10th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 4	29.664	29.553	58	39	50	49	W.	.20	Overcast, cold wind; boisterous with rain; fine at night.
Thurs.. 5	29.677	29.683	49	20	49	50	W.	.00	Clear and fine; fine; very fine, sharp frost.
Fri... 6	29.757	29.732	42	20	45	47	W.	.00	Fine, clear; very fine; cold wind; fine, frosty.
Sat... 7	29.815	29.774	49	21	44	45	N.W.	.00	Sharp frost, overcast; very fine; clear and fine.
Sun... 8	29.872	29.841	45	21	43	45	W.	.00	Fine and frosty; clear and fine; very fine at night.
Mon... 9	29.970	29.937	47	39	42	44	N.E.	.00	Overcast, fine; cloudy and cold; fine, very dark.
Tues.. 10	30.018	29.933	47	34	43	44	N.E.	.01	Overcast, slight showers; very fine and clear; fine at night.
Mean	29.825	29.776	48.14	27.71	45.14	46.28	..	0.21	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

VULTURE-HOCKED BRAHMA POOTRAS TRIMMED, AND THE NO-APPEAL RULE.

THE hock question has during the past season reached a stage which seems to me imperatively to demand that a stand be made against practices which are beginning openly to prevail, and which must have a tendency to drive honourable people out of the fancy. I have been appealed to on several occasions to take the matter up; and now that the large shows are fast approaching, I hope attention may be drawn to the matter with some chance of success.

On two occasions during the past season Mr. Hewitt has given the first prize to a Brahma cock, which when "in a state of nature," or "undressed," or whatever be the most delicate term to express being untampered with, I knew to be hocked almost to the ground. Now, I mention Mr. Hewitt's name out of several instances known to me, not to cast the shadow of suspicion on the best judge we have, but for the express reason that the question may be regarded as apart from all errors or faults of judging at all. Nay, I may add that the same bird had previously deceived Mr. Teebay, and would very likely have deceived me also had I only seen him in the pen; but having happened to see him in his own yard I was perforce made aware of the deception.

Having thus expressly exonerated Mr. Hewitt, I will mention one more case in a pair of pullets which won many prizes last season, and were in like manner shamefully trimmed. When I first saw them I had no time to examine; and so artfully was the operation performed, that, when a friend expressed his opinion that the birds must be hocked on account of their heavy feather, I replied, "Nonsense!" for the exhibitor stood very high in the poultry world. But meeting the same birds again I found they were hocked, the apertures being distinctly visible from which the feathers had been pulled!

Now, I admire heavy feather and a well-covered hock, and I dislike vulture hock; but this question has nothing to do with such points at all. It is a simple matter of honesty and fair dealing. The exhibitor of the pullets I refer to has sold many eggs, and all of which I have any knowledge have produced chicks hocked to the masthead. I even know two instances in which birds were purchased of him, and developed the hock after changing owners. Now, in the face of such practices I desire to ask your editorial opinion on the following questions, and if Mr. Hewitt would add the weight of his opinion also, those concerned would be still more grateful.

1, No judge can be expected always to detect such swindles;

but if, after the prizes are awarded, I or any other individual can prove, either by ocular demonstration or unimpeachable evidence, that hocks have been pulled in a prize bird, ought not such bird to be by such fact disqualified, the name exposed, and the other mentioned birds below promoted one stage each in consequence, without troubling the judge about the matter? I think so.

2, But if this be decided in the negative, are we to conclude that all may trim, so that all may compete on the same level, and honest men have some chance against thieves? I hate the practice, as destructive of all security in breeding, but this would be at least fair and open.

These are questions I should like answered. I do not wish to put the responsibility on the judges, or to open disputes over a prize; but any one who has kept Brahmas and been his own poultryman, as I have, can in most cases from the "set" of the feathers on the thighs tell a hocked bird, and inspection will confirm the suspicion if just. There will be plenty of evidence. And I submit that to disqualify absolutely in every case of this character need by no means open the door to general wrangling, while it is the only way to save our "fancy" from a fast-increasing knavery, which is akin to the boiled-egg business we heard so much of a while ago.

Will you kindly give your own and, if possible, Mr. Hewitt's opinion on this matter? and by so doing oblige many besides—NEMO.

[No honest mind can have a doubt upon the subject. ALL TRIMMING, EXCEPT RUBBING GAME FOWLS AND GAME BANTAMS, IS FRAUDULENT; when detected to the satisfaction of the committee the birds trimmed should be disqualified, the name of the exhibitor published, and the prize awarded to the trimmed birds either forfeited or given to the next most meritorious pen. Holding this opinion, we need not express any opinion on the second question.—EDS.]

FRAUDS AT POULTRY SHOWS.

KNOWING the strong feeling of disapprobation which you entertain with regard to underhand practices in the preparation of poultry for exhibition, I venture to address you on this subject.

It appears to me that all exhibitors who are determined, cost what it may, to adhere rigidly to upright dealing, should unite, and endeavour to put down practices which otherwise must eventually drive honourable competitors from the field. I allude more especially to those trimmings of combs (not Game), dyeing of feathers, extraction of faulty plumage, &c., which from their exceeding cleverness might easily escape the detection of the most scrupulous judge, especially amidst the multitude of birds in very large shows. It would be really

distressing if poultry shows, which of late years have become so deservedly popular, and which add so much to the enjoyment of many country homes, should fall out of the hands of honourable people, and be abandoned to the less scrupulous.

I venture to suggest what seems to me might to a great extent remedy this evil. Let all committees of poultry shows insert on their forms of entry a separate paragraph to the following effect, this to be signed separately by each exhibitor:—

"I hereby affirm that all birds exhibited under my name at the — Show, date —, are my *bona fide* property; also that no bird of mine has been, to my knowledge, in any way trimmed (with the exception of combs in Game fowls).

"Signed — (Name of exhibitor).
A fine of £20 will be enforced if the above certificate is found to be falsely signed."

I merely throw out these few suggestions to be improved upon by the various committees of poultry exhibitions.—AN HONEST EXHIBITOR.

[We think that each exhibitor might be required to sign a short memorandum of an agreement binding himself to forfeit a specified sum if the birds he exhibited were trimmed or dyed.—Eds.]

POULTRY SHOW DETAILS.

THERE are many things connected with poultry shows, such as entrance fees for various classes of fowls, the length of time shows are held, and several other details, which require amendment, and I should be glad if exhibitors who are likely to be at the forthcoming Birmingham Show, would meet together, and discuss the various subjects which would be brought before them. I am not much acquainted with Birmingham, but would suggest that we meet at some suitable place, say on the Saturday or Monday evening. If any one would name a likely place to meet, I would inform exhibitors by an advertisement in the next number of the Journal.—J. WALKER, *Haya Park, Knaresborough.*

IPSWICH SHOW.

I QUITE agree with your remarks respecting the position of pens, roup, &c. Fowls with roup ought to be rigidly excluded. At Stowmarket the Dorkings were frightfully affected. Why not make a rule accordingly? I should also like to see the obnoxious entrance fee to this and all other shows abolished. I would likewise suggest the propriety of having generally a scale of charges for pens adopted—thus, one pen 5s.; two, 8s.; three, 11s.; four, 14s.; five, 16s.; and there stop, to begin again at the same rate. Lastly, surely a plan might be adopted to prevent shows clashing as they now do.—HENRY P. LEECH.

[The remarks about the "too late" pens, and the man being in the room when Mr. Howitt was judging, should be sent to the Committee. The explanations might be satisfactory, and then no one would be annoyed unnecessarily.—Eds.]

I CONSIDER your report of the Ipswich Show very good, as far as it goes, but it scarcely touches the Pigeons. As you observe, the quantity and quality of the poultry were excellent, and the Committee is deserving of praise; but although there was such an improvement in the poultry, the Pigeons were not so well represented as last year. Not only were the entries twenty-one pens less than last year, but the quality of the birds was not equal, and the Carriers and Pouters, being placed below, were seen to great disadvantage, although several of them were, as you justly observe, some of the best birds in the fancy. It must, however, ever be quality rather than quantity that makes a first-class show. Last year there were thirty-seven pens of the three higher classes of Pigeons, against twenty-three of this year; but in the variety and selling classes there was an increase. This arises through showing Carriers and Pouters in pairs, instead of as single birds. It is almost impossible to get a first-class show of Pigeons where Carriers and Pouters are to be shown in pairs, because several of the best breeders of those varieties never show except where prizes are offered for single birds, and the increased number of entries will generally meet the extra prizes. I was surprised after what had appeared in your Journal, to see that one exhibitor had a prize awarded him for two cocks.—L. WREN, *Lowestoft.*

BIRMINGHAM POULTRY SHOW.—The entries for the Birmingham Cattle and Poultry Show, which commences on Saturday,

28th inst., are unusually numerous. The entries of poultry amount to 2312 pens; and of Pigeons to 445.

SHEFFIELD COLUMBARIAN SOCIETY'S SHOW

THIS, the tenth annual Show, was held at the New Inn on the 2nd inst.

BIRDS OF 1868.

CARRIERS.—First and Second, T. Colley, Sheffield. Third, J. Deakin, Burrowlee.

POUTERS.—First and Second, H. Brown, Walkley. Third, W. Harvey, Spring Vale.

TUMBLERS.—First and Second, H. Brown, Walkley. Third, T. Wilkinson, Walkley.

FANTAILS.—First, T. Wilkinson. Second, H. Brown, Walkley. Third, G. Westenholm, Sheffield.

OWLS.—First and Second, T. Wilkinson. Third, H. Brown.

TURBITS.—First, T. Wilkinson. Second and Third, R. Siddall.

DRAGONS.—First and Second, W. Harvey, Spring Vale. Third, — Deakin.

ANY VARIETY.—First and Third, E. Brown. Second, — Bower.

BIRMINGHAM PHILOPERISTERON SOCIETY.

FEW exhibitions have ever shown a more excellent commencement than that held on the 4th and 5th inst.; it was decidedly one of the best Shows of Pigeons we have ever seen in this locality. The arrangements were excellent, and the Exhibition was attended by the public in larger numbers than was expected. Scarcely a single class was deficient in quality, and the competition in most of them was unusually severe, consequently a complete success was secured. Perhaps the best classes were the Carrier, Pouter, Fantail, Dragon, and variety classes, though almost ever one was excellent. Mr. Yardley, who, as a judge, contributed some pens to the Show, did not compete, though exhibiting a first-class cage of twenty-one Short-faced Tumblers of great beauty and value, which were generally admired. Several other varieties shown, but not for competition, by Mr. Yardley, contributed not a little to the interest of the Show. The class for Antwerps was of decided excellence, as were the Carriers, Jacobins, Fantails, Trumpeters, Owls, and Turbits; the Barbs, Magpies, Swallows, Ice Pigeons, Nuns, and Satinettes, being also very good. With so good a beginning, we have little doubt that at a future date this Society will secure a very large amount of popularity.

BIRDS OF 1868.

CARRIERS.—First and Highly Commended, G. F. Whitehouse, King's Heath. Second, J. E. Cleveland, Birmingham. Third, F. F. Foster, Birmingham. Commended, T. Robson, Penkridge; G. F. Whitehouse.

POUTERS.—First, Second, and Third, F. F. Foster.

ALMONDS.—First, Second, and Third, T. Balderstein, Derby.

BALDS AND BEARDS.—First and Second, J. W. Edge, Aston New Town.

SHORT-FACED TUMBLERS (Any other variety).—First and Second, T. Balderstein. Third, G. F. Whitehouse.

JACOBINS.—First and Second, J. W. Edge.

FANTAILS.—First, G. F. Whitehouse. Second, F. F. Foster. Third, J. W. Edge.

TRUMPETERS.—First and Second, T. Robson.

OWLS (Foreign).—First, F. Graham, Birkenhead. Second, C. Barnes, Birmingham.

OWLS (English).—First, Withheld. Second, C. Barnes.

TURBITS.—First, T. Robson. Second and Highly Commended, C. Barnes. Third, J. W. Edge.

BARBS.—First, Second, and Third, F. F. Foster.

NUNS.—First and Second, G. F. Whitehouse.

DRAGONS.—First, Third, and Highly Commended, G. F. Whitehouse. Second, J. W. Edge.

MAGPIES.—First, T. Robson. Second, J. W. Edge.

ANTWERPS.—First, J. E. Cleveland. Second, F. F. Foster. Third, C. Barnes.

ANY OTHER VARIETY.—First and Second, J. W. Edge. Third, C. Barnes. Commended, G. F. Whitehouse; J. W. Edge.

BLUE BADGES.—First, J. W. Edge. Second, A. Walthew, Birmingham.

BLACK SADDLES.—First, J. W. Edge. Second, — Bartleet.

SADDLES (Any other colour).—First, A. Walthew. Second, H. Sproston (Red).

MOTTLES.—First and Second, J. W. Edge.

ROSEWINGS AND REDBREASTS.—First and Second, J. W. Edge.

BIRDS OF ANY AGE.

CARRIERS.—Cocks.—First and Commended, G. F. Whitehouse. Second, G. Sturgess, Leicester. Hens.—First, C. Barnes. Second, G. Sturgess. Third, J. E. Cleveland.

POUTERS.—Cocks.—First, G. Sturgess. Second, F. F. Foster. Hens.—First, G. Sturgess. Second and Highly Commended, F. F. Foster.

ALMONDS.—First, T. Balderstein. Second, F. Graham, Birkenhead.

BALDS AND BEARDS.—Prize, F. Graham.

SHORT-FACED (Any other variety).—First, F. Graham. Second, Withheld.

FANTAILS.—First, J. W. Edge. Second, F. Graham. Highly Commended, F. F. Foster.

OWLS (Foreign).—First, F. Graham. Second, J. W. Edge.

OWLS (English).—First, F. Sale, Derby. Second, J. W. Edge. Third, C. Barnes. Highly Commended, F. Graham.

TURBITS.—First, F. Sale. Second and Third, J. W. Edge. Commended and Highly Commended, C. Barnes.

BARBS.—First and Second, F. F. Foster.

NUNS.—First, F. Graham. Second, G. F. Whitehouse.

DRAGONS (Blue).—First, F. Graham. Second, J. Walters, Derby.

DRAGONS (Any other colour).—First, F. Sale. Second, J. W. Edge.

MAGPIES.—First, F. Sale. Second, F. F. Foster.

ANTWERPS.—First, J. W. Edge. Second, J. Walters.
 SWALLOWS.—First, G. F. Whitehouse. Second, F. Salo.
 ANY OTHER VARIETY.—First, F. Graham (Runts). Second, Withhold.
 ANTWERPS.—Cocks.—First, F. F. Foster. Second,—Bartleet, Birmingham. Third, J. E. Cleveland. Highly Commended, J. E. Cleveland; C. Barnes; J. W. Edge.
 BLACK BADGES.—First,—Bartleet. Second, J. W. Edge.
 BLUE BADGES.—First, J. W. Edge. Second, A. Walthow.
 BADGES (Any other colour).—Prize, J. W. Edge.
 BLACK SADDLES.—First and Second, J. W. Edge.
 BLUE SADDLES.—First, A. Walthow. Second, J. W. Edge.
 BOTTLES.—Prize, J. W. Edge.
 ROSEWINGS AND REDBREASTS.—First, J. W. Edge. Second, A. Walthow.
 TUMBLERS (Any other variety).—Prize,—Bartleet.
 The Judges for Fancy Pigeons, were Mr. Edward Hewitt, and Mr. Henry Yardley, both of Birmingham; and for the Flying Tumblers, Mr. William Beardmore, and Mr. H. Harvey, also of Birmingham.

ASTHMA IN CANARIES—NORWICH AND YORKSHIRE VARIETIES.

ASTHMA in Canaries arises from two causes—either from the bird being kept in a room where the air is impure, close, and too hot, or from a disordered stomach. The way to cure it is to feed with soaked rape seed, and bread and milk, giving the patient twice a-week two drops of castor oil, and linseed tea instead of water to drink. Birds cannot endure an impure air. More birds are killed by being hung up in a warm room where gas is, when they are “puffy,” than people imagine. If you keep them from draughts of cold air, it is really surprising the amount of cold they will bear uninjured. I have known the water frozen in prize birds’ drinking glasses. Let “CANARIENSIS” put his asthmatical birds in a large cage with wooden ends and top, give them plenty of cold water to bathe in, bread and milk and soaked rape to eat, no green food—the worst thing, I think, for cage birds—and if anything will cure them that treatment will.

There is as much difference between a Norwich and Yorkshire Canary as there is between a Chinaman and a Scotchman. Good Norwich birds are never seen except in a few hands, and Derby is where they are turned out in the best form. The secret of the high colour (and it is a secret), is only known to about twenty men in England (I do not mean dyeing or anything unfair), and I do not suppose one of them would tell for £500.—HOWARTH ASHTON.

YORK CANARY SHOW.

I saw some very good birds exhibited at York, but I was not satisfied with the awards; I do not, however, blame the Judges, but the system on which they based their decisions. For instance, in the Dark-crested class the first and second prizes were given to two inferior-bred birds, marked, wretched in colour, but possessing good crests. The entries in this class were numerous, and amongst them some beautiful high-bred good-coloured Norwich birds. Mr. Tomes sent a lovely Buff bird, Mr. Blakston a pair, the first and second at North Ormesby Show, and when I say that I sent a beautiful clear Yellow first-prize bird at Sunderland, and another a third-prize bird, it is sufficient testimony of their quality and all of them having very good dark crests. Now, I think, if the judge at an agricultural show awarded the prize to a cow in the long-horned class simply because she had the largest and longest horns, quite overlooking the quality of the animal, it would be as sensible as giving the prize to a bird for the crest alone, and entirely disregarding all other points. I wish to know if a crest should overrule all other points and quality. I quite agree that the crest should rank as the most important point, but I think other qualifications should also be taken into consideration by a judge. The schedule states Class N, Dark-crested Canary.

The same remarks similarly apply to the Light-crested class and the Lizards; one single point seemed to overrule all others.

I also wish to know if, after the judges have awarded a prize, and the show is open to the public, the secretary has any right to remove the prize card and place it on another cage? The case is—I made an error in entering a Buff Belgian bird in the Yellow class. According to the rules this disqualifies me from taking the prize (the money I suppose); but on entering the room I found my bird placed in the right class, and removed from the Yellow birds, and the first-prize card attached to the cage by the Judges. After the Show was opened this card was taken away and placed on another cage. The rules state “There is no appeal from the decision of the Judges,” and my bird was awarded the first prize by them. Should not the card

have remained where it was on my cage? or does not the fact of the officials removing the Buff bird from its number in the Yellow class, and placing it amongst the Buffs and in the right class, correct the error I made in the entry, and entitle me to the prize?

The office of judge is always a thankless one at best, and I will here thank the Judges on this occasion for their courtesy and the friendly way they received any criticisms made to them. I write especially to gain information myself, and in the hope that some day our Canary judges will possess standard and uniform rules to go by. It was the first Show held in York, open to all England, &c., and allowances must be made; but I have no doubt the experience gained will enable the worthy President and Secretaries to get up a very superior exhibition of birds next year. I for one shall hope to support them, as I have no other motive in writing than the object of benefiting Canary shows and Canary judges by obtaining a system of standard and uniform rules. I suggest a conference at the next Sunderland Show.—W. DINSTEY SKELTON, JUN., Leeds.

[We think the Judges did wrong when they removed the Canary to the class in which it ought to have been exhibited; and that the Committee were right in removing the prize card. By being exhibited in the wrong class the bird was disqualified, and though from the judgment of the Judges “there is no appeal,” that judgment is restricted to the merits of the birds. If a bird is exhibited in a wrong class they should pass it over unnoticed; and if the Judges in any way exceed their powers, the Committee only do their duty if they correct the mistake.—Ens.]

TRANSFERRING BEES.

I HAVE about sixteen stocks of bees, which did pretty well on the depriving system this year. I found, however, great difficulty in preventing some of the stocks, which are in small straw hives, from swarming, and as these are also getting old, I am anxious, if possible, to transfer them to Woodbury bar hives, which, from experience, I find the best.

To do this, I purpose next spring reversing the hive, and having fixed it with the mouth of the hive level with the former landing board, placing a temporary bottom board, with a hole cut out nearly the size of hive, and over it a bar hive. By this plan I think the stock will leave the old hive gradually, while it will leave them time to store their new home and bring out the brood, which otherwise would be lost. When, from inspection, I find them well settled in the bar hive, I can cut off the communication between them and shake out the bees still in the old hive, when they will, of course, join the others. From your experience can you tell me if this is likely to succeed? As I have not nearly enough of guide comb, and cannot buy it, perhaps you can tell me if your opinion is the same as some of your correspondents, as to the use of wax sheets. Also if the whole frame must be filled with them, or only a strip at top?—SUPER.

[Although we have had no direct experience of the plan which you propose, we think it will fail in this way:—The bees of the inverted hives will, probably, take possession of the bar hives, which you propose placing over them, just as they would take possession of any other kind of super, and proceed to fill them. The combs which they place therein are, however, likely to be for the most part drone combs, or combs with elongated cells, in either case quite unfit for breeding, which will, probably, continue to be confined to the lower hive and in this way your intentions will be frustrated. We should much prefer transferring the bees and combs directly into frame hives in the following manner:—Towards the latter end of April, or as soon as the stocks become populous, and during the forenoon of a fine day drive all the bees into an empty hive, and put them on their accustomed stand. Take their original hive in-doors, and cut out all the combs whole. Fit these into frames, and support them therein by strips of wood three-eighths of an inch wide, and one-sixteenth thick, tacked at the top and bottom, two on each side of every comb, and by zinc clips when necessary. Thick combs must be pared down, but take care that the cells on either side are of equal length, also that the “partition wall” is in the centre of each bar. Crooked combs should be set straight, and if not sufficiently pliable may be slightly warmed before the fire. It will be found convenient to remove the projecting Woodbury rib from the bars, and the bees will attach their combs to them with greater facility if their under surface be coated with melted wax. Having completed the job and arranged the combs in

their new apartments in the same order as that which they occupied in their old one, deepen the hive by the addition, on the top, of another, from which the frames and crown and floor boards have been removed, set it on the old stand, and knock out the cluster of bees into the upper hive on the top of the frames of the lower one, putting on the crown board immediately. Next morning take away the inserted hive, and the day after that remove the supports from all the combs which the bees have fixed. If any are not secured, their supports may be left until they are fastened. If, however, you consider the combs too old for transferring, you may permit the stocks to swarm naturally, and twenty-one days after the issue of the first, drive out all the remaining bees and add them to one of the swarms, appropriating to your own use the combs and their contents, which will at this time be found nearly, if not entirely free from brood. Or the same result may be brought about artificially by driving all the bees into empty hives in the middle of a fine day during the month of May, and establishing them as swarms in Woodbury hives on their old stands. Their deserted habitations should then be put in the place of other strong stocks (which must be removed to new positions), and dealt with twenty-one days afterwards in the manner already described. Strips of artificial comb, or embossed wax about an inch wide, are excellent substitutes for guide combs.]

WAX SHEETS—HIVES QUEENLESS—QUEENS UNPROLIFIC.

To be successful with wax sheets they ought to be deeply impressed, and of one uniform thickness, otherwise the apiarian will find to his or her loss, that bees placed amongst plain sheets will at once commence excavating the bases of the cells, and in so doing will cut through the wax instead of building on the already-laid foundation. The waxen sheets, perforated in this way as if by so many shot-holes, will ultimately fall, and instead of appearing paragons of neatness, will become masses of almost worthless combs, fit only to be remelted. This, the experience of myself, as well as others, is directly opposed to the conclusions of "APICOLA," (see page 199).

I have also been puzzled to account for his queenless stocks building worker instead of drone combs. If this took place with plain sheets it is a remarkable fact; if with impressed sheets it is a proof of their superiority over plain ones, and controverts his own argument. What is said of the bees rejecting waxen sheets, and taking to combs in preference, proves nothing against them, since it is natural for bees to take to the farthest-advanced pieces, showing their sagacity in so doing. Instead of my bees rejecting impressed sheets they are passionately fond of them, and I had this season to remove several unoccupied hives that had been furnished with sheets and were standing ready for swarms in the bee house, owing to the bees from some storified hives taking possession of them.

"APICOLA" goes on to say, that "The expense is, however, a great objection, the makers charging 6d. a-piece for them." He speaks it without taking into consideration the pains that are required in making these not once only, but, perhaps, some of them requiring to be remade several times ere a marketable sheet can be obtained. Besides, when sheets are ordered, it often happens that six or twelve are the most that are wanted, and when packing and packing-box is taken into consideration, 6d. a-piece is not too much for them. When many dozens of these sheets are ordered at a time, they can be had at a considerable reduction. As I am now in want of some hundreds, and cannot even purchase wax at that rate, I should be glad if "APICOLA" would communicate with me with the view of supplying me with wax sheets of the dimensions which he states, at 1d. each, or even a fraction more, but they must be sheets that will please one who makes them.

I should also be glad if "APICOLA" would explain the circumstances under which his queenless hives built worker instead of drone comb. Through all my experience I never yet found a queenless stock build worker comb, but, on the contrary, have known queenless bees transform worker to drone comb, and stocks build drone combs readily when their queen relaxes laying. It is, indeed, only by selecting fertile queens, keeping them laying, and avoiding waste of eggs, that surplus drone combs can be avoided. A young queen whose bees build drone combs ought to be destroyed, as it shows either a defect in her organs, or that she is not prolific, in which case the hive will go to ruin, unless a change of queens be effected. It is, in fact, best to examine every hive containing a young queen, lest

she should not be prolific, since otherwise the defect may not be detected until a new queen has been raised, when it is too late for impregnation, and the hive may in this way be lost.

The instinct which prompts bees to raise young queens whenever their own queen is reluctant to lay, is not always attended with success, as, for example, a perfect young queen may only be taking a rest that nature demands, when the bees commence raising others, and should one of these be allowed to reign, and the season be far advanced, the stock will be lost. "Feed your bees in autumn, and you will have good hives," is a common saying. This, however, only holds good when they are fed early. August is the best time, as it affords the bees the opportunity of raising young queens ere all the drones are killed, in case the old queen or even a young one be nearly exhausted. Queens which cease laying in September, or even sooner, and do not recommence until March, often produce the best hives, as in this case their powers are not impaired by continuous laying, and then, as with poultry, they lay constantly for the time, and changes of queens are not so frequent. Bees when fed so late as October, naturally commence breeding, and the young ones thus produced often do not have a favourable opportunity for airing until the spring months, by which time they are so swollen by long confinement that they are almost sure to be lost, and present the appearance of dysentery. Besides this, bees that are late-fed do not seal up their honey, so that their hive instead of being a comfortable dwelling becomes a miserable one, and many a queen which might have bred on until the spring, becomes dethroned, and is succeeded by a young princess.—A LANARKSHIRE BEE-KEEPER.

MICROSCOPICAL INVESTIGATIONS INTO THE NATURE AND ORIGIN OF FOUL BROOD.

WITH great pleasure I respond to the invitation of the "DEVONSHIRE BEE-KEEPER," in page 311, to give my opinion of the theory advanced in the very able and interesting paper of Dr. Preuss. At the same time it is with considerable diffidence that I venture to make any remarks on the subject, inasmuch as I am neither a fungologist nor an adept in the use of the microscope. I can neither confute nor corroborate the truth of the appearances which foul brood has presented under his manipulations; but I may remind the readers of "our Journal" that Mr. Edward Parfitt, in his investigation of foul brood, arrived at results apparently different from those of Dr. Preuss. The former discovered minute animals in the material submitted to him for examination, the latter appears to have found fungi only.

Now, I have always regarded fungus as an effect, and not the cause of decay. Its origin and development depend in a great degree upon influences which may be called atmospheric. For example, the past exceptional season caused the Mushroom fungus to spring up in places where, perhaps, no one living ever saw it before. And reasoning from analogy, I would say the fungus in disease owes its origin and development to disease, but does not occasion it. I doubt much whether it will even live where the vitality of a subject is perfect and its health unimpaired. If spores attach themselves to larvae and multiply in such numbers as to be inconsistent with the continued life of the organism on which they are discovered, I expect these deposits have found a soil prepared for their reception. The subtle influence which occasions death and decay must have been previously at work. We are all anxious to know what that mysterious agent is; and I cannot help thinking it is a miasma or poison generated by putrescent bodies, that have died at a particular stage of existence, under favourable states of atmosphere. I am therefore of opinion that the vital principle in a subject must have been injured prior to the fungus taking possession of it. The views of Dr. Preuss are nearly identical with those propounded by "G. F. E., Spalding," in the Journal of September 1st, 1863.

If spores attach themselves to the feet of bees, how can a swarm emanating from a hive virulently affected with foul brood escape carrying the disease along with it? But I have witnessed on various occasions perfectly healthy colonies go forth from habitations in which the plague was raging. Besides, we should expect a fungus to die when the material on which it subsists has been exhausted. Is not its pabulum gone when the brood combs are excised on the approach of winter? but in an infected hive the virus remains after every comb has been extracted. It even adheres to it for years when not neutralised by some such agent as chloride of lime. A putrescent body is no doubt a fitting nidus for spores; and

I do think that sealed-up larvae, dying from whatever cause, and continuing unremoved, have much to do with the introduction of the foul-brood pest into our hives. Those of a certain age very soon pass into a treacherous state of consistence, and adhere to the cells, giving forth an offensive odour; and it is in these putrescent hodies I believe the germ of disease is to be found. At all events, in making use of combs in which I had allowed the brood to perish of cold and rot, I have found most unsatisfactory results follow. This was even the case when I was at due pains to clean out every cell that had become putrid. Foul brood generally followed, certainly not with virulence at first, but as an evil that would go on increasing. Now, cells of the description referred to are frequently to be met with in spring and autumn in hives where the population is scant. I have made several direct experiments with combs from which I had extracted putrid brood which had been allowed to die of cold, and I have no hesitation in saying that healthy hives were tainted by their introduction.

Notwithstanding all I have said, it is still possible that I may have been making use of previously-infected combs, in spite of the most painstaking examination.—R. S.

[With regard to the microscopical examination of foul brood which Mr. Edward Paritt so kindly undertook at my request, and the result of which was published in "our Journal" on the 24th of November, 1863, I may now state that his investigations were subsequently repeated by competent observers, who came to the conclusion that the minute "animals" figured by that gentleman were merely vibrations of some kind. These are a family of very minute organisms, well known to microscopists as being present in all or nearly all infusions of decaying or putrid substances, as well as in the purulent matter of tumours, and even in the tartar of the teeth. Their nature, however, is not as yet clearly understood, it being doubtful whether they are animal or vegetable; but it seems to be certain that they are the effect and not the cause of disease, and this I fancy is most probably the case in respect of the fungi discovered by Dr. Preuss.

I have myself had no experience of swarms issuing from hives infected with virulent foul brood, and in the face of such an announcement it may appear almost presumptuous in me to doubt the correctness of so accurate an observer as "R. S." Having regard, however, to the pestilential character of the disease, I am almost disposed to question whether a perfectly healthy swarm can ever issue from a virulently diseased stock. It is, of course, just possible that a tainted swarm issuing with a virgin queen, and placed in a pure hive, may completely purge itself of the infection by reason of the period which must elapse before the commencement of egg-laying serving to exhaust the virus in the same manner as the three or four days of penal discipline and inanition, which are recommended by Dzierzon; but I cannot but believe that however healthy such a swarm may appear at the outset, it will generally be found that the disease is only latent, and that in the vast majority of instances it will sooner or later reassume all its former virulence.

I am, moreover, firmly of opinion that perfectly healthy brood, no matter what its age may be, can by no possibility be made to pass into that peculiar kind or phase of decomposition in which it assumes a brown colour and a treacherous state of consistence, adheres to the cells, and gives forth an offensive odour. All these I regard as unmistakable and indubitable evidence of the presence of virulent foul brood, and I would on no account admit within my apiary either the bees or the combs from a hive in which I found a single cell of this description.

The perusal of the foregoing article from the pen of my valued friend and correspondent leaves, therefore, upon my mind the painful impression that nearly all—perhaps, indeed, every one—of the stocks which he possesses, or to which he has access, are more or less tainted with foul brood; and that from this cause, in spite of all his laborious and painstaking examinations, the results of his very laudable experiments and investigations into the nature and origin of foul brood have been most unfortunately vitiated by the unwitting use of previously-infected combs.—A DEVONSHIRE BEE-KEEPER.]

MY DOGS.—No. 3.

MY DOG WHEN I WAS A LONG LAD.

In the *Saturday Review* there has been a series of papers on womankind, most of them unfair, one of them very offensive.

I allude to that entitled "The Girl of the Period." The writer of this production is, I imagine, what Dean Swift called "a nice person," which he said meant "a person of nasty ideas." But just as people who are habitually liars occasionally speak the truth by accident, so this "nice" or "nasty" writer, describing girls between the school and the young-lady age, calls them "nymphs," a very happy term—not children, nor yet romping schoolgirls, nor yet settled down into young-womanhood. But by what term can I describe the same age in the other sex? Youth pairs with maiden, and both imply—love. But there are yet a few years between childhood and youth before that pleasing troubler comes. "Hobbledehoy" is not a pleasant word; it seems to imply awkwardness and clownishness. We see before us an uncouth farmer's son, whiteslopped and bobtailed. Now suppose that, in want of a better term to describe this portion of human life in mankind, I call it the "long-lad" age. The long lad is no more a play-absorbed boy, but he is not ashamed of coming down to a good game occasionally. He is not so ready as before to make friends with everybody—

"To bear his heart upon his sleeve,"

but he delights in a chum. He is uncommonly shy before ladies, especially if he be a very long lad; but he is a capital brother to his sisters, and is ever ready to use his long strong arms in their service, to do for them what they have not strength or height enough to do for themselves. The long lad is getting out of the Egypt of dirty clothes and fingers, and untidy hair, and just near enough the Canaan of youthful beauty to rush to his room at the sight of strangers, and put on a new necktie, which he considers the very sum total of dressing. The long lad is frequently, nay, almost always, absorbed in some favourite fancy or pursuit. Rabbits he deems childish, so he goes in for Pigeons, and is learned in the length of a beak, or the number of feathers in a tail. Or if he is in the way of learning to shoot, and obtains by coaxing a gun, that becomes his delight, his charmer, his everything—it is to him what his horse is to an Arab. The long lad envies not the man with a license, who may only shoot here and there. He shoots everywhere. His game is Rabbits, Fieldfares, and Wood Pigeons. He will spend hours in pursuit of such, watching and waiting like a sentinel in the damp and cold. But the long lad usually delights also in a dog, which he will teach all manner of tricks, but a rat dog and a rabbit dog it must also be.

When I was a long lad I had a rat dog, a terrier, sandy in body, dark in muzzle and legs, therefore as to colour a black and tan reversed. He was bought because of his quickness at ratting. His name, of course—Pincher—not a refined name; but the long lad cares little for refinement, he goes in for fun and for sport. His name, as I said, was Pincher, and it is wrong to change a dog's name. He will take another, but not wholly, and is delighted beyond measure if any one calls him by his old name. I fancy a dog feels it to be a sort of insult or rudeness, as it certainly is for other people to call one's children by a different name to that by which they are called by their parents. If I always call a son Henry, I think it bad manners, as it is, if another person will insist on always calling him Harry.

Well, Pincher was bought and brought home in the evening to exhibit his rat love and prowess in our barn, then rat-troubled. I brought him home, and you will usually find it correct, that whoever brings a dog to a new home, that one of the new family he takes to. He seems to think, "I knew you first, and you were kind to me; you brought me into a scene amid new faces, I knew your's first. I turned to you as a friend; you were kind to me first, so I love you best. You brought me my first milk, or my first bone, and you took me to my kennel and fetched a bundle of clean straw, and carefully put a pan of water near me, and as you showed me love first of all, I'll give you my love in return."

Pincher's performance in the barn was most satisfactory; among rats he was in his element, and at the very highest pinnacle of his being's enjoyment. Not a hunter with bounds in full cry, not a sportsman when the brown-backed covey rises before him, has more intense joy—joy that thrills through his frame and looks out at his eyes, than has a terrier among rats. Notice his forward-thrusting, audibly-smelling nose, his attitude of perfect symmetry, his keenness, his eagerness, his sharp short bark, and his sharper whine—a noise only heard when rats are near, and, to sum up, if it be dark, his eyes shooting green fire.

The long lad and Pincher went to many a rat hunt, specially when a corn stack was being lowered. The rats go lower as

tier after tier of sheaves is removed and put into the jaws of the threshing machine. At last every refuge fails, and the poor vermin are obliged to run, for the very last sheaves are being lifted. That is the time for a terrier to show his skill. Men brandish sticks, boys shout, and run after the running rats. A coward dog cries about his bitten nose, he having made one clumsy attempt at killing a rat and, ha! made up his little mind never to try again; while, on the contrary, the practised, business-like, bold terrier kills, and kills, and kills, losing not a moment of time. It is a nip and a toss, then another rat is nipped and tossed, and then another, faster than you can read this account. It is an exciting scene, and a good rat dog acts like a good surgeon, cleverly and quickly doing his work.

But if Pincher had his virtues he had his vices too, and they, alas! were the result of his intercourse with man. He was, I am ashamed to have to write it, a taught thief; but as he stole not for himself, but for his master, so

"E'en his failings leaned to virtue's side."

To our great surprise, Pincher one day brought home a pound of butter, and laid it, not in the least injured, for he had a very tender mouth, at our feet, looking up expecting to be "highly commended," for his eyes and ears and tail showed very evidently that he thought he had performed a very meritorious action. A mutton chop was brought another day, a piece of cheese another, and so on.

Poor dog! He had been trained by a dishonest master to steal, and so he stole for me. I watched his method of proceeding. He would stand on the top step of a butcher's shop door, one forefoot raised, and his eyes peering in. So long as the butcher was looking his way, he did no more than look in, but when butcher and customer had both turned their backs, then Pincher bolted in, and invariably chose a very nice piece of meat. Home then he came, as to eat the meat or even gnaw it, that never entered his thoughts; he was a disinterested thief. With more truth than Falstaff, poor Pincher might have said, "Convey the wise it call," for he simply conveyed eatables from one house to another. To return the thing stolen was not always possible, as Pincher did not always deal at one shop. Soon this thieving became a nuisance.irate fast-trotting butcher boys followed Pincher with cracking whips, but never caught him. The grocer's youngest apprentice appeared at our door in a highly excited mood demanding stolen butter or cheese, or once a blacking-brush. The dog was beaten, but he stole all the more, thinking that he had not stolen enough to please. It was not pleasant to ride past a shop with the dog at one's heels, and to hear, "Look out, there goes the thief," the words seemed to have a personal sound. At length, gradually, very gradually, Pincher was taught better. Somehow it was made to enter his head that not to steal at all was the right thing, and to steal was the wrong thing. Yet it was manifest that he loved the fun of the thing. Often would he stand and look into a shop, and then look at me, saying plainly in eye language, "Do let me, only this once, it is such capital fun." I am sure the excitement of the chase pleased him. The impotent-to-catch, but furious butcher, baker, or grocer, the consternation he caused, all this delighted the dog. "You can't catch me, you can't catch me," and away he went, knowing that he had four legs, and a good start, and his pursuers only two.

I said that Pincher by hard training became reformed. Reformatories did not exist then, or I might have sent him to one. Long time, like a reformed drunkard, did he hang round the various scenes of his former exploits, but fully reformed he at length became.

Pincher's exuberant spirits occasionally got him into sore disgrace, as when rushing one day into my Pigeon loft (he was accustomed to go in with me), his rat wettle up, off flew a hen Barb, a new-comer, just hatching her first eggs; the dog seized her, and she was limp and dead in a moment. My displeasure was almost unbounded, as was Pincher's penitence. My only Barb hen, and not another nearer than London, and no other Pigeon to take to the eggs. But except for a scrape or two such as this, Pincher lived in favour, he was the companion of my long-lad days, and he helped to make them more agreeable, and, perhaps, even more innocent.—WILTSHIRE RECTOR.

OUR LETTER BOX.

FEEDING ONE HUNDRED FOWLS (*H. C.*).—We cannot advise anything better than what you already make use of—viz., barley and Indian corn, with a change of wetted meal, but we are no advocates for buckwheat. It

might, perhaps, be more economical to substitute offal wheat for barley, where it can be had for 3s. or 3s. 6d. a-bushel, and we should think a bushel of this ought to last more than a week, and if about 3s. or 4s. worth of a mixture of barley meal and pollard were mixed with any waste potatoes, including the outer parings, boiled and mixed-up with the meal into a thick paste, we think the whole ought to be kept for, say, 8s. or 9s. per week. Of course, much depends on whether many of them are young or not, as young fowls require more feeding than old ones. If they are to be kept in condition fit for table, more food may be wanted, but in general old birds do not lay so well when overfed, and we like a fowl direct from the yard better for table than a coop-fatted one. We need hardly say that in mild open weather the fowls will pick up a good quantity of food from the ground.

MANAGEMENT OF FOWLS (*Cestria*).—Your *INN*, No. 1, will do perfectly for Game fowls, or Bantams, or Silkies. It would do for a small run of Cochins, and these would be the most profitable. No. 2 will do well for Brahmas. We have Bantams running about our kitchen garden without doing any damage. If you keep the house clean, and supply the fowls in a dry basking place with road sand or wood ashes mixed with black sulphur, they will have no vermin. You should feed three times per day—at daybreak, midday, and evening. Good barley, ground oats, barley meal are all good food. Indian corn is a change, and the table scraps are excellent helps. Sand is a bad bottom for a pen. Gravel is the best, road-grit is next, but sand is cold, damp, and sloppy.

FEEDING GOLDEN-SPANGLED HAMBURGHS (*Far West*).—Peas are only used to harden plumage, and to give many of them is injurious feeding. Ground oats form the best food for fowls, varied with Indian corn in small quantities, and with stale crusts and crumbs steeped in milk, or in cold weather in strong beer. Wheat is not good food.

DUCKS' EGGS DARK-COLOURED (*Capt. Horne*).—It is a sign that the Ducks are not in condition, but does not interfere with the wholesomeness of the egg, nor with its food properties. It is probable, if the Ducks were shut up in an old pigsty for a week, and fed only on meal, oats, gravel, and grass, that the colour would alter. It is worth trying with two or three, as, if the experiment were a success, it would prove that the objectionable colour arose from something eaten by the Ducks, and that interfered with their secretions. These vagaries are sometimes caused by fat.

EMBEDDING GOSLINGS (*A. H.*).—The weight will depend on the age. We have Toulouse Goslings in ordinary running condition weighing 14 lbs. each. We doubt whether you can obtain Embden Geese. Try at Mr. Baily's, Mount Street, Grosvenor Square.

SEX OF IEA FOWLS (*J. W.*).—The sex of Pea fowls can be easily discerned when they are twelve or fourteen weeks old. Barley is all the food they require when they are half-grown, but up to that time they want feeding like young Turkeys or Pheasants. They are delicious eating when about eight or nine months old. Their value under twelve months old is about 8s. each. After that, they vary. When the feathers were the fashion for ladies' hats, a Peacock in colour was worth 30s. The fashion is altered, and he is now worth about 12s. or 14s.

GAME COCK'S BEAK BROKEN.—I have seen, where a cockerel was fighting with another through his crib, the honey substance broken off his upper mandible and leaving a fleshy substance nearly the length of the under one, but it was replaced by a fresh one in a few mouths.—*H. G.*

PIGEONS DISEASED (*A. S.*).—It is best always in sickness, whether of man, beast, or bird, to look at the cause more than the symptoms. Thus if a child has a sore mouth, the cause is a bad state of the stomach, cure that and the mouth will become well. We infer from the state of your Pigeons, that your loft is either cold, damp, or draughty. Fancy Pigeons cannot well be kept too warm; they always do best in a ceiled room. As you have tried the old remedies, and found them fail, adopt those recommended by "A FOREIGNER," a very skilled fancier, in our Journal of July 30th. He says, "Some Pigeons are recovered by one remedy, some by another, and others never; some get rid of roup by a dose or two of charcoal powder, some by a dose of carbonate of soda, or a pinch of alum, and some by a dose of flowers of sulphur." In regard to your Carrier hen not getting her feathers after moulting, this shows also want of warmth—feed her on hempseed, and put her in a warmer place. Put a number of clean screws into your Pigeons' water, we prefer them to nails; but of all things, set to work and make your loft warm. Damp, cold, and especially currents of wind are ruinous to Fancy Pigeons. The excrement left on boards causes a loft to be damp.

STUFFING BIRDS (*Self-taught*).—We know of no liquid that can be applied to birds rendering the skinning unnecessary. In our No. 380, you will find our suggestion about drying moss. We have no further information.

FEED OF A COW IN WINTER (*H. C.*).—If your Alderney cow has the privilege of being turned out on the three-acre field you mention, which she ought to have to do well, and is allowed to pick up a little straw with which she may be supplied as litter, we should think she ought to do well on from 4 to 6 lbs. of cake per day, and about 2 tons of hay for the winter; but so much depends on the amount of extra food she may pick up that the quantity of hay cannot be strictly laid down. In feeding it is advisable to give only a little food at a time and often, and not to allow her to waste much. Some food she will very likely refuse to eat, but let that be as small a quantity as possible. Cotton and other cakes improve the quality rather than increase the quantity of the milk. Soft foods, as brewers' grains, mashies, &c., increase the quantity, but it is poor in proportion to the extent it is so forced. We would by all means turn her out a few hours every day; even if there be nothing to eat, the exercise will be beneficial. We are sorry for the delay in answering your inquiries; it arose from causes not easily perceived.

COOKING CONVE TROCHUDA (*E. D.*).—The midrib of the leaf is the only part used: it is not to be peeled, but must be quite free from the green part of the leaf. For cooking it, tie the kale in small bundles, and cut off the ends to make them all of the same length; have ready a pan containing one gallon of boiling water, and 2 ozs. of salt. Boil the kale rather quickly for half an hour or till tender, dish it up with a piece of toast under. Serve very hot with some good melted butter. The Conve Trochuda dressed as above is an excellent vegetable; but it is never tender till after it has been exposed to the frost. It is not, as generally supposed, a delicate plant, but quite hardy, and can be used all through the winter.—(*From a Correspondent*).

WEEKLY CALENDAR.

Day of Month	Day of Week	NOVEMBER 19—25, 1868.	Average Temperature near London.			Rain in last 41 years.		Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock after Sun.	Day of Year		
			Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	s.				
19	Th	Meeting of Linnean Society, 8 p.m.	48.9	34.1	41.5	17	27	af	7	4	af	4	15	11	37	af	8	5	14	19	324
20	F		49.0	34.5	41.8	14	29	7	3	4	after.	36	9	6	14	5		6	14	5	325
21	S		49.7	35.4	43.0	25	31	7	1	4	50	0	38	10	7			7	13	49	326
22	Sun	24 SUNDAY AFTER TRINITY.	49.2	34.3	41.7	24	32	7	0	4	17	1	42	11	7			7	13	33	327
23	M		47.5	34.6	41.1	18	34	7	59	3	49	1	morn.	9			9	13	16	328	
24	Tu		47.5	32.1	39.8	14	35	7	59	3	1	2	45	0	10		10	12	59	329	
25	W		46.5	33.5	40.0	21	37	7	57	3	21	2	49	1	11		11	12	41	330	

From observations taken near London during the last forty-one years, the average day temperature of the week is 48.3°; and its night temperature 34.2°. The greatest heat was 61°, on the 20th, 1863; and the lowest cold 9°, on the 23rd, 1858. The greatest fall of rain was 0.95 inch.

MARKET GARDENING ABOUT LONDON AND PARIS.—No. 2.



WITH regard to the vast superiority of the French market gardeners in the production of various kinds of vegetables and fruits much has been written, and, at the same time, the habits of the French themselves have been extolled as so much better than our own; on looking at the whole subject, I am inclined to think that after all it is a matter of demand and supply, and that the habits are simply those which difference of climate to a great extent brings about. We are told how far ahead they are of us in the production of winter salads and Asparagus, Pears and Peaches, while contrasts are drawn between our more meaty banquets and their larger supply of vegetables and fruits. Now, the character of a nation's food depends to a great extent on the character of the climate. The Esquimaux of the Arctic circle knows nothing of vegetable food, and were the finest productions of French and English gardens to be placed before him he would prefer his lump of whale's blubber or seal's fat, and to him the greatest treat is the reeking carcase of some fresh-killed walrus. And why is this? We may turn away with disgust from the very idea of it, but he has learned in that cold and bleak climate by experience, what science teaches us—that nothing so tends to generate the caloric he needs, and the white man, who, like poor Dr. Kane, has the misfortune to be shut up in those dreary regions, soon learns that he, too, must abandon his more civilised food, and "do at Rome as Rome does."

Our own climate, although in winter not so cold, perhaps, as Paris in the actual lowness of temperature, has yet that which makes it far more trying in the constant damps and fogs to which we are surrendered; the air of Paris, especially, being dry and thin. I am assured by a friend, whose name is honoured wherever gardening is known, that, from a record of temperature he kept for many years, there is very little difference in the degrees of cold in London and Paris up to the end of April; and yet the Frenchman, who is doomed to spend a winter in London, looks forward to it with feelings of dread, as if he were about to be consigned to Dante's "Purgatorio;" it is the terrible *brouillard* which frightens him, and so terrible does he think it, that nine out of ten Frenchmen believe nearly all London is on the verge of suicide in the early part of winter. Now, this does to a great extent regulate our habits of eating and drinking. Notwithstanding that you may now get claret as cheap nearly in London as in Paris, how few there are who will drink it in the winter months. "Nasty cold stuff," says lusty John Bull, who prefers his foaming tankard of ale or his fruity port; albeit dread "podagra" lurks within the cup. As to salads, oh! the very thought sends a shudder through him; he may condescend to take a bit of Celery with his cheese, for it is warm and aromatic, but I have often noticed at tables where the salad was a constant adjunct, that not one-half of the guests partook of it, and I believe that dread of all sorts of "internal

commotions," and not taste, leads to the refusal of it. And so with fruits, most people think after the beginning of October Pears are over, and at a dessert dried fruits are almost always preferred. Now, cross the Channel, and things are different: the almost universal beverage winter and summer is the thin *vin ordinaire*, while no Frenchman high or low would consider his *menu* complete without a salad, but without that he is a considerable eater of flesh. What with his *côtelettes*, *roti*, *ragoûts*, &c., twice a-day, he does pretty well.

Go further south. The Spaniard with his Water Melon and his *olla podrida*, or the Neapolitan with his macaroni, would consider the Frenchman decidedly carnivorous: his warm climate does not necessitate the heating food of the more northern nations, indeed, it would be positively injurious to him; while in the tropical climes of India and Africa animal food almost ceases to be an article of diet, and Rice, the very thinnest of all the cereals, is sufficient for his wants. Now, it would be very absurd for the Hindoo to laugh at the Frenchman, and speak of his animal tastes; and equally absurd I think it is to hold up the more refined tastes of the Frenchman, because he is a greater vegetable eater than the Englishman.

Now, all this must considerably affect the supply of food. Although a vast improvement has taken place in the quality of meat in the Paris market, yet in vain will you look for the wonderful triumphs of the feeder's skill that everywhere meet you in London; but go into the vegetable markets, and you are at once struck with the difference. We have, it is true, no place save dear, dirty, dingy Covent Garden to display our productions; we lack the truly magnificent Halles Centrales, but with all that you see at once the difference. In Paris salads of various kinds abound in winter—*Chicorée*, which, remember, is Endive, of wonderful size and whiteness; *barbe de capucin*, which is really the blanched shoots of Chicory; Lettuce, both of the Cabbage kind and Cos, or *salade Romaine*, as it is called there, are brought to perfection. But, then, you never see a head of Celery worth looking at, nor in summer a Cucumber that would be tolerated in any English garden, save at such shops as Potel & Chabot's in the Boulevards, or Chevet's in the Palais Royal, and these are evidently imported; the French care little for either one or the other. A *salade de Céleri* is about as uninviting a production as you can well imagine, and as they have not yet learned the value of a Cucumber with salmon or fish in general, it is unearned for. Shall I, then, because the market gardeners of Brentford and Fullam can produce Celery which might well serve for a marshal's bâton, or Cucumbers to be measured by the foot, say that all this evidences the vast superiority of English market gardening? No; I say it is simply cause and effect, demand and supply. I know it may be said, "But do we not import large quantities of salad in winter from Paris, and does not that prove that it is in demand, and would pay to grow?" I do not quite see this. Many families have learned to value winter salads, but the great mass of the people do not, and it would no more pay, I believe, for London market gardeners to force salading than it would their Parisian brethren to grow Cucumbers.

A market gardener has to consider the wants of the many, and not the tastes of the few; he requires a sure and not a precarious demand. I have seen baskets of French salad in Covent Garden consigned to the outer circle, although they have been imported by the first-rate merchants of the Central Arcade, showing that there is no such overwhelming demand for them. Again, in the matter of Asparagus, of which more must be said by-and-by, it is decidedly more eaten in France than in England; during the season it is in general demand, and this not so much because of its greater cheapness as of a matter of taste. It might then, perhaps, be of advantage to English market gardeners to grow it more extensively, but there are other crops which are more sure of finding a market than it. Can there be any doubt as to the possibility of the Cornish growers, who so regularly supply the London markets with early Potatoes and Cauliflowers, being equally able and ready to send up any quantity of Asparagus, if it paid them to go in for it?

I do not think that in the mass French folks care so much for the quality of the fruit they eat as for the quantity. With them size is a most attractive feature, and a large Duchesse d'Angoulême Pear, gritty and coarse-grained, from its great size, even finds favour. What can be more insipid than the Abricots de Midi and Pêches de Midi which find their way into the Paris markets? and yet how eagerly they are eaten! Even the far-famed Peaches of Montreuil are to my mind very astringent, owing, probably, to the quality of the soil, and by no means to be compared with those which are grown in some of our most favoured localities.

The Parisian market gardener is in some respects like, but in others very different from, his English *confère*—both have the same facilities for procuring large supplies of manure, without which, indeed, in neither place could the crops be obtained; like him, too, he is being jostled out of his holdings by the extension of the city on all sides; but I believe he enjoys a greater advantage in the cheaper rate of wages. Much has been said pro and con on the matter. I can only say that I entered into this question with some of the men themselves. The very intelligent foreman at —'s, at Clichy, told me that, including everything, his *étrennes* at the New Year, &c., the whole sum that he obtained in the year was 800 francs. Compare this with the foreman of a London market gardener, and I think the advantage will be seen. The men themselves earn about 15 francs a-week; and then most of these market gardeners are very small holders, they work themselves like their own men, and in a holding of a couple of hectares (between 4 and 5 acres), it is not usual to find more than two men in constant employment, besides the owner, and probably his son: hence they can more cheaply send in their supplies. And these men work hard; the foreman alluded to above told me that in summer he worked for eighteen hours, and that without any additional "over-hours" pay. All this gives a considerable advantage to the French market gardener; and yet I very much question with all this, whether there is that superiority in him that some have seen, and whether the method of culture in and about London does not pay quite as well there as the French system in Paris; and this is, after all, the great question. No mere dilettanti notions of what is pretty or neat must enter into the question, it will be simply what pays best.

These facts, for such I believe them to be, will explain much that has been said on the subject, and it is essential, I think, to the proper understanding of it that they should be borne in mind, for we can thus without prejudice look at the whole subject, and derive, it may be, both instruction and amusement from it.—D., Deal.

A LARGE FRUIT GARDEN.

Some time early in October last I had the great pleasure of visiting Mr. Varden, of Seaford Grange, to look over his young plantation of fruit trees, quite enormous in extent. The entire estate consists of 250 acres, with a charming, well-built, and ornamental dwelling-house in or about the centre. One hundred and twenty acres of the estate are formed into a fruit garden, intended to supply the wants of the "black country"—i.e., the coal and iron districts to the north of Pershore. The plantation was finished in the year 1838. The soil was drained and prepared as described below. This garden contains from 40 to 50,000 Gooseberry bushes, and from 90 to 100,000 Currants, mostly Red, only some few thousands being the Black Currant.

The fruit trees, arranged in rows from 15 to 18 feet apart, row from row, and about 12 feet apart in the rows, were for

the most part planted as dwarfs, maiden and two-years-old. They have now grown into trees with heads and several stems, the lower branches having been pruned away.

The following is a rough approach to the number of trees planted in this very interesting fruit garden:—1500 Victoria Plums, 1100 Pershore Plums,* 700 Early Rivers, 500 Diamond, 600 Gisborne's, 500 Jefferson (soil and climate too cool for this sort), 150 Reine Claude de Bavay, 120 Autumn Compôte, 50 Damascene (a large sort of Damson).

The varieties that have proved themselves adapted to the cool soil and climate, and are likely to be a source of profit, are Victoria, Autumn Compôte, Early Rivers or Early Prolific, Gisborne's, and Pershore; the Diamond is not quite hardy enough. Mr. Varden has under trial some promising seedlings, raised by me some few years since.

There are several other varieties of Plums cultivated here to a small extent, but at present few seem hardy enough to bear and ripen well. I saw some fine rows of trees in the most vigorous growth of Sandell's Plum, but the fruit had been a very, very thin crop, the climate being too cool or the soil too rich for it.

The plantations of Pear trees are for the most part remarkably healthy, as far as regards freedom from canker, moss, and other plagues peculiar to the fruit garden. First of all I visited a plantation of some thousands of Pears on Quince stocks, in which I have always felt a lively interest. It consists of several thousands of Louise Bonne, Beurré d'Amanlis, Vicar of Winkfield, and some others, all in good health, and capable of bearing large crops; but although they put forth annually abundance of blossoms, they but rarely bear good fruit. For some years after the severe frost of 1860 they seemed to have been paralysed, and were quite barren. They now appear vigorous and healthy, the soil seeming to be admirably adapted for them, but they do not bear to any extent—not enough to pay for their culture. I have never before witnessed so vividly the effect of climate on Pear culture as with these trees, the large extent of a cool soil and flat surface evidently lowering the temperature from 1½° to 2°, thus making the climate a trifling degree too cool. It is evidently not the geographical position of the place, but purely the locality, for in the gardens of Pershore, about three miles to the south of Seaford Grange, and on the banks of the Avon, where the soil is light and warm, the choicest kinds of Pears ripen well on pyramids in the open air. It would seem that in open-air culture the soil makes the climate.

The principal kinds and number of Pear trees grown as standards on Pear stocks are the four hundred Doyenné d'Été (Summer Doyenné), and large numbers of such kinds as Marie Louise, Knight's Monarch, &c. I was much interested with these trees, the first-named in particular, for there were rows of standards, some 20 feet high, forming avenues, every shoot glistening with health, and studded thickly with blossom buds. Knowing well the tendency of this sort to bear with me so freely as to break down its branches with the weight of fruit, I at once inquired as to the crop of the past summer, gathered, as I supposed, in August. The reply was, as far as I recollect, they bore but very few, and have never borne any worth sending to market. Here was another Pear lesson, reminding me of the old fable, which is one of my boyish recollections, and runs as follows:—Two goldfinches, warmed by some fine weather in February, built their nest and had their young progeny; then came March with frost and snow, which killed their young and nearly starved the parent birds. This is, I think, told in verse, and the moral is—

"Mises, the tale that I relate,
This lesson seems to carry—
Choose not alone a proper mate,
But proper time to marry."

This may be easily paraphrased: Choose not alone the proper soil, but proper place, in which to plant Pear trees.

I observed when looking closely into the habits of the Marie Louise and Monarch Pear trees a clear shining bark and healthy buds, but a seeming want of vital force in their structure, arising from a temperature too low and moist in summer. Beurré de Capiaumont, Williams's Eon Châ'tien, Achan, and some others, grow with a robust habit, bear fair crops, and give good promise. Mr. Varden has, like all extensive fruit-tree planters, had to pay a high price for the experience he has

* Some hundreds of acres are occupied with this Plum—a variety of the White Magnum Bonum (its name in the district), of the same colour, but about half its size. Thousands of bushels are dispatched weekly from Pershore in September to the north, and in a green state in summer for drying.

gained, and is gaining annually; but in a climate so variable as that of England it must be so. Those who advise people to plant Pear trees in waste places are sorry advisers.

The Apple trees in the Seaford garden are all very healthy. There are rows and acres of the popular sorts—six hundred Starmer Pippin, four hundred Duchess of Oldenburg, five hundred Damelow's Seedling, and many hundreds of trees of other popular sorts, all free from canker and full of blossom buds. They have not, however, as yet borne freely, owing to the ravages of the grubs of the Winter Moth, which in spring has denuded the trees of blossoms and leaves, thus weakening their system. This pest seems peculiar to Worcestershire, as I have never heard of its ravages in our southern fruit gardens. There is no doubt but that this fine and well-planted fruit garden will in the course of a few years become of great value, for Mr. Varden is re-grafting all his trees that do not suit the climate, with varieties that he has found to do so. The following accurate description of the garden has been drawn up by a resident at Seaford Grange; it seems to me interesting and worthy of publication.—THOMAS RIVERS.

THE FRUIT GARDENS AT SEAFORD GRANGE.

NEAR Pershore (Worcestershire), is one of the largest fruit gardens in the kingdom. It was commenced fifteen or sixteen years since on a comparatively small scale by the owner of the land, Mr. Varden, to afford him occasional relaxation from the duties of civil engineering, which were pressing too much on his health. He afterwards retired from his profession, and has since entirely occupied himself with farming and fruit culture. The garden has gradually been increased to 120 acres; and as in that neighbourhood land is cheap (30s. per acre), and manure dear (10s. per ton), the high cultivation adopted near London and the large towns is not attempted, but something between it and ordinary orchard culture is practised, and with intermediate results both as regards cost of cultivation and value of produce.

The leading idea was, that if fruit were grown without vegetables the rich, deep, high-priced lands which are practically necessary for the latter might be dispensed with; heavy loams at 20s. or 25s. per acre being really better adapted for the growth of Apples, Pears, and Plums than the light soils at from £3 to £5 per acre generally selected for market gardens.

The soil before being broken up was 1 foot of brown loam and 2 feet of yellow loam resting on blue clay. The loams contained 75 per cent. of silicates, 10 per cent. of alumina and peroxide of iron, and 2 per cent. of carbonate of lime. The blue clay contained 37 per cent. of carbonate of lime, and only 6 of alumina and peroxide of iron, so its mixture with the loams would be beneficial; but as it occurred at too great a depth to be brought up by ordinary double-digging, this only occurred to a small extent. When converted by deep thorough draining from a substance like soap into a friable marl it becomes well adapted for the deep roots of large fruit trees, and is by no means an unfavourable subsoil. An analysis of the water which escapes from the drains (4 feet deep), shows that in each gallon there are present 21 grains of sulphate of lime, 10 of carbonates of lime and soda, 6 of common salt, 4 of sulphate of magnesia, and 15 of organic matter.

The soil is one of the middle beds of the lower lias, with little or no alluvial deposit on the surface, and in its unimproved state in 1851 was worth about 16s. or 17s. per acre. Now that it is cleaned, thorough-drained, and useless hedges are removed, and the panic produced by the repeal of the corn laws has subsided, it is worth about 30s. per acre. It slopes towards the east from a brook 40 feet above the level of the sea, to the summit of a hill 114 feet above the sea level. But the gardens do not extend into the lowest ground; they commence at 15 feet above the level of the brook. None of the lucky orchards of the neighbourhood are less than 30 or 40 feet above the bottom of the valley.

From the above sketch it is to be expected that the defects of this site for fruit-growing will be more in climate, resulting from lowness, than in soil. The latter is evidently well suited, even in its unimproved state, to large hardy sorts of Apple and Pear trees; and in the gardens (all of which have been deep-drained and double-dug), Walnut trees and some of the standard Pear and Plum trees have in fifteen or sixteen years attained the height of 20 or 25 feet with every appearance of robust health. A moderate application of manure will supply its deficiencies, and adapt it to the growth of the less vigorous sorts and of the Gooseberry and Currant bushes, which con-

stitute the undergrowth. At first stable manure from the towns was employed for this purpose, but latterly soot has been substituted, the effect of which on lias soils is remarkably good.

Hoar frosts are very injurious to the lower portions of the plantation up to the level of 30 or 40 feet above the brook, and it is to mitigate or counteract the effect of these that attention should chiefly be directed. Mr. Varden has latterly diminished the number of lia trees per acre, partly with the view of allowing them as standards to attain their full height and grow above the level of the most destructive frosts, and partly to lessen the labour of daubing round the stems every third or fourth day in November and December, to check a particular blight—the caterpillar of the Winter Moth, which has infested the Worcestershire fruit districts, especially those round Pershore and Evesham, for the last twelve years. He appears satisfied with the result of this, and experience shows him that there are sorts of fruit which suit his soil and mode of cultivation, and fairly resist the frosts even of his lower ground, and the number of these sorts being small is no disadvantage. The likes and dislikes of the different varieties may be humoured in private gardens where the object is to produce fruit irrespective of profit, but in commercial gardens profit is indispensable. Not only must the peculiarities of soil and climate be more closely studied in the latter, that the produce may be raised at small cost, but peculiarities of markets and means of transit be allowed due weight. For instance, the highest class of fruits, requiring both good climate and abundant manure, are best raised in the metropolitan district, where those united advantages are attainable at smallest cost, and where London, the chief market for such fruit, is within carting distance, so that the damage caused by shifting from road to rail and from rail to road is avoided, and the fruit taken in a ripe instead of an immature state, as is necessary when it goes by railway. Gardens in the midland counties are almost excluded from this branch of fruit-growing; and the cheap rate at which Apples and moderately good summer and autumn Pears are produced in the farm orchards which extend over large portions of the counties of Worcester, Hereford, Gloucester, Somerset, and Devon partially excludes them from growing those descriptions of crop also. The province of commercial fruit gardens in the midland counties seems to be the production of a class of fruit between these two—i. e., the very good, and the very cheap; and even this has to be accomplished subject to apparently capricious arrangements of railway charges, the inequalities of which cannot be foreseen nor controlled. Thus, from the neighbourhood in question the Great Western Railway can convey fruit northward to Liverpool and Manchester, and southward to London. The former is the longer distance, yet the charge for Plums, Gooseberries, and Currants is only 60 or 65 per cent. of what it is to London. The whole of those fruits which are sent out of the district go northwards, hence for the present the proprietors of Worcestershire fruit gardens have only to consult the wants and tastes of the northern populations; but whether the opening of the new Midland line into London may, by competition, lower the rates southward and allow an entrance into the London markets, remains to be seen; but even if it should, only such fruits as can bear the rough usage consequent on changing from road to rail and back again will suit the trade.

The limitation of varieties which must result from the combined effects of natural and commercial causes can in no case be exactly foreseen. Experience is always necessary to determine it, and this Mr. Varden has now had. The numerous sorts of Apples, Pears, and Plums with which he commenced his plantation (some only experimentally), are being reduced to very few, the names of which I need not particularise, but will rather allude to those which have been discarded.

Among Pears usually considered hardy as standards, the Summer Franc Réal, Knight's Monarch, Aston Town, Louise Bonne de Jersey, and Bishop's Thumb are all deficient in vigour. The cause of this is no general unsuitableness of soil to the growth of Pears, as the Crawford, Grey Bauré, Welbeck Bergamot, and Winter Crasanne are in robust health and bear well; it rather points to the former varieties requiring more heat or nourishment. Other sorts, such as March Bergamot, Figue de Naples, Ne Plus Meuris, Broempark, Dunmore, Shobden Court, and Citron des Carmes grow well and bear moderately, but not sufficiently for profit. Similar results attend Apples. The Gooseberry Pippin, Court-Pendu-Plat, Gloria Mundi, all do badly, and Starmer Pippin doubtfully; while Duchess of Oldenburg, Damelow's Seedling, New Hawthorn-

den, Fearn's Pippin, and Scarlet Crofton do well, and similar diversity is exhibited by Plums.

When the weeding-out of unsuitable sorts is complete, and such minor improvements of cultivation as will result from experience are introduced, a considerable amount of success may be expected to attend these gardens. The above remarks show how necessary it is that the great difference between private gardens and commercial gardens (general excellence in the one case, special excellence in the other), should be steadily pursued. The orchard districts of the western and mid-western counties afford soils and climates of great value for fruit-growing, and may if judiciously utilised supply the larger towns, especially of Scotland and the north of England, with abundance of good and cheap second-class fruit, such as is in ordinary demand for family consumption, without materially affecting the metropolitan districts, whose advantages of climate, manure, and situation fit them for producing the superior sorts.

I am inclined to think the Apple, Pear, and Plum trees in Mr. Varden's gardens would more effectually resist spring frosts if the ground round their stems were kept free from shade and undergrowth to a greater distance, the soil to that extent left undisturbed further than by hoeing and weeding, and a dressing of manure, somewhat larger than the present, applied wholly on the surface. This would encourage the roots to grow nearer the surface, where the temperature would be higher and the moisture less than lower down, and the result would be a smaller growth of better-ripened wood.

CALCEOLARIA DISEASE.

AFTER so frequently hearing of Calceolaria failures during the past summer, it is pleasing to read of the success of "M. H.," detailed at page 342; and as I quite agree with your correspondent as to the importance of deep culture and a cool subsoil, a few notes which I have to offer concerning the disease and its causes may not be out of place. It may be well, perhaps, to state that with me Calceolarias have flourished this season; the only marked effects produced by the drought and heat were a shorter period of blooming than is usual, and, consequently, an earlier and stronger autumn growth.

In examining diseased plants I have observed that the bark has invariably been either quite dead or else very much decayed at the collar of the plant, and thus, an obstruction having taken place between the roots and foliage so as to prevent the rising of the sap, disease and death quickly followed. Now, if it be granted that the collar of the plant is the actual seat of the disease, I would then inquire what is the cause of this, and why should the signs of decay first occur at this particular place, rather than at the roots, or in the branches? Is it that some slight injury or bruise has been inflicted on the delicate bark of the plant in some of the earlier stages of growth, and that it has gradually spread till it has formed a ring of decayed bark and thus brought about the fatal result? Or is it that in some soils certain salts or acids are contained, which, when exhibited in a sufficient quantity, act so strongly upon the bark as to dry up its tissues? That this is likely to be the case I am inclined to think, because no signs of disease are perceptible in either the winter or spring months, but it is after the soil has been for some time subjected to the action of the burning rays of the summer sun, just, in fact, as the plants have become established in their summer quarters, and are putting forth their blossoms, that the canker makes its appearance, and from this I infer that the moisture of the soil which has hitherto exercised a restraining influence, being now absorbed by the sun's rays, the poisonous qualities of the soil are set free, and their deadly action but too soon becomes apparent. Or, it may be that the evil is occasioned by a deficiency of some constituent in the soil. Whether in either of these theories is to be found the true cause of the Calceolaria disease I will not presume to say, and in advancing them I by no means intend to infer that I have arrived at the actual cause, but it is rather in the hope that others may be induced to offer their experience on this subject, and that sufficient light may be thrown on it, in order that some definite conclusion may be arrived at.

The small number of good yellow-flowered bedding plants adds to the importance of this subject, and should varieties in any class be much increased, I am inclined to doubt if a fitting substitute will ever be found for those charming plants—Calceolarias. Yellow-foliaged plants are very useful and effective, but they are not to be compared to Calceolaria Aurea floribunda,

possessing as it does a soft and lovely freshness of appearance which is the peculiar property of blossom, and to which foliage never approaches.

To return to the question of disease. I have generally observed that it most affects plants which have received some severe check in their early stages, or those which, having been propagated late in spring, are forced into a quick growth to render them large enough by the time they are wanted for planting out. Another evil is planting in a poor shallow soil. I met with an instance of this during the past summer in a garden the soil of which was not more than 15 inches in depth, resting on a substratum of chalk. In this case nearly the whole of the Calceolarias had succumbed, while with me in some beds not having a greater depth of soil, but with a cool clayey subsoil, the plants were all that could be wished, quite equal in health and vigour to some others growing in a much deeper soil.

It may, perhaps, be useful if I conclude this paper with a short summary of the mode of culture which is best calculated, if not entirely to overcome the disease, at all events to check it.

Let a sufficient number of strong cuttings be firmly inserted in a rich, sandy soil in a cold frame or pit in the first week in October. Let them be well watered, and slightly shaded when first put in, and watered as often afterwards as signs of flagging are perceptible. Let no air be given till the cuttings have rooted, and but little water will be required. On examining about two thousand cuttings to-day (November 11th) which have been so treated, I found the greater part had made roots, and all were looking well; not one showed the least signs of failing. Protect them from frost with dry litter, giving air on all suitable occasions, and let the plants be removed to more roomy quarters early in March, still taking care to afford them a rich soil, so as to promote vigorous growth; and let them eventually be planted out in the flower beds with good balls of earth at their roots, and in a rich cool soil, which has been deeply stirred, and I venture to assert that but little, if any, disease will occur, and it is very rarely that plants so treated suffer at all from green aphid.

I quite agree with "M. H.," in assigning the leading place amongst yellow-flowered varieties to Aurea floribunda, and to Victor Emmanuel amongst crimson. Another most excellent variety, though, perhaps, not quite so decided in its colour as the preceding kinds, is Prince of Orange, an entire bed of which offers to the eye a mass of rich orange brown as beautiful as it is uncommon. It is to be regretted that Canariensis is so weak and sickly in its growth, for its large flowers of a softer shade of yellow than Aurea floribunda, and its dwarf, compact growth, render it a desirable variety.—EDWARD LUCKLURST, *Egerton House Gardens, Kent.*

GOOD MELONS AND CUCUMBERS.

I AM not placed in the same predicament as your correspondent, "W. H. C.," in regard to Melons, but equally so in regard to Cucumbers, for I ordered some of the finest exhibition varieties of a very old-established firm, and received some of the most remarkable productions any person would wish to see; for they were short and long, and varied from a dirty yellow and dark green, but all seemed to be excellent seeders, as I could have obtained any quantity of seed from them. Not thinking them worthy I discarded the lot, and began afresh with my old favourite, Telegraph, which I have never found to fail in producing good Cucumbers, but it must be struck from cuttings, as it is seldom that one can obtain any seed from the true variety.

In regard to Melons I am something like your correspondent. I had Malvern Hall Melon, but whether true or not I cannot say, because I have not seen any one but my own, and that was somewhat as "W. H. C." has described it; in fact, not worth growing.

This year I have been much more fortunate in my selection of new Melons, having obtained Sultan, I believe one of the finest varieties for flavour grown, a free setter, and attaining the weight of from 3½ to 4 lbs. It is also not liable to crack as some thin-skinned Melons are. The only fault I found in this most excellent Melon was, that after it had been cut for three or four days it began to lose its flavour.

Another new Melon which I would recommend is Dr. Hogg, which, although not so rich in flavour as Sultan, is yet a fine Melon, a free setter, and strong grower. It is about three weeks later than Sultan when both are planted together. The great merit of this variety, however, is its keeping qualities; I

have had it cut for three weeks and then sent it to table in good condition by placing it in the Pine stove for a night and a day previously.—JAMES STEWART, *Nunham Park*.

THE SUMMER PEACHES OF 1898.

In unheated orchard houses earliness of crop must ever be a test, and if this early production be in good number, nothing more can be desired, except, of course, beauty and flavour. That all these excellent qualities do not invariably unite under the same roof is, I fear, but too common. Commercially speaking—and let it be remembered that is an important side of the orchard-house question—there is no comparison between the value of an early Peach and of a late one. As yet, owing to some cause, but, no doubt, mainly to the great profits made by the fruit agents and dealers, orchard houses as a mere commercial speculation have not been so remunerative in their results as might have been wished. In certain specified cases they may have been profitable, and in a year like the present one they, no doubt, have done well; but, as a general rule, the testimony of those who have fairly tried them is, that they do not “pay” so well as vineries. The reasons are, as I stated, chiefly owing to a combination against which the producer is practically powerless, but which may be remedied in time, and also that Peaches, being a most perishable crop, require to be gathered very carefully and sent to market exactly at times which suit both the state of the fruit and the demand for it. In these matters the Grape crop is certainly much more to be relied on, for it bears carriage far more easily, and it can hang until required. I have had a fair experience in these matters, and think that when we have still earlier sorts, and of good quality, orchard houses may become fairly remunerative. Such sorts, for instance, as some of Mr. Rivers's new seedlings, I look to as by far the most profitable in a monetary point of view. When, for instance, a Peach of good medium size (we can hardly look for more), having a good colour, fairly prolific, and not too tender, can be ripened early in July in unheated structures, it will always command a good price. For myself, I am working to obtain such by the end of June, and, if in good number, make no doubt of their success. At present we send Peaches from about the second week in July to Covent Garden. The whole crop under glass here this season was about two thousand, of which eleven hundred were disposed of, leaving an abundance for use and gifts.

It will interest some readers of this Journal who have written to me to inquire respecting this very matter (which has also been mentioned in these pages), and our numerous visitors who saw the crop on the trees, and can judge of its quality, to say here that we cleared 10 per cent. on the original outlay. Were deductions made for labour it is to be feared that even this sum would not be an inducement for speculators, considering the favourable season. Possibly it would be out of place in these pages to enter further into these details for obvious reasons, but I have no objection to join a private crusade against any unfair monopoly, which might thus be upset. I also think that the reports of certain fabulous productions have injured the orchard house cause very much; undue expectations, which exporters to the London market—no mean test, let me say—know cannot be realised for a continuance of seasons, are thus raised, to the damage of an excellent and popular system.

We have had this season many visitors, and of a class showing a larger acquaintance with the subject than in preceding years. Most of these visitors, too, were persons having large and expensive houses, amply stocked from the leading nurseries. From their remarks, and reports on the state of orchard houses in their neighbourhood, data of a conclusive character could be obtained. I have also aided and counselled proprietors by the score in the disposition and arrangement of magnificent houses, as well as those of very unpretentious size, and know pretty well what are the opinions current.

Of late I am becoming convinced that the public taste has much improved in all that relates to the qualities of Peaches. The proof of this is that now we may send in the yellow-fleshed Peaches (we always could the corresponding Nectarines), and that I see Mr. Douglas took a good prize at the Crystal Palace for Exquisite, a grand Georgian, which Mr. Rivers sent me some eight years ago. By chance it first fruited in our houses (in all Europe), and has been pronounced by Dr. Hogg as one of the very finest of Peaches. I am glad, therefore, to see my own ideas about this gorgeous Peach realised by these excellent

tests. It is a show and table fruit; not very prolific. But eight years ago, who would have been enthusiastic about a yellow-fleshed summer Peach? New Crawford's Early is much admired, and I think is the most valuable for the market of second-early yellow sorts. It has also a fine piquant juice, and carries a high colour for the table; but, as it is well known, no more need be said. If, besides this and Exquisite, the lover of yellow Peaches select the Comet, he will have three fine and excellent varieties for show, as well as the table and market. Let me here say that what is saleable at a good price in these fruits is also, as a rule, generally the best to cultivate for private consumption.

I have tried nearly every Peach and Nectarine of any reputation, but they are far from being all equally valuable, for us at least. What is deservedly thought first-rate in other soils and climates is not always so here. Crawford's Late Peach, for example, I see in the official American Report is considered as having “no rival” in its season, but here it is bitter, and a shy bearer also. No shy bearer should be selected, because this inherent quality can never be changed, as far as I see now, and it is too apt to augment with age. Walburton Admirable and Teissier I would never have whilst others could be had. Nor again should otherwise good sorts like the Murrey Nectarine, be chosen when the stones occupy such a disproportionate space in the fruit. Many yellow-fleshed Peaches are bitter. Clingstones are not yet admired much; but this year we tried them sliced with powdered sugar, and thought them possessing qualities of their own of much value. Children, who are capital judges, will invariably like them very much. They have always been favourites here.

As to the very late Peaches I cannot speak much this year. They seemed comparatively flavourless, and so did the open-air Peaches. Why, who can say? We hear of actinic rays, and of heat and light producing rays being different, and in their action on the fruit producing results often unexpected. Very often a dull and cloudy summer, by arresting terrestrial radiation, will ripen our crops thoroughly, and also colour them more brilliantly than a succession of unclouded skies. How should we fare in an island like Guernsey, notorious for excess of cloud, and consequent equality of day and night temperature, but for some compensating and mysterious agency like actinism?

We can hardly hope for many such summers as the past one. Grapes have ripened well as standards in a favoured garden, while in ordinary seasons they are poor against walls. Under glass, on the other hand, they have generally coloured badly; but, as mentioned before, like early Peaches, forced Grapes were of good colour, showing some specific influence in the rays of the spring sun.

It may be an error, but I have an impression that a cordon ticketed “Duchess of Oldenburgh Nectarine” bore this fruit, at the proper season, at the top of the cordon, while, much later, some pale Peaches ripened lower down. The wire holding the ticket had pierced deeply into the albumen between the upper and lower portions, and caused the usual swelling above. Several Peaches are in bloom as I write, while the Pears which grew from blossoms after midsummer are perfect and ripe. According to the method of computing the degrees of heat needed to ripen each kind of fruit, which seems to me a valuable idea, these would have had about the usual amount of sun-ripening power.—T. BRÉHAUT.

DESTROYING FUNGUS ON TAN—RINGING.

Boiling water will at once destroy the *Agaricus volvaceus* (see page 368).

I tried on four trees the suggestion in the “Vine Manual,” of ringing Vines, and the result in each case was that the bunches ripened about fourteen days before the others on the same Vine, and the berries were much larger, but the colour was deficient, and the flavour inferior.

It has been suggested to me by an eminent florist, that ringing and grafting act in a similar way. This is to me a new view of the effects of grafting. I shall try again, and if more successful will let you know the result.—B. A.

GEOGRAPHY FOR GARDENERS.

WHEN a gardener is told the native place of a plant, if he knows the latitude, longitude, and elevation of that place, he has a good guide to the temperatures and moisture that plant

requires. A most handy and excellent guide to that knowledge is Keith Johnston's half-crown Geography, and as this is to be followed by a similar volume of Physical Geography, the gardener will then be fully furnished with guides to a knowledge of a plant's native climate.

THE COMMON BERBERRY.

It is readily admitted by those who have the best opportunity of giving a just opinion, that new or rare plants or shrubs are not in all cases improvements on older ones; in fact, it is too well known that many of the oldest shrubs and trees our gardens contain will hold their own against all comers. The Cedar of Lebanon, for instance, has not as yet been superseded by any Conifer in gracefulness of outline combined with adaptability of habit to any situation. Hollies, too, are pre-eminent for beauty of form, and when loaded with berries nothing can well be richer in appearance. Many other shrubs or plants met with every day are equally beautiful or interesting; and could we but be led to think so, the wild Broom of our commons and wastes is as beautiful as its namesake from the Canary Islands. There are, likewise, other plants whose merits we are slow in admitting, and some even which we are often guilty of absolutely despising, and it is to one of these that I now wish to direct attention. It is, in fact, one of the most despised shrubs which I know, and one that probably is not often met with in nurseries, owing to the small demand for it; yet it has its merits, and these, too, of a very high order—it is the common Berberry.

This plant is by no means popular; on the contrary, I have known many persons take great trouble to eradicate it where growing in hedges or copses bordering their fields, on account of its suspected tendency to infect the Wheat with blight. Without giving any opinion on this point, it is certain that the numbers of the plant have been diminishing for some years. I do not advocate its being planted in hedgerows, mixed coppices, or dense shrubberies; but as a specimen shrub on the highly dressed lawn it has not often had that fair trial it ought to have, and its worth in that respect is far from being generally known.

Happening some years ago to be at the magnificent gardens of Drumlanrig Castle, I was much struck with the very handsome appearance a number of single specimens of the common Berberry presented on the much-varied and extensive lawn. A series of terraces surrounded the noble building, each adapted for a distinct style of gardening, but each on a very large scale, while beyond them the ground shelved more or less irregularly to the brink of a river of some size. On the opposite side of this stream the gently sloping ground was occupied by shrubberies, with glades and openings between, and in places the closely-shaven lawn was dotted with healthy and promising specimens of Conifers, mostly, I believe, Spruce Firs, each feathered to the ground, and presenting a more healthy appearance than those generally met with in England, except in the moist or mountainous parts. Mixed with these Spruce Firs, but in no way crowding upon them, were fine plants of the Common Berberry, which at the time I saw them, early in September, were loaded with their crimson fruit, and each plant in point of shape and appearance was a perfect model, yet they had received scarcely any pruning; indeed, I believe they only presented the natural form and appearance of the plant when left untouched. At the distance of 200 or 300 yards they looked like immense bushes of Fuchsias, and the beauty of their appearance was enhanced by contrast with the Spruce Firs adjoining. They completely threw into the shade all other deciduous kinds of Berberis that I am acquainted with, and showed what an ornamental object one of our common shrubs is capable of forming when allowed fair play.

It may be asked, was there anything peculiar in the soil and situation that assisted this shrub to assume so fine an appearance? So far as I was able to judge, there was not. The rainfall might be greater than in many other situations, and possibly nearly double that of the eastern counties of England, but the soil was not saturated with moisture. I have met with fine plants of the common Berberry elsewhere, loaded with fruit, and as handsome in shape as those in Scotland, but it is seldom the plant is allowed such a position as enables it to develop itself. More frequently we meet with miserable specimens of what are called the choice kinds, as Berberis Bealii, Fortunii, japonica, and others, while the British Berberry is driven out of most places at all dry, and left to struggle

amongst other dense bushes in a coppice, with a likelihood of its being found out, and large pieces cut from it to alleviate the suffering of some one afflicted with a disease it is said, to assist in curing. Whether useful or not in the latter capacity (which I believe it really is), it has no chance of taking that position as an ornamental shrub which it is capable of attaining. Perhaps when the Antipodes are ransacked of their vegetable treasures, we shall find out how many ornamental plants we possess at home, and cultivate them accordingly.—J. ROBSON.

THE GOLDEN QUEEN MELON.

IN answer to "W. H. C.," I procured a packet of seed from Mr. Turner, of Slough. My seed grew, and proved to be very true. The fruit is quite equal to the description given of it in various advertisements. The plant is a moderately strong grower and a free setter. Fruit medium-sized, of a beautiful rich lemon colour, and irregularly netted; flesh pale green, very tender, and melting; skin remarkably thin. The flavour is most exquisite; indeed, I think this the queen of Melons.—G. LOCKIE, Gardener to F. W. Berger, Esq., Court Gardens, Great Marlow.

I AM rather astonished at the remarks of "W. H. C.," in the Journal of November 5th, in respect to the above valuable Melon. I am inclined to believe that he is in fault and not the Melon, and to prove this I may mention that I purchased a packet of seed, for which, like your correspondent, I also paid 2s. 6d. As I had only a small two-light frame, measuring 6 feet by 6 feet, to spare, I put two plants of Golden Queen under one light, and two of Beechwood under the other. From the former I gathered twelve of the finest Melons I ever could wish to see, averaging fully 3 lbs. each, which I consider large enough for any gentleman's table. They were of an almost globular shape, beautifully netted, and the flavour, as far as my estimation goes, perfection.

I have saved all the seed I can, as I candidly think it the finest Melon I ever grew. I would advise "W. H. C." to give Golden Queen another trial previous to discarding it, and for which, if he favour me with his address, I shall be very glad to send him a few seeds. The Malvern Hall I have not yet grown, but believe it to be first-rate, consequently I intend trying it another year.—O. TAYLOR, Sunlaws, Heiton, Roxburghshire.

I MAY mention for the encouragement of your correspondent, who seems to have been singularly unfortunate, that in the competition for the best Melon at the Kelso Horticultural Society's Exhibition, in September last, Golden Queen Melon obtained the first prize; and judging from the interest shown both by the censors and visitors, it appears, doubtless, that this beautiful Melon is to become a general favourite.—GEORGE WEMYSS, Springwood Park.

DURING the past season I have grown eight plants of the Golden Queen, some of them in pits and some on hotbeds, and in both ways they set and matured an abundant crop of fine fruit. I also grew five other sorts of Melons; all of them had the same treatment as the Golden Queen, and all produced fair crops, but both in flavour and appearance Golden Queen was superior to any of the others; it is, in fact, the best and prettiest Melon I have ever seen. The soil in which I grew it and all the other varieties was good, a strong, turfy loam, put along the back part of the pits and frames to the depth of about a foot, and 2 feet in width. The plants were within a foot of the back, and were trained towards the front on wire netting, placed as far from the glass as to allow the lights being pulled up and down without injuring the leaves. As a further proof of its good quality, I may state that at the Alwick Horticultural Society's Show in September last, the first and second prizes were awarded to it from different growers against a splendid-looking lot of Melons.—R. BOWIE, The Gardens, Chillingham Castle.

[We have other communications signed "D. I.," "R. S.," &c., all testifying to the superior excellence of the Golden Queen Melon, but we think that the above are sufficient to place before our readers, and to convert "W. H. C."]

SCALE ON ORANGE TREES.

AFTER trying numerous plans, such as scraping off the insect, and washing the parts with various insect-killing preparations,

without the slightest success, we determined on cutting off every branch, and leaving the stems bare, and then scrubbing continually with soft-seap and water. This, after some months, the stems being placed in the open air in winter, succeeded, and the pest and eggs having been eradicated, the insect has never appeared since. This year we have had five or six dozen of Tangerine Oranges to a plant, and most of them are twice the size of those sold in Covent Garden. The trees, after having been forwarded in a hothouse, were placed in June in the cylinder vineries, and the fruit is now ripe. Most of it has been gathered.—OBSERVER.

FRUIT TREES OUT OF DOORS IN POTS.

RECENTLY, in "Doings of the Last Week," you spoke at some length on the planting of stationary miniature fruit trees. Now, I have a great desire to cultivate these miniature trees, but, being a working man, my garden and my purse are both limited; but they say, "Where there is a will there is a way," and I think there is if one make up one's mind to persevere.

I am a quarterly tenant, and should not, therefore, like to plant my garden with trees, and then, perhaps, have notice to leave, or have my rent raised after going to the expense myself of beautifying my landlord's premises. My means will not allow me to build a small orchard house, neither should I like to do it unless I had the place on a lease.

If such trees could be grown in large pots in the open air, and if a spare attic could be used for their reception during the most severe part of the winter I could manage very well, and if I should have occasion to remove I could easily take them with me.

If such a mode of cultivation is possible, would you be kind enough to give me a few useful remarks, and name a few of the hardiest kinds, and how long it would be before I should have fruit?—DOUGAL McDONALD.

[You may do what you propose without an orchard house, or a spare room for wintering, if you confine your practice, at least at first, to the hardier fruits, as Cherries, Plums, Pears, and Apples. Of course, from such trees in pots you would not gather nearly the quantity of fruit that you would from trees planted out, but then you could have four or five of these pot trees in the same space. To save labour we would advise you to have pots or small barrels from 12 to 15 inches in diameter. We have seen oyster barrels used when plunged.

From our advertising columns you will see what you can obtain small pyramidal or bush trees for, and which, having been grown a year or two, would, if carefully potted, fruit the next season. In your circumstances we would select what are called maiden plants—that is, with a little more than one year's growth from the bud or graft, and with several shoots each, so that you can mould them into any requisite or desired shape. These we would pot in rich loamy soil at once, ramming the soil hard, plunge the pots in the ground up to the rim, and then mulch all over to keep out frost. The shoots we would not cut much back, as we would want the buds left to make short fruit spurs in summer for next year's bearing. We have potted small Plum and Cherry trees in February with one year's growth from budding, and, treated as above, the trees were well loaded with fruit in the following year. In summer the trees will want watering, but mulching will render the frequent waterings less necessary; and when the fruit is gathered the pots should be lifted, all roots that have come through cut off, and be plunged again after being fresh soiled on the surface.

Pyramids at first might be 30 and dwarfs 36 inches apart. A net in winter and summer, and frigi domo in spring, would protect from frost and birds. Let us hear again when you commence, and when you are in the least difficulty.]

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

PASSIFLORA CININNATA (Curly-fringed Passion-Flower). *Nat. ord.*, Passifloraceæ. *Linn.*, Pentandria Trigynia.—Requires a cool greenhouse. Native of Pernambuco, in Brazil. Flowers purple.—(*Botanical Magazine*, t., 5737.)

ACRIDOCARPUS NATALITIS (Port Natal Aericocarpus). *Nat. ord.*, Malpighiaceæ. *Linn.*, Decandria Dignia.—A climber. Native of edges of woods in the Natal Colony. Flowers yellow.—(*Ibid.*, t. 5738)

MASDEVALLIA VEITCHIANA (Veitch's Masdevallia). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Native of the

Peruvian Cordillera. Introduced by Messrs. Veitch. Flowers orange red. Cool greenhouse plant.—(*Ibid.*, t. 5739.)

FUCHSIA COCCINEA (Scarlet Fuchsia). *Nat. ord.*, Onagrariaceæ. *Linn.*, Octandria Monogynia.—This is the true species, and not that usually grown in gardens as *F. coccinea*. It was recently found in the greenhouse of the Oxford Botanic Garden. Soon after its first introduction in England the etil hardier species, *F. magellanica*, arrived from Terra del Fuego, usurped its name, and superseded it in our gardens. Probably a native of Brazil. Flowers pale crimson.—(*Ibid.*, t. 5740.)

APRELANDRA NITENS (Glosey-leaved Aphelandra). *Nat. ord.*, Acanthaceæ. *Linn.*, Didynamia Gyniospermia.—Native of Guaysquil, in New Granada. Introduced by Messrs. Veitch. Flowers scarlet. Leaves' upper surface glossy, under surface reddish purple.—(*Ibid.*, t. 5741.)

GENTIANA PYRENAICA (Pyrenean Gentian). *Nat. ord.*, Gentianaceæ. *Linn.*, Pentandria Monogynia. Native of the Pyrenees and Alps at 5-8000 feet elevation. Flowers green externally, deep blue internally.—(*Ibid.*, t. 5742.)

GLADIOLUS—*Lady Alice Hill*.—"Amongst the most marked of the recent improvements which have been made in the Gladiolus, has been the introduction of numerous finely-striped varieties. The present variety was raised by Mr. Standish, of Ascot, and was awarded a first-class certificate by the Floral Committee in October, 1867. It forms a fine bold spike, and the individual blossoms are not only stout, well-formed, and symmetrical, but well-placed on the spike. The colour is a pale rosy tint, boldly flaked with purplish rose, the throat being flamed with deep rosy violet. Mr. Standish has been a most successful raiser of Gladioli, and the present variety, of an entirely novel character, will add to his well-earned reputation."—(*Florist and Pomologist*, i. 241, 3rd s.)

CHRYSANTHEMUMS.

MR. SALTER'S NURSERY, HAMMERSMITH.—The show house at this establishment presents just now an extremely gay appearance, as the extensive collection of Chrysanthemums for which Mr. Salter is celebrated far and wide will soon be in full flower; and even now most of the varieties are in great beauty, while from day to day others will expand. The display is not merely superior to that of last year, which, from the lateness of the autumn, was certainly unfavourable to Chrysanthemum shows generally, but as a whole not less effective than those of former years, whilst in the varieties individually there is a marked advance as compared to those then in existence. Unfortunately, our visit to this nursery, three or four days ago, was rather early for the varieties intended to be sent out next year to be seen in perfection, and accordingly the number of such that can be noticed at present is rather limited, but there are others which Mr. Salter considers very promising and which may be referred to on a future occasion. Of those which were sufficiently forward, Golden John Salter, a sport of John Salter, equally fine in all its characters, and differing only in being of a rich golden colour, is certainly of first-rate merit. Lilac Beverley, another sport, was noticed last year; it only differs from its prototype in colour, being the same in form and all other respects. At first it is white tinged with lilac, but afterwards becomes deeper in colour. Two seedlings, as yet unnamed, are also fine incurved flowers, one being very large, sulphur-tinged white, the other claret-coloured, turned up with yellow. A third seedling has a finely incurved rose-coloured flower, and another named Stellaris, buff tipped with yellow, resembled Cherub in form. There is also a new Anemone-flowered variety called Princess Charlotte, with lilac flowers, the tops of the quilling tipped with yellow. The foliage of this was stiff and very dark-coloured.

The varieties sent out in the spring of the present year were mostly noticed in reports at the time of their first appearance. Of these Lord Derby, dark purple, large, and beautifully incurved is, on the whole, the finest, and a peculiarly bold flower. Princess of Teck, very pale flesh, on the other hand, is very delicate in colour and very beautiful. Bronze Jardin des Plantes, a sport of the well-known and beautiful yellow Jardin des Plantes, bronzed orange, is another very bold and fine flower; and not less remarkable is Princess Beatrice, lilac tipped with blush, a large flower, splendid in exhibition stands wherever we have seen it this year. Guernsey Nugget, primrose yellow, is large, very pleasing in colour, and likewise a fine show variety. Mrs. Huffington, like Aimée Perière, from which it is a seedling, but more distinctly and darkly tipped, though

not very large, is extremely beautiful. Other new varieties in good bloom consist of Baron Beust, reddish chestnut; Staffa, yellow; Mrs. G. Rundle, pure white; Volunteer, dark purplish crimson; Miss Marchaux, white, tipped with lilac; and Enamel, bluish. Lady Godiva and Le Grand when we saw them were not fully out.

The Japanese varieties which are so singular in their various forms, and which promise to become so useful and ornamental for conservatory decoration, though veritable abominations to those who judge by the florists' standard, being later, many of them were not so far advanced in blooming as to admit of description. Red Dragon and Daimio were extremely showy, and left no room to doubt what a splendid effect they were capable of producing in conservatory groups. Roseum album, another, was beautiful in colour, crimson tipped with white when in a young state, but afterwards becoming paler. Yeddo Lilac, with the ribbon-like florets curving inwards and forming a ball; and Sulphureum, of similar form, are also effective. Wizard, dark maroon; and Robert Fortune, were not out. Others consisted of Nagasaki Violet, rosy violet spotted with white; Prince Satsuma, very large, yellow; Ne Plus Ultra, flat, orange red; and Tarantula. Gold Thread, a quilled variety, lilac at first, but becoming yellow was scarcely sufficiently forward to exhibit its true colours; but Dr. Masters and Dr. James Salter, two new varieties, were both in excellent condition. The former is very large and showy, orange, tipped and rayed with yellow, and of stiff upright growth; the latter one of the tasselled kinds having broad ribbon-like florets of a delicate lilac colour. It is very free-flowering and would form a handsome specimen plant for conservatory decoration. Hero of Magdala, blood red, promises to be very showy; and of Giantess, pale lilac fading-off to white, the same may be said.

Near the entrance to the show house is a pretty piece of what bears considerable resemblance to mosaic work formed of various Echeverias, Sedums, Sempervivums, the pretty blue-tinged Kleinia repens, and Pachyphiton bracteosum, with the grey green Thymus lanuginosus, and the bright green Saxifraga hypnoides minor, as a ground carpeting. The variegated common Stonecrop was very ornamental out of doors in the alpine garden; also, the larger variety of Saxifraga hypnoides, which keeps green in summer on banks where grass is burnt up.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 17TH.

FRUIT COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. At this meeting there were various prizes for fruit offered. In Class A, for the best three dishes of dessert Apples there were eight exhibitors. The beauty of the specimens in all the collections was greater than is usually seen, and some of the specimens were very handsome, but it was remarked that for fruit of so much beauty there was not a proportionate amount of flavour. The first prize was awarded to Mr. Ruffett, gardener to Lady Palmerston, Brockett Hall, Herts, for Cox's Orange Pippin, Cockle Pippin, and Cornish Gilliflower; and the second to Mr. Earley, Digswell, near Welwyn, Herts, for Cockle Pippin, Cox's Orange Pippin, and Sam Young.

In Class B, there were five exhibitors for the prize offered for the best dish of Knight's Monarch. One dish was disqualified, being found to be *Ne Plus Menia*, and another for being decayed. Those exhibited by Mr. Sidney Ford, of Leonardlee, were magnificent specimens, but, unfortunately, unripe, and to them a special certificate was awarded, and no other award was made.

Class C, was for Hayshe's Victoria. There were only two exhibitors, and the second prize was given to that shown by Mr. John Garland, gardener to Sir T. D. Acland, Killerton, Exeter, the first being withheld.

Class E, the best dish of any variety of dessert Pears. There were no less than 22 exhibitors, and the specimens generally were very good. The six Winter Nelis of Mr. Garland, of Killerton, weighed 2 lbs. 11 ozs., which for that variety was a great weight; and a fruit of the Doyenné du Comice shown by the same gentleman weighed 15½ ozs. The first prize was awarded to Mr. Garland, for Doyenné du Comice, and the second to Mr. Mills, Wycombe Abbey, for Winter Nelis.

Mr. Jackson, Nurseryman, Blakedown, Kidderminster, sent a collection of seedling Apples, but as none of them possessed any properties that were considered as acquisitions, the Committee did not approve of them. Mr. Brown, Elmdon Hall, Birmingham, sent two dishes of Blenheim Pippin, one containing fruit much larger and earlier than the other, being a month difference in the time of ripening. This can only be accounted for by the influence of the stock.

Mr. Gilbert, gardener to the Marquis of Exeter, Burghley, sent a brace of the Telegraph Cucumber, which for the season was considered very good, and received a special certificate. Mr. Osman, gardener to R. Holland, Esq., Stanmore Hall, sent a Green-fleshed

Melon, the fruit of the Guava, and a dish of Quinces. The Melon for the season was very well flavoured. Mr. Foster, Pitlington House, Leigh, Essex, sent good bunches of Royal Muscadine and Miller's Burgundy Grapes, grown in the open air, and which were well ripened and of excellent flavour. Mr. Forsyth, gardener to Baron Rothschild, Gunnersbury, sent a fruit of Smooth Cayenne Pine Apple, and Mr. Westcott, gardener to the Duke of Cleveland, at Raby Castle, sent a fruit of the same variety, and both being very handsome specimens, they each received a special certificate. Mr. Westcott, sent a Scarlet-fleshed Melon called Raby Castle.

Messrs. Lane & Son, of Berkhamstead, sent a splendid collection of Grapes grown in a cool orchard house, which for size of bunches and berries could not be surpassed, and a special certificate was awarded. Messrs. Rivers, of Sawbridgeworth, sent a dish of very fine Tangerine Oranges, fully ripe and of delicious flavour, which received a special certificate. W. L. Banks, Esq., Ealing, exhibited the fruit of Ficus elastica, and a drawing of the plant showing the mode of fructification. Mr. Downing, gardener to T. Grissell, Esq., Norbury Park, sent good specimens of Pomegranates. Mr. Ruffett exhibited fruit of St. Martin's Quetsche Plum, which was rather past. Mr. Stevens, of Trentham, exhibited Fleming's Seedling Pear, which the Committee did not consider equal in merit to other sorts sent along with it. Mr. J. Snow, of Saltram, exhibited a seedling Pear which proved to be Vicar of Winkfield. Mr. Eckford, of Colchill, sent four very nice, small, white-spined Cucumbers named Winter Favourite.

Messrs. Barr & Sugden filled a table the entire length of the exhibition-room, with a very complete and interesting collection of ornamental Gourds, to which a special certificate was unanimously awarded.

The Chairman read a communication from Mr. Dewdney, Pigham Mill, Dorking, relative to the Black and White Grapes grown on an open wall, which he exhibited at the meeting of October 20th. In this Mr. Dewdney stated, that at the conclusion of the meeting, having had a conversation with a member of the Council, he was asked to write an account of his mode of cultivation, and he had done so, not with any view of pointing out how to grow Grapes, but simply to relate the following facts:—

"In the years 1839 and 1840 I built the house I now live in; against an angle of this house some 15 yards long, and with a south-east aspect, I made a Vine border by removing the soil and filling in with brick and mortar rubbish from a very old building, whole bones, and old shoes, to the thickness of 1 foot. I then put 8 inches of the soil on this mixture. In this border I planted a Black Grape (the Black Prince), a White Frontignan Grape, and a Fig tree, all of which have thriven entirely to my satisfaction. In 1846 I gained the 2nd prize for Black Grapes at a local show, beating three men who exhibited Grapes grown under glass. On the end of this border, in 1841, I made a bed 8 feet square and 22 inches deep; the sides were slate (one slab), and the bottom was paved with similar slate slabs, so that the roots of a Vine could not escape. I filled in this bed as follows:—In the bottom I put pieces of chalk to the depth of from 4 to 6 inches, and broken bricks for drainage; I then filled up with broken bricks, and mortar rubbish, whole bones, old shoes, pig's hair, and about ½ bushel of charcoal, and in this bed I planted a White Frontignan Grape which has produced a good crop every year. Some bunches from this Vine I exhibited on the 20th of October. I should observe that I did not mix any earth with the compost. This Vine has thriven, and continues to do so, rods from 15 to 21 feet long every year, a specimen of which, cut 10 feet from the ground, I send with this paper.

"I also send for the inspection of the Council, the soles of some old shoes, which, on removing a Pear tree last Saturday, were dug from under its roots, and which tree was planted five years ago; and the examination will, I think, establish beyond doubt the great fertilising and lasting power of leather as a manure. A few years since I laid bare a Vine border when I found some soles of shoes similarly encompassed by the roots of the Vine.

"Mr. Whiting, I believe, will fully corroborate me as to the luxuriant growth of my Vines."

FLORAL COMMITTEE.—This was one of the best meetings of the season, both fruit and flowers were excellently represented. Mr. Turner, of Slough, introduced some new variegated Zonal Pelargoniums, which astonished the meeting. This successful exhibitor has shown himself in this, as in every other class of plants which he cultivates, a perfect master. His collection was certainly for distinctness and high colour much in advance of what has been before exhibited, and, considering the time of year, most beautiful. One fact has been decidedly confirmed, that for decorative purposes the autumn and spring are the best seasons for developing the rich colours of the foliage. First-class certificates were awarded to three of the finest specimens, of which there were duplicates—Mrs. Headley, Miss Rutter, and Miss Christine Nilsson. In the collection were Hayes Rival, Mrs. Hugh Berners, Grand Master, very distinct, Senior Wardeu, Mr. Rutter, and Echo, golden-edged varieties; Excellent and May Queen, two good examples of the silver-edged Tricolors, and Bright Star, a Bicolor, with brilliant scarlet flowers and white-edged foliage, also May Queen of the same class. Mr. Turner also sent a small basket of young plants of Zonal Pioneer, which he sent out in the spring, and which proves itself to be a plant of first-rate quality. A special certificate was awarded for the collection. A group of Chinese Primulas of various tints of colour was likewise exhibited by Mr. Turner.

Messrs. Veitch exhibited a very fine collection of Orchids, several beautiful hybrids, the result of Mr. Dominy's persevering skill. Phajns irroratus, one of the seedlings, received a first-class certificate; Oncidium cucullatum phalaenopsis, a first-class certificate; Pleione

Reichenbachiana, a first-class certificate; *Oncidium Forbsii*, a first class certificate; and *Vanda cœrulea*, with twenty-five flowers, a special certificate. The group of Orchids was awarded a special certificate. *Dichorizandra mosaica*, a beautifully-grown ornamental-foliaged plant, had likewise a special certificate. Messrs. Veitch also sent specimens of a variegated *Cress*, and small plants of *Rœ* to make a contrast with its dark foliage—plants useful for a winter garden. Mr. Thomson, gardener to the Duke of Buccleugh, the President of the Society, sent extremely fine cut spikes of *Vanda cœrulea* and *Renanthera coccinea*, which received a special certificate. Mr. Thomson sent a letter, which most simply explained his successful mode of cultivation.

From the gardens, Chiswick, came a fine collection of seedling varieties of *Coleus*, distinct and beautiful, much in advance in colour of what have been sent out. First-class certificates were awarded to *Coleus* Duke of Edinburgh, Princess of Wales, Princess Beatrice, Her Majesty, Prince Arthur, and Albert Victor. We understand these will very shortly be offered for sale by auction. Mr. Williams, Holloway, sent a very excellent collection of Orchids, of which *Oncidium holochrysum* and *Oncidium Forbsii*, received first-class certificates. *Pteris serrulata corymbifera* was likewise awarded a first-class certificate. A special certificate was awarded for the collection of Orchids.

Mr. Salter, Hammersmith, sent seedling *Chrysanthemums*. Among the Japanese varieties, Dr. Masters was very fine, and received a first-class certificate, as also *Hero of Magdala*. Princess of Teck, a fine, compact, pale silvery flower, one of the incurved varieties, and *Pink Perfection* new in shade of colour, a most promising variety, were awarded first-class certificates. One of the Japanese varieties, James Salter, a pale pink or bluish flower with very broad "petals," the flowers evidently suffering from change of temperature, was very beautiful, though not noticed. This is decidedly one of the best of the Japanese race.

Mr. Wiggins, gardener to W. Beck, Esq., sent a collection of *Cyclamens* and *Primulas*. A special certificate was awarded the two collections. Mr. J. Mills, gardener to Dr. Pattison, received a special certificate for two Orchids sent by him, *Odontoglossum Alexandræ* and *Odontoglossum triumphans*. Mr. Green, gardener to W. W. Saunders, Esq., was awarded a first-class certificate for *Asparagus decumbens*, an elegant plant most useful for table decoration.

Messrs. E. G. Henderson sent *Gymnogramma Lauchiana corymbifera*, first-class certificate; also small specimens of *Lney Grieve* Variegated Zonal *Pelargonium*, *Charming Bride*, and *Silver Cloud*. Messrs. Downie, Laird, & Laing's collection of small Bronze Zonal *Pelargonium* was awarded a special certificate. Messrs. Smith, of Dulwich, sent *Bronze Pelargonium Sybil*.

A group of *Cypripedium insigne* from the garden of the Society, with an abundance of flowers, received a special certificate. The silver Flora medal was awarded to Mr. Forsyth, Stoke Newington, for twenty-four cut specimens of *Chrysanthemums* of great merit. The other competitors for this medal were Mr. Dickens, Chelsea, and Mr. Gunn, Chelsea. Mr. J. George, of Stamford Hill, was awarded a special certificate for twelve cut specimens of *Chrysanthemums* of first-rate quality. Mr. George also exhibited twelve varieties of the *Anemone*-flowering *Pompons*, and a seedling *Tropæolum compactum*, which, from the lateness of the season, could not display its merits.

GENERAL MEETING. — J. Bateman, Esq., F.R.S., in the chair. After a list of donations of plants, &c., had been read, the following new Fellows were elected—viz., Lady Lawrence, Miss Blunkey, Mrs. Cousins, and Messrs. A. Henderson, A. Cuthell, and T. Higgs. The awards of the Committee were then reported, after which Mr. Bateman offered some remarks on the Orchids.

Mr. Bateman expressed his regret that the Rev. M. J. Berkeley had not recovered sufficiently to attend the meeting, and that he himself was unable to supply his place as regards the plants exhibited, with the exception of his own special favourites—the Orchids. He could not, however, but congratulate the Fellows present and horticulturists generally, that in the midst of such excitement as that which now prevails in the country, there should be such a fine display. He had frequently found fault with the Floral Committee for the frugality of their awards; but on this occasion these had been freely bestowed, especially upon Orchids, which, of all the candidates which had sought the Committee's favour, were decidedly at the head of the poll. The first plant he had to notice was *Pleione Reichenbachiana*, which really might be considered one of the autumn *Crocuses* of the Himalayas, and of which the pseudo-bulbs were very singular. Although he detested hybrid Orchids, he would still mention that Messrs. Veitch exhibited several of these, and among them *Cattleya exoniensis*, a beautiful autumn-blooming Orchid. Another hybrid, also very beautiful at this time of year, was *Cattleya Dominicana*. With reference to *Odontoglossum Alexandræ*, exhibited by Dr. Pattison, of St. John's Wood, he was glad to see it vindicating the choice of the name made for it; there was also from the same gentleman *Odontoglossum triumphans*, which, though well grown and flowered, was not equal in point of variety to some others of the same species which he had seen.

Mr. Bateman then protested against the growing practice among some nurserymen of tacking on additional names to those of certain plants—a practice which only led to confusion when there was already a good generic and specific name, and he gave several instances in which such additions were unnecessary. Two of the most interesting

subjects before the meeting were the spikes of *Vanda cœrulea* and *Renanthera coccinea*, sent by Mr. Thomson, the President's gardener at Dulkeith. *Vanda cœrulea* was a most beautiful Orchid from the Himalayas, and as regards this, there had been a very vigorous competition between Mr. Thomson's spike and that on Messrs. Veitch's plant, and whilst the former was the finer in colour, it had only twenty flowers, but Messrs. Veitch's, he believed, had as many as twenty-five. As to the *Renanthera*, he (Mr. Bateman), could hardly look at it without emotion, for without it he probably never would have been an Orchid-grower. He then related that when an undergraduate at Oxford he saw it in the nursery of Mr. Fairbairn, who had succeeded in flowering this plant, and he bought a specimen for a sum which might be considered extravagant for an undergraduate. He failed, however, as might be expected, in making it flower, and it was only after twenty-five years' cultivation that he succeeded by an accident. This *Renanthera*, Mr. Bateman continued, will never grow and flower in promiscuous collections, but put it in a vinery, a greenhouse, in any house where it will have plenty of light and sun—in fact, the conditions of a Chinese climate, and ten to one it will flower. He would in conclusion just direct attention to a beautiful-berried branch of the *Coffee* plant, which had arrived too late to come before the Committee, and which was sent by Mr. Pickersgill Cunliffe, of Hooley Hall, Croydon. (We were informed that this plant is 8 feet high, and has ninety-six berried branches). Mr. Bateman closed his remarks by announcing that the next meeting would take place on the 15th of December.

JERSEY FOR WINTER.

As Jersey is as good and pleasant for invalids in winter as for pleasure-seekers in summer, a few words about it may not be deemed superfluous, now that the glowing warmth of summer has given place to the cool breezes of autumn, and that brown and yellow, taking the place of green upon the scantily covered trees, remind us of cold, trying winter soon to follow. Charming as our little island is during the bright warm weather, it is yet more valuable as a winter residence to those who suffer from the inclemency of our British climate nearer the parallel of London. Mild in its winters, yet not too enervating, seldom intensely wet for a whole day together, with roads which dry up quickly, genial, health-giving breezes, and the delicious sea air, I think there are few places better in all points for the invalid, the convalescent, or those who are troubled with the John-Bull-like, not-unnatural horror of chilling fogs, benumbing frosts, and bitter ice and snow.

Those who visit Jersey at any season, but especially late in the year, would do well to guard against discomfort in travelling by reaching Southampton some hours before the vessel starts. The route *via* Southampton is the best for most localities, and for all persons who dread a long sea voyage. That by Weymouth gives fewer hours upon the water, but the extra hours by the longer route tell little in discomfort, as those which elapse before reaching the Needles in going, or after passing them in coming back, glide smoothly enough to be pleasant even to the most squeamish. The voyage from London direct is too lengthy to be pleasant to any but very good travellers, so the journey by way of Southampton is for most persons fittest, and to ensure comfort in that, it is necessary to secure a good berth on board ship. Oh, the wretched discomfort to which ladies are sometimes subjected who come down by the mail train at night, and go on board just before the ship starts! Visitors who rush over to Jersey for short holidays between May and October, called in the island from their vivacious enjoyment of their short respite, "the live O's" crowd on board in noisy tumult to the great detriment of quieter persons who are less able to make their way; then those who have omitted to secure accommodation may have to lie on the cabin floor all night (and he it remembered the bad air falls the lowest), or, worse still, to remain on deck all night, subject to the inclemencies of the weather and other discomforts. During the months when most visitors seek the island it is advisable for ladies, especially if they have children with them, to write to the agent or to the stewardess on board and bespeak the required number of berths, and at all times, as stewards and agents are not immutable, to leave London, if London be the starting point, not later than 5 p.m., and go on board at once, secure berths, and pin tickets upon them. Then, with a clear conscience and the hope of a little rest at night, they may go to their hotel, inspect the town, or while away the time as best they can. As Southampton is but a dull place, and visits to hotels generally dull too, perhaps it is about as pleasant as anything to go on board at once, sit down on deck, and quietly watch the curious bustle of dock activity around, go down into the cabin and have tea as soon as it is ready, and then lie down

and commence the early portion of such a night's rest as the ever-restless sea and the hubbub on board will permit. N.B.—In tolerably calm weather a sofa is most pleasant, because most airy, but when the sea is very rough a berth presents least chance of being tossed out upon the floor, and those at the top are the most airy, only a little difficult to climb into, which is generally obviated by the offered help of a small set of steps.

Just as the quiet voyagers compose themselves to sleep the mail train passengers come rushing on board with clang and clamour, stamping of boots, knocking about of luggage, and much bustle and noise, and then about 12 P.M. the steamer starts.

The voyage is only broken by reaching Guernsey, generally about nine in the morning, when the boat stops a short time to put out and take in passengers and packages, and then onward again. The view of St. Peter's Port, rising on a steep hillside, the quiet ripple of the sea within the harbour, and the quaint antique-looking Castle Cornet close by, all seen in the light of the bright morning sun, are very attractive, and if the sea is calm, or the traveller a good sailor, it is pleasant to remain on deck from thence to Jersey.

On approaching the island, the first object which becomes distinct in the lessening distance is a prominent rock at the south-west corner, showing in its outline an unmistakable likeness to Louis Philippe, but it is less distinct now than it was twenty years ago, and perhaps the work of many years may do away with it, as with French ways and manners of his bygone time. If the day be bright, with the sun shining, the various tints of the vast masses of rock forming Jersey strike the visitor as very beautiful. The grey and red granite, the warm colour of the common rock, the patches of white sand in bays and inlets, the mixture of faded pink and bright brown of the heather upon the heights and slopes, and the luxuriant vegetation down to the very water's edge, make a variety in the landscape most pleasing to the eye as the boat steams round, until it crosses St. Aubin's Bay, a really splendid half-circle of silvery sand, surrounded by luxuriant heights, with handsome villa residences, prettily wooded slopes, and in the distance verdant hills. There are few days in this pleasant climate during a portion of which the landscape does not show a bright and smiling face.

At the extremity of this fine bay lies St. Heliers, a large, crowded town, smoky, straggling, and surrounded by high ground. Here we enter the harbour, which is large, handsome, and convenient at high water, but much less useful when the tide is out, for then passengers have to land in boats. The landing places are about as damp and slippery, crowded and bustling, well-managed in some respects and badly in others, as most places of the kind. The passengers have, however, scarcely landed when they begin to realise the pleasantness of a delightful climate; half an hour after the rain has ceased the streets and roads in all but the deep valleys are dry enough to make walking agreeable, and it is unusual if the sun do not peep out to welcome the new comers, lighting up the rugged heights, picking out the tints of the rock in bright distinctness, and shedding a genial warmth, which fully compensates the generally slight discomforts of the journey.

The civility, too, of the cabmen, and all people of that kind strikes the visitor, especially the nervous invalid, as very reassuring; overcharging and impertinence are quite unusual. The hotels are good upon the whole and moderate in their charges; those about the pier and the Royal Square are much frequented by commercial visitors. The British Bree's boarding house, and a great novelty, the Imperial Hotel, are much used by families. At the Pomme d'Or the appointments follow the French fashion, and it is said the terms are very moderate.

The luxuriance of the vegetation, the productiveness of the gardens, the verdure of the little fields, and the manner in which every scrap of land is economised, are no less wonderful than interesting to those who have been accustomed to England's broad acres, her highly cultivated but often disappointing gardens, and lavish expenditure of land and capital. In a climate and on a soil where all choice things might be grown in luxuriant profusion Pears receive, to my idea, too exclusive attention. Jersey Pears, as all know, are good, and the culture of them is very profitable, but it seems to me quite a mistake to grow them to the exclusion of most other choice garden crops. They are, however, the product of the place, and as such deserve and must have a special notice.

Vegetables in Jersey are not so cheap and abundant as they

ought to be where so favoured with a light productive soil, the absence of injurious frosts in winter, the genial moist air, and general slope of the island towards the south. In spring the markets are badly supplied with choice vegetables. Asparagus is fine and large, but very dear, and of that handsome large white sort which so splendidly fills a dish, but affords little of the delicious succulent portion which most amateurs who grow their own Asparagus so much delight in. The fat seaweed ever within reach, the grey sand, rich with mud, to be had for little beyond the carting (which, by-the-by, is rather dear in Jersey compared with other remote places), and the rich friable earth which forms most gardens here, offer great facilities for making good, productive Asparagus beds, only needing the addition of stable manure; yet in the gardens of all the three houses which we have occupied, we have had to make Asparagus beds, never having found a vestige of one in any of them. In seeking for a home for the last ten or twenty years, or so, on and off, we have looked at so many houses that it has become a byword in the family to indicate indefinite locality by "the house we looked at," and we have always made a large garden a desideratum, yet I can scarcely recollect finding good Asparagus beds in any. Cauliflowers and Broccoli, on the other hand, are excellent and abundant, cheaper and much better than in London. In the height of the season I have known nice heads, from 4 to 6 inches across, sold seven or even nine for 6d. This was an extreme chance, such are often sold three or four for 6d., and fine large ones about 6d. each; they are grown in both fields and gardens, manured abundantly with seaweed, also with farm and stable manure. Great quantities are shipped for England.

The celebrated Jersey Kale, sometimes called the Jersey Cabbage, makes itself conspicuous in all country rides. It is not grown as some one facetiously stated to pack the butter; for that purpose leaves of Cabbages of more delicate growth are used, but to feed the cattle. Its tall, stout stems and rampant growth of large luxuriant leaves make it a ruinously exhaustive crop for gardens; it is often grown in orchards, and there I suppose the earth is abundantly manured for it, or I should much doubt the economy of giving it room. Upwards of thirty years ago something curious of the Cabbage tribe was introduced, I think by old William Cobbett, by means of some London seedsmen. It was called the Casarean Cow Cabbage, and seed packets containing about twenty seeds were sold at 1s. each, its merits being vaunted as something wonderful for cattle-feeding. These packets contained seed of the Jersey Kale, Casarea being the island's ancient name. Many jokes were made on the possibility of growing it in city gardens, and letting the cow upon the housetop browse upon it; and I believe a good many packets of the seed were sold at the price set on them, but the Kale never made its way in England. The leaves are stripped off for fodder, I believe they come in usefully as green food, but I doubt if they compensate for what they abstract from the land. Excellent Cabbages are, however, grown in Jersey; the favourite kinds are Nantais, Imperials, and Nonpareils; they command good prices in the market, varying in common seasons from 1d. to 3d. each. Brussels Sprouts do not receive fair play in Jersey. I suppose from the time they occupy the ground, space is grudged them, for they are never brought to market and sold by measure as in England, but a stem is dragged up, with all its little Sprouts about it, and sold at a high price.

Sea-kale, again, is little grown, although the fat sand and the seaweed manure, and the light earth to grow it in, offer the very best facilities for bringing it to full perfection. I have never had any in England so fine as I have cut here, one weighed three-quarters of a pound—not lanky and over-grown, but short, thick, young, succulent and tender. Yet this delicious vegetable is brought from the West of England to the Jersey market, and sold at London prices.

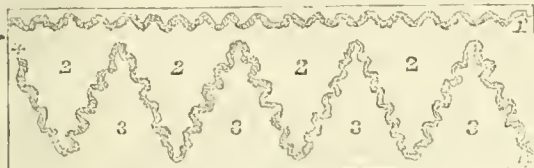
Root crops are abundant, good, and moderate in price. Lettuces of all the Cabbage kinds are fine and tolerably moderate in price, but good Cos Lettuce are seldom seen. Radishes, Cress, and similar crops occupying the ground for but a short time, are cheap.—E. W., Jersey.

VIOLA CORNUTA AS A BEDDER.

THIS has been a trying year for the Violas, and some people appear inclined to give them up, while others write favourably of their continuance.

For my part I have found them succeed remarkably well, not

having lost twenty plants out of a thousand, and they never were watered except at planting in spring. Previous to planting a quantity of well-made manure, charred earth, and soot, was dug in. These plants have succeeded well, flowering more continuously than any other plant. Shortly after the first display of flowers, they ran rapidly to seed owing to the great drought. I clipped the *Viola cornuta* over with sheep shears, cutting off both seed-pods and flowers; the plants looked for some time rather bare, but the arrangement adopted, represented in the accompanying illustration of a 6-foot border, in a great measure prevented that defect being apparent.



1. Back row, *Ageratum*, lavender-coloured.
2. Vandykes of *Calceolaria Yellow Gem* (Downie & Laird's).
3. Vandykes of *Gazania splendens*.
4. Vandykes of *Viola cornuta*.

I have a bed or two in the flower garden planted wholly with *Viola cornuta*, but dotted with plants of Cloth of Gold *Pelargonium*, and another bed with Mrs. Pollock. The *Viola cornuta* in these beds I treated in the same way as above stated, clipping it over, and they have been the gayest beds in the garden, and continued in perfect beauty up to the middle of October.

The vandyked border planted with *Calceolarias*, *Gazanias*, and *Viola cornuta*, is now (October 31st), still looking gay notwithstanding the frosts we have already had.

As a contrast I had a small circular-bed or two on grass in the flower garden planted with *Viola lutea*. This has done admirably, flowering continuously throughout the past hot summer. The treatment was the same as for the *Viola cornuta*; after the drought the extended branches were cut-in a little here and there, and the seed-pods taken off. Since then, up to the present time, they have flowered continuously.—W. MELVILLE.

NOTES AND GLEANINGS.

It will be seen by our advertising columns that Mr. J. C. Stevens will sell by auction, on the 10th of December, the splendid New Golden *COLEUSES* raised in the garden of the Royal Horticultural Society at Chiswick. These are of a class entirely different from those raised by the Society last year, and are, perhaps, the most lovely novelties in foliage at present existing. Some of the leaves are bright carmine, with beads of gold for an edging, while others are golden, with crimson shading and sanguine blotches; some are entirely golden, with dark red veins, and altogether they are so novel and so beautiful as to insure for them a wide range of popularity.

— We regret to record the death, on the 10th inst., of Mr. PRESTON, the able gardener at Victoria Park. He had been a short time from home, and on his return was attacked by typhus fever, which carried him off in a few days at the early age of thirty-five. He has left a wife and several children, and, we understand, quite unprovided for.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Cape Broccoli and *Cauliflowers*, if these are any more of these, though only 3 or 4 inches round, turn them into a cold pit, placing the roots in some light rich soil. They will swell-off and come in very useful in the dead of winter, and some straw or other additional covering can always be thrown over them in severe weather. *Garlic* and *Shallots*, it is generally found that these thrive best when planted about this season. The ground should be well trenched, and a place chosen where none of the Onion tribe has been grown for some time. Many failures arise from planting them too deeply. They should merely be fixed on the surface and then sprinkled over with a mixture of soot, lime, and ashes. The smaller variety of *Shallot* is most prized by cooks generally; the large sort is more easily grown, and produces more abundantly, but the flavour

is by many considered not sufficiently strong. *Peas*, make a sowing of these and Broad Beans. Those sown now will be useful if the weather should be favourable, and though they be eat down by frost it will be only the loss of the seed. Sow upon wide ridges, so that the young plants may be delended from east and north winds. Cover the seeds with chopped furze, barley chaff, or sharp sand, as a protection from mice.

FRUIT GARDEN.

Proceed with pruning and nailing in all favourable weather, for if deferred until spring the work will be apt to interfere with other matters then demanding attention. If the trees were suitably attended to in the summer, there will not be many useless shoots to be removed now. Vines and Raspberries deprived previously of all unnecessary wood, had better have the shoots remaining left unshortened until the rigour of the winter shall have passed. Apples and Pears against walls should have their fruit-bearing wood spurs kept as close to the wall as possible, not only to secure the benefit of the wall, and prevent the unsightliness of long, overgrown spurs, but also to obtain fruit of good size and flavour. Attention to the short spurs produced on good, healthy trees when growing naturally as standards, will furnish a useful lesson on this subject. In the case of some of our best sorts of Pears, which have a tendency to form bold blossom-buds at the ends of short shoots of the present year's growth, care should be taken to retain a sufficient number of them, and, if long enough, to fasten them closely to the wall. Plum trees may be pruned much the same as Pear trees, but as the best fruit is generally produced on wood of two or three years' growth, care should be taken to lay in a little young wood every season. Those not much accustomed to nailing are apt either to use shreds too short, or too many of them. Trees, especially young ones, are often irreparably ruined by the former, and made to resemble rag shops by the latter. Comparatively few shreds will be necessary, if placed alternately, with a slight strain, upon the upper and lower sides of the shoot, and if the stronger ends are fastened with willows or rope yarn. However pretty it may be to see trees beautifully trained, the effecting that object by driving in nails close to the branch, or putting a strain upon it, endangering the bark, ought not to be allowed. Unfasten the young shoots of Peach, Nectarine, and Apricot trees, so far from the wall that they will incur no risk of being broken by boisterous winds, in order that the part previously reposing against the wall may be duly ripened before it is exposed to severe frost, and that active vegetation may be retarded to a later period in the spring. Where thin tiles have been placed on part of the border next the wall for the radiating of heat, and keeping the border moist, they may be removed, to prevent them from being broken by frost, or the performance of the necessary operations, and if not considered too valuable, and if the draining is very defective, they might be bedded in clay, to throw the water off the border. In extreme cases, advantage might be taken of concreting the border. For those who are desirous of forming new plantations of *Gooseberries* and *Currants*, which should be done every six or seven years, young plants being found to produce more handsome fruit, and more plentifully than old ones, we would recommend from among the many varieties now cultivated the following—viz., Yellow Sulphur, good, and very early, but does not last long; Red Champagne, Taylor's Bright Venus, Plumston Green Gage, Red Warrington, Woodward's Whitesmith, Melling's Crown Bob, Farrow's Roaring Lion; and, for preserving, the Small Rough Red. Of *Currants*, the Black Naples, Red and White Dutch, and Knight's Large Red. In light soils the above may now be planted with greater advantage than in spring. In preparing the ground, let it be trenched to the depth of about 2 feet, thoroughly mixing with the surface spit a liberal allowance of manure. About 5 feet may be considered a proper distance between the plants. Pruning *Gooseberries* and *Currants* may now also be proceeded with. Let the centres of the bushes be kept free and open, cutting clean off any strong shoots that rise from that part. Cut out all branches that cross each other, leaving the leading shoots about 10 inches apart, and topping at a bud inclining to the open space. All lateral twigs not required to form branches should be spurred-in to a few buds. Black *Currants* require no pruning, except thinning out the branches a little when the bushes have become large and thick of wood.

GREENHOUSE AND CONSERVATORY.

If the plants are all clean, the work in the greenhouse is mere routine. See that *Cape bulbs*, as we call the *Iridaceae*, are now well supplied with water, if their pots are full of roots.

The sheets of the different winter-growing *Tropæolums* will also require attention to training, otherwise they are very liable to become confused, if not broken altogether. *Tropæolum pentaphyllum* is hardy enough to stand outside without any protection. As soon as the *Chrysanthemums* begin to fade cut them down, and protect the stools from frost. It is now time to prune all the young shoots of *Mandevilla suaveolens*, and you may strip off the remaining leaves, but the long slender branches had better be left on until spring. If it is closely pruned now, it may begin to grow too soon for any useful purpose, and stopping the young shoots does not answer well. *Ipomœa Learii* and *ficifolia*, should be pruned in the same way as soon as the leaves begin to turn yellow; the latter cannot be made to flower before the end of September when planted out in the border, therefore April is time enough to give the final pruning. The former, on the other hand, will flower by the middle or end of May, if closely pruned now; when pruned in February it flowers about midsummer, and if cut in April, about a month later. Both these useful climbers succeed better in a large conservatory with a fixed roof, than in a stove or intermediate house. Passion-flowers, unless they are much crowded, need not be pruned or thinned till January. Few climbers repay one's care better than Passion-flowers, but they are often left so crowded as to completely destroy their native gracefulness.

PITS.

This has been a dull, unfavourable month for forcing plants, and many things will be later than they were last season; but to make up for this, hardy plants, such as Lilacs and Rhododendrons, are in better bud than usual. We have had no use for strong fires yet, and in this cloudy weather much less watering and syringing are necessary. It is a dangerous practice to force hard till after the end of December. 65° with fireheat is high enough for any useful purpose until that time.—W. KEANE.

DOINGS OF THE LAST WEEK.

In many respects, in planting, cleaning, washing, glazing, potting, gathering leaves, &c., the work has been chiefly a continuation of that of previous weeks. Other matters that have come under our consideration we will briefly allude to, without much arrangement, under different departments.

Digging in Winter.—This is chiefly useful in dressed grounds, and in very shallow soils, where it would be of little use going deeper than the good staple; but in all gardens where something is generally added in the way of manure, rotten weeds from the rubbish-heap, or charred material, the staple, however thin, will always become deeper, more especially if the bottom, however hard or unkind, be loosened every year, and at times a very little of it, whether of strong gravel or stiff clay, incorporated with the thin but more fertile surface soil. Bringing much of the subsoil up under such circumstances is a great mistake, but a sprinkling often does good, and loosening and leaving it, never fails to do so, as, ere long, the loosened subsoil will become like the good soil above it.

Trenching.—There are some gardens where this can be done to a depth of three spades, without encroaching more on the subsoil than just loosening and leaving it, and where such a practice can be followed, there will never be surplus or standing water, as the hard pan will be sufficiently broken. The soil of most gardens, except when made artificially, will not admit of trenching more than two spits deep, and loosening the bottom. The trenching can be more varied according to the depth of the soil, but the chief use of the operation in gardens, is to furnish to the young plants of a fresh crop, fresh soil in which to grow. All soils are ameliorated by exposure to the atmosphere, but in many cases, too, a soil that has become comparatively inert, from the surface being hard-cropped, will be greatly improved by a comparative rest at the bottom of the trench for a year or two. In trenching, as already alluded to, though moved, but little of the subsoil should be raised, and what is raised this year to mix with the other soil, would be all the better if well stirred in the bottom of the trench a year or two before.

In old-established gardens, the merely moving the top spit to the bottom, and bringing the lower portion of the soil up, will be all that is required, as a change of the layers of soil, and giving more depth for the roots, are the chief objects; but in trenching for the first time, and for particular purposes, it is often best to keep a good opening, and mix the various strata as the work proceeds. We are just doing away with a group of Rose beds, and forming another, and as, fortunately,

the position chosen is all turf, part unbroken for at least a score of years, and covering thus a virgin loam, and part which had been under cultivation only a few years ago, the mixing of the different soils will be all the better for the Roses, and they will grow more equally in strength, than if the different soils had been kept quite distinct. We intended to go down, where the beds were marked out, nearly 2 feet, and remove clay if necessary, but we dug to that depth, and loosened the bottom without meeting the clay. Knowing that the layer of clay was there above the chalk, we would have had some of it up, if our soil had been loose and sandy; but it is sufficiently loamy, without any admixture of clay.

When the object of trenching is chiefly to change the surface in loose sandy soils there is little necessity for breaking up the soil much when trenching, as the air will penetrate sufficiently without much pulverisation, and a flat surface, even if it becomes a little firm, will be as good as a looser one; but in trenching a stiff tenacious soil, the more broken and the looser and opener it is left the more will it be benefited by the frosty air of winter. In fact, in all such soils, unless when to be used at once for planting, &c., the trenching to change the surface soil should be turned into *ridging-up*, and as roughly and openly as possible, that the frost and the cold air may alike act in breaking and pulverising the soil. We have no doubt, though this is the best for loamy tenacious soils, that rough digging or flat-surface trenching are better for light lands, simply because they often need compression as much as stiff soils need lightening.

Such trifles may appear of little value to some of our greatly advanced cultivators, but we have seen lands not only subsoiled, but the subsoil raised and mixed with the staple to such an extent, that the field required years before it returned to the same fertile condition as it exhibited before the additional expense was incurred; and twice or thrice we have known ground deeply trenched in which nothing could be made to thrive until the barren subsoil was moved back to its original position, and the good soil, well reated, brought back to daylight again. Then the deep stirring did tell advantageously, but at what a loss of labour and time! The deep stirring, without bringing the barren subsoil to the surface, we always imagine—though it may merely be imagination—renders crops more independent of the seasons; for in a wet year the rains pass away more freely, and in a dry year the roots have more free access to the moisture stored up beneath them. Whenever practicable, chalk, lime, and sandy soil will ameliorate tenacious land, and stiff clayey loam will help to make light chalky and sandy soils more retentive of moisture. Lime in its quick state is most serviceable when there is plenty, or rather an excess, of organic material, vegetable or animal: hence the wondrous effects it often produces on peaty soils, rendering what was astringent and insoluble, soluble and sweet to the roots of plants. In very poor soils we would not use lime, except for the effects it would produce as a mere mechanical agent.

In all trenching by piecework it matters less, as stated above, how light lands are turned over; but it should be seen that in stiff lands the surface spit is not undermined and turned over in large unbroken pieces, for in such soil one of the uses of trenching is thus neutralised.

Manure.—As a general rule, when the manure of animals is applied for vegetable culture, it is best to have the manure covered up at once, and at such a depth as the young roots will be most benefited by it. In long-standing crops, as Asparagus, Globe Artichokes, Sea-kale, &c., it is well to mix some manure in the process of trenching and mixing the soil, and then add a little more on the surface when digging, preparatory to planting. For all deep tuberous roots, as Carrots, Parsnips, Beet, Salsafy, &c., the best plan is to have the bulk of the manure in the lower strata, or near the bottom of the trench, and the poorer and to some extent firmer the top strata are, the finer and straighter will be the roots. Hence, often the difficulty of finding in old kitchen gardens soil fresh and poor enough for Carrots. When well stored with humus, or the remains of organised vegetable matter, to a good depth, the dressing with lime early in winter, and turning several times, will be attended with good effects. In such cases we have taken up crops in stiff soil, with the particles of chalk adhering to the fibres.

In preparing for fruit trees, by trenching or otherwise, unless the soil is very thin and poor, we would keep the manure near the surface, so as to encourage fruitfulness rather than too much growth, by keeping the roots more under atmospheric influences. Where quick growth of fruit or forest trees is the

object, then the manure may be well mixed with the soil. On talking over this matter with an enthusiastic amateur he instanced, in contravention of some of these statements, that some of our celebrated fruit-tree dealers actually had trenches taken out and liberally dunged for their fruit trees; and if the nurserymen found the system suited them so well, why should it not suit him and his purpose equally well? And so it would if he grew trees to sell. The nurseryman wants a good-looking saleable article in as little time as possible, and people will have fine-looking young wood, even if not the most thoroughly ripened. If the purchaser wish to have a *largo fino* tree as soon as possible, by all means let him continue the high and rather deep manuring of the tree-raiser and seller; but if he want the tree thus purchased to fruit as soon as possible, and in rather limited room, then the chief manuring should be given near the surface.

It is not impossible by any means to combine both objects. Thus, we purchase a small tree that had been forced to grow luxuriantly by rich manuring; we wish it to attain a certain size as soon as possible, and after that to become fruitful. We then imitate the treatment of the fruit-tree raiser, and then when the tree is large enough we either root prune, or, in some cases, carefully raise it and replant, which gives such a check to mere growth, that surface manuring will be sufficient for a long time afterwards to maintain the fertility of the tree, and just enough of growth to keep the tree healthy. Once obtain a good crop from such trees, and, as stated lately, there will generally be little necessity for root pruning, or, indeed, pruning of any kind, for a full crop is a great equaliser of strength. A tree thus made fruitful, has a natural tendency to continue so, if the help given by manure is applied at the surface. What we mean by "equaliser of strength," is, that so far as productiveness is concerned, roots and fruit-buds are brought more into harmony. Excess of fertility would too much diminish necessary vigour; but this can be helped in two ways, thinning the fruit, and surface manuring.

Condition of Manure when Applied.—This has been passingly alluded to. In much of the manure that comes to the garden, there can be little question as to its application. Rotten and half-rotten hotbed dung is always ready to be applied in any way, and so are the droppings of all kinds of animals, as horses, cows, rabbits, &c., which can often be procured with but little litter mixed up with it, from the metropolis and large towns. This may be used at once, but more sparingly in proportion to its newness. For tender things, when mixed with the soil, as for pot plants, such droppings should heat, and be spread out and dried before using them, as then at a little loss of nourishing matter they will be sweeter. All stable and cow-dung, &c., that comes to us with a good proportion of straw or litter, is generally the better of undergoing a process of fermentation. Some of the nutritive gases will thus be lost, but we gain in compactness for carriage, and the celerity with which such manure acts on the plants cultivated. When the manure is intended to act chiefly as a mechanical agent, as in stiff land, we would not let the fermentation and decomposition proceed far before using it, and would place it in the soil as soon as possible. For rank feeders, such as Turnips, we would have the heap farther decomposed, so as to be moist, and short, and would turn it beneath the soil as soon as possible. We often see huge fields covered with little heaps for days, and even weeks, before the dung is ploughed in, and such manure, good it may be at first, is thus by a process akin to haymaking, rendered little better for the purpose contemplated than so much dry litter. As stated above, we are well aware that in thus decomposing a heap of manure, we lose valuable properties, but this may be counteracted by spreading a thin layer of soil over the heap when in a state of fermentation. It is very easy to allow such a heap to ferment too long, which it will have done generally when it can be pitched into a cart with a spade or shovel, instead of a steel fork. When used in a fresh, unfermented state, it should be placed deeply in the soil, and though such manure will act slowly, it will continue longer to exercise an influence. The question of carriage, by cart or barrow, is often a serious one, and so far as that is concerned, and also so far as quick results are calculated on, it is well to use littery manure partly fermented and decomposed. Hotbeds made of such material, when they remain from eight to ten months, are generally too far reduced to contain all their best properties as manure, though very useful in gardens; but much farmyard manure might be used as temporary hotbeds, and then be none the worse for the farm.—R. F.

TRADE CATALOGUES RECEIVED.

James Smith, Darley Dale Nurseries, near Matlock, Derbyshire.—*Wholesale Catalogue of Trees, Shrubs, &c.*
F. & A. Dickson & Sons, 106, Eastgate Street, and Upton Nurseries, Chester.—*Catalogue of Forest Trees, Hardy and Ornamental Trees, &c.*

COVENT GARDEN MARKET.—NOVEMBER 18.

Our market has been very dull during the past week, and prices have a downward tendency, probably owing to the excitement of the elections, the wholesale trade being especially quiet. Peas are good, and comprise Winter Nelfis, Glou Morceau, Chaumontel, and Beurré Bosc.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples.....	1/2	0	2	0	Melons.....	each	2	0	5	0	
Apricots.....	doz.	0	0	0	Nectarines.....	doz.	0	0	0	0	
Cherries.....	lb.	0	0	0	Oranges.....	100	8	0	12	0	
Chestnuts.....	bush.	10	0	15	0	Peaches.....	doz.	0	0	0	
Currants.....	1/2	0	0	0	Pears (dossier) ..	doz.	2	0	6	0	
Black.....	do.	0	0	0	Pine Apples.....	lb.	4	0	7	0	
Figs.....	doz.	0	0	0	Plums.....	1/2	0	0	6	0	
Filberts.....	lb.	0	9	1	0	Quinces.....	doz.	0	0	1	6
Cobs.....	lb.	0	9	1	0	Raspberries.....	lb.	0	0	0	0
Gooseberries.....	quart	0	0	0	0	Strawberries..	per lb.	0	0	0	0
Grapes, Hothouse..	lb.	2	0	5	0	Walnuts.....	bush.	10	0	16	0
Lemons.....	100	0	0	10	0	do.....	per 100	1	0	2	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes.....	doz.	3	0	6	0	Leeks.....	bunch	0	4	0	6
Asparagus.....	100	0	0	0	0	Lettuce.....	per score	2	0	4	0
Beans, Kidney 1/2	sieve	3	0	4	0	Mushrooms....	pot	2	0	3	0
Beet, Red.....	doz.	2	0	3	0	Mustd. & Cress,	punnet	0	2	0	3
Broccoli.....	bundle	1	0	2	0	Onions.....	per bushel	5	0	7	0
Brs. Sprouts 1/2	sieve	2	0	0	0	Parsley.....	per sieve	3	0	4	0
Cabbage.....	doz.	1	0	2	0	Parsnips.....	doz.	0	9	1	0
Capsicums.....	100	3	0	0	0	Peas.....	per quart	0	0	0	0
Carrots.....	bunch	0	4	0	8	Potatoes.....	bushel	4	8	6	0
Cauliflower.....	doz.	0	0	0	0	Kidney.....	do.	4	0	7	0
Celery.....	bundle	1	6	2	0	Rdishes doz.	bunches	1	6	0	0
Cucumbers.....	each	0	4	1	0	Rhubarb.....	bundle	0	0	0	0
Endive.....	doz.	2	0	0	0	Sea-kale.....	basket	3	6	0	0
Fennel.....	bunch	0	8	0	0	Shallots.....	lb.	0	8	0	0
Garlic.....	lb.	0	8	0	0	Spinach.....	bushel	2	0	3	0
Herbs.....	bunch	0	8	0	0	Tomatoes.....	per doz.	1	0	2	0
Horseradish ..	bundle	3	0	5	0	Turnips.....	bunch	0	6	0	0

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

STACHYS LANATA.—"If 'F. J.' wishes to have a stock of *Stachys lanata* for next spring, I will forward him a few scores of very large plants that will break up into hundreds for spring and summer gardening.—NEZO Potter's Bar Post Office, Herts."

ROSES FOR EXHIBITION (*J. C. Muckross, Kilmarnock*).—Your questions were answered October 29th, page 326. We conclude you mean Medlars; we never heard before of "Medcards."

ROSES BUDDED THIS YEAR (*A Lady, Somersetshire*).—"Do not move any of the dormant buds now. If they are shooting, or threatening, perhaps it would be best to take the plants up, shake out the soil, and put them back again. Litter or straw, placed so as not to exclude air, will be a good protection to the buds. The Manetti stock should not be cut back in spring till the buds show a disposition to start. The beginning of March is the usual time. Be guided by the weather.—W. F. RADCLIFFE." (*J. R.*).—"The best thing to do with your Manetti Rose buds is to fasten straw over them, but not so as to exclude air.—W. F. RADCLIFFE."

LUMINOUS INSECT (*Observer*).—That which you noticed was of the species we named in our last number.

FRUIT-GARDEN ARRANGING (*T. T.*).—We do not think your ground could be better arranged for a fruit garden than it now is, the walks being well disposed for affording ready access to every part. We have no fault to find, only we should have liked the walks better had they been wider, for the sake of appearance; but in so small a space we consider them sufficient, and as they exist we would not alter them. The whole of the trees which you do not consider worth saving should be cleared out, and those which you wish to retain we would take up and lay in, entirely

clearing the ground of everything. Ascertain whether water does or does not exist in the subsoil, and if it does the ground must be properly drained by tile drains 21 feet apart, running lengthwise of the garden. Put one drain in each of the borders numbered 1 and 3, and then divide the distance between them, so as to have one in the centre bed. They should not be less than 3 feet, nor more than 4 feet deep, and must have a proper fall and outlet. The whole of the ground should be trenched not less than 20 inches deep, but better to the depth of 2 feet, even if some of the clay be brought to the surface. The surface soil should be placed at the bottom, and the bottom brought to the top. If the ground is poor a good dressing of manure may be given, and worked in in the trenching. The ground will then be fit for planting. No 1 wall, or the wall of No. 1 border, we would devote to Peach, Nectarine, Apricot, Plum, and Pear trees, the last on the Quince stock, all for vertical cordons, as you wish for that mode, though we should prefer them oblique trained. As they are to be planted 2 feet apart, you will have space for forty-one trees, and all should be maidens, which you may obtain retail at a moderate price. We cannot name any grower in particular, but the principal nurserymen advertising in our columns would serve you well. Of the forty-one trees we would have eighteen Peach and Nectarine trees—namely, twelve Peaches and six Nectarines. Of Peaches we would have three Early York, three Grosse Mignonne, three Bellegarde, two Barrington, one Late Admirable; of Nectarines, two Elruge, two Rivers's Orange, two Violette Hative; of Apricots we would have three Hemscherk, three Kusba, two Beaugé; of Plums, two July Green Gage, two Kirke's, two Jefferson, two Cox's Golden Drop; Pears on the Quince stock, one Citron des Carmes, two Marie Louise (should be double worked), two Winter Nellis, one Forelle, one Glou Morceau. The Peach, Nectarine, and Apricot trees ought to be planted at the end next the flower garden, commencing with the Apricots, so as to have them together, the more readily to protect the blossom and young fruit. One foot from the walk on border No. 1, plant Apples on the English Paradise stock at 6 feet apart for lateral cordons (for kinds see page 340), and No. 4 border we would plant with Apples for vertical cordons 2 feet apart, and have two rows, one at 1 foot from the walk, and another at the back. The lateral cordons may be Kitchen Apples, and the vertical cordons dessert kinds. The trees on No. 4 should not reach to within the wall of No. 1 border by the distance the vertical cordons are to be in height, which in your case should not exceed 6 feet. We would extend the lateral cordons all round the garden on the borders No. 2 and No. 3, and have them Apples, but they will do little good in No. 3 unless the trees shading it are cropped. The wall of No. 2 border we would devote to Pears on the Quince stock, as vertical cordons 2 feet apart, seventeen trees: four Bergamotte d'Espere, three Beurre Superfin, three Louise Bonne of Jersey, three Prince Albert, two Baronne de Mello, and two Beurre diel. No. 3 wall will only suit Currants—Red, White, and Black. The best sorts are the Red Dutch and the Long-bunched Red, which is a little later, and Transparent White—these should be planted 2 feet apart—and the Black Naples, 3 feet apart. You may have the Morello Cherry on the Mahaleb, as well as the Currants, on the wall of No. 3, placing the trees 6 feet apart, and training them in the fan form. We now come to the centre bed, and this we would plant with a line of Pears on the Quince stock, Cherries on the Mahaleb, and Plums as pyramids, all 4 feet apart, and 3 feet from the wall, needing twenty-eight trees for the sides and four for the ends, or thirty-two in all. The Pears may be two Duane, Late Duke, and two Florence Cherries. The Cherries may be two Doyenne d'Été on the Pear stock, four Fondante d'Autonne, four Colmar d'Été, four Williams' Bon Chrétien, four Beurre d'Arcberg, and two Zéphirin Grigoire. If you prefer Apples in place of Pears, they succeed admirably as pyramids on the English Paradise stock. Of Plums you may have two Reine Claude de Bayay, two Kirke's, two Guthrie's Late Green, and two Jefferson. All round this border, 1 foot 8 inches from the walk, as also on the inside 1 foot 9 inches from the trees, you may have a row of Strawberries, and the space between the Strawberries or the pyramids you may dispose of by having a rail up the centre for Raspberries, Red Antwerp or Pastoff, and have a row of Gooseberries on each side, but you must in the case of two rows of Gooseberries omit in a year or two the two inner rows of Strawberries. Perhaps it would be as well only to have Raspberries one-third the length of the central border, two rows, and have two rows of Gooseberries 3 feet apart at the other end, they being 5 feet from the rows of pyramids. If this arrangement of the central bed do not give you enough of space for Strawberries, Gooseberries, and Raspberries as you wish, you might have a bed of Strawberries all round 4 feet wide, a row of Raspberries in the centre, and a row of Gooseberries on each side. This would be a good arrangement, and may probably suit you better than the other, if you have enough Pears, &c., in the other compartments.

PLATYLOMA FLEXUOSUM (A. M. G.).—We should think it a desirable plant for either a basket or a peat wall. We should, if we could not give it a pot, prefer the basket, but it is not suitable for suspending.

TIME OF REPOTTING AZALEAS (Cantab.).—The best time for repotting Azaleas is after flowering, or when they are commencing to make fresh growth. They may also be potted after the growth is complete.

RHODODENDRONS FOR A TOWN GARDEN (A Lover of Roses).—Three good kinds are Everstanium, rosy lilac; Blandyanum, rosy crimson; and Lefevreum, purplish crimson.

STOCKS FOR ROSES (Idem).—Clairo de Dijon succeeds well on the Briar, also on the Manetti. Jules Margottin would be best on the Manetti, though if your soil be strong they would both do well on the Briar.

CUTTINGS OF ACACIA, GENISTA, AND CAMELLIA (J. C. L.).—The best time to put in cuttings of the former two is early in summer, taking the growing points after the bases have become firm, or when the wood is about half ripe. They should be inserted in sandy peat, surfacing the pots with sand. They should be covered with a bell-glass, and placed in a gentle heat, and shaded from bright sun. Camellias are not worth propagating from cuttings. They are best grafted. The stocks, however, are raised from cuttings extensively, July and August being the best season, when the shoots become ripe at their bases. They require a bottom heat of from 70° to 75°, and sandy peat and loam, with sand in equal parts, surfacing the cutting pots with about half an inch of silver sand.

PLACING MANURE ON A VINE BORDER (Idem).—You may cover the border with littery manure, but we do not see the necessity for forking some into the border previously, though the surface may be lightly stirred before placing the manure on the border. Your flower is a Pelargonium, but we cannot name florists' flowers.

RHODODENDRONS AFTER FORCING (West of Scotland).—You did right to keep them under glass until the growth was completed, also in placing them out of doors afterwards, the pots being plunged in coal ashes in an open situation, and plentifully supplied with water in dry weather. In this position we would leave them another year, top-dressing the pots with cow dung in March, and at the end of May watering well in dry weather. We think your plants will form bloom buds plentifully next season. They do not generally flower the year after forcing. You are wrongly advised to keep them under glass constantly with similar treatment to Azalea indica, though if you have a cool, airy, light house and plenty of room, that plan answers very well, and is desirable for some kinds, but not for those you name.

LAWN DISFIGURED BY BEING TRAMPLED (E. G.).—We should advise you to well scratch the lawn with an iron rake in March, and then spread over it some well-rotted manure or fine rich compost. Early in April give another good raking, clearing off the rough of the manure or rich compost, and sow over it *Festuca durinseola*, 4 lbs.; *Festuca tenuifolia*, 4 lbs.; *Cynosurus cristatus*, 6 lbs.; *Poa nemoralis*, 2 lbs.; *Trifolium minus*, 4 lbs.; *Trifolium repens*, 4 lbs.; the above in mixture for one acre of lawn. Roll well after sowing, which should be done when the ground is dry, but with an early prospect of rain, and do not mow for a month, or better six weeks, then mow as usual and keep well rolled. Bone-dust is the most durable of manures, excellent for grass. It may be applied in March, before the first raking of the lawn, distributing it broadcast over the surface, and at the rate of 12 lbs. per 30 square yards, which is a moderate dressing.

PARAFFIN OIL ON BUDS OF FRUIT TREES (A. Q.).—We have seen it applied to every part of the trees indiscriminately, and have not noticed any injurious effect, but it is not in our opinion a desirable proceeding, especially as there are other more safe, less nauseous, and pleasanter substances which may be applied, and will answer the purpose. Clarke's Compound will destroy the scale, and every part may be coated with it without danger of injury to the buds or even leaves. Two ounces to the gallon will kill scale, but for winter dressings we should use it at the rate of 3 ozs. to the gallon. However, we do not think paraffin oil would injure the buds any more than the wood if applied to them, as it ought to be, at this season. If the application be deferred until the buds begin to swell, we should not advise it for any other composition. Now is the time for dressing fruit trees and up to February.

SELECTION OF PLANTS (S. P.).—*Stove Plants:* *Allamanda grandiflora*, *A. Hendersoni*; *Clerodendron Balfouri*, *C. Kempteri*; *Cyrtoceras reflexum*; *Dipladenia amabilis*, *D. crassicauda magnifica*, *D. splendens*; *Hoya imperialis*; *Ixora acuminata*, *I. coccinea superba*, *I. crocata*, *I. javanica floribunda*; *Rondeletia speciosa major*, *Stephanotis floribunda*, *Vinca rosea*, *Combretum purpureum*, *Pteroma Beuthamiana*. *Greenhouse Plants:* *Acrophyllum venosum*, *Phenacoma prolifera Barnesii*, *Aphelxia macrantha purpurea*, *A. humilis*; *Boronia serrulata*, *Brugmansia suaveolens*, *Chorozema cordata splendens*, *Crowea saligna major*, *C. macrantha*, *Dranophyllum gracile*, *Eriostemon intermedium*, *Genetilis tulipifera*, *Kelosanthes coccinea superba*, *Leschenaultia formosa coccinea*, *L. splendens*, *Pteroma elegans*, *Pimelia Hendersoni*, and *Rhynchospermum jasmoides*; *Adiantum farleyense*, *A. pentadactylon*, *A. trapeziforme*, *Asplenium Veitchianum*, *A. caudatum*, *A. pramorsum*, *Blechnum covocandense*, *Cebilanthes birta* var. *Ellisiana*, *Davallia polyantha*, *Drynaria musafolia*, *D. quercifolia*, *Goniophlebium subauriculatum*, *Gymnogramma peruviana xryptophylla*, *G. Lauchena*, *Neottiopteris nidus*, *Notholaena trichomanoides*, *Pteris tricolor*, and *Platynerium stemmaria*. The above collection does not include tree and filmy Ferns. *Lycopods:* *Selaginella africana*, *essia*, *atroviridis*, *circinalis*, *umbrosa*, *lepidophylla*; *Lyallii*, *Wallichi*, *flexuosa*, *serpens*, *caulescens*, *Martensii variegata*, and *Griffithii*.

FLOWER BORDER (Novice).—We could not improve your proposed arrangement, only the panel would look better on gravel, but grass will do.

WARTED VINE LEAVES (J. B.).—We do not consider the warts on the vine leaves a disease. When the roots have less moisture and the atmosphere of the house is a little drier, and the vines are scarcely so vigorous in growth, the warts will disappear.

GOLD AND BRONZE PELARGONIUMS.—Mr. Cannell says, "Your correspondent W. B. G. speaks very positively that *Perilla* is a green variety; but I have some dozens of that and *Kenilth* Hero side by side, and both are now presenting a beautiful gold bronze appearance, and judging from their present condition I really could not say which of the two is the more attractive; but knowing their good as well as their bad qualities, I freely admit, as I did in my former letter, that *Perilla* is much behind *Kenilth* Hero for leading purposes."

ORCHARD HOUSE FRUIT TREES (W. Nolan).—With such a mixture in your orchard house, you will only succeed by keeping one end (either by giving less air, protection, or other means), warmer than the other; and beginning at the warmer end we would thus arrange them—Oranges, Lemons, Figs, Vines, Peaches, Nectarines, Plums, Cherries, and Apricots.

CUCUMBER LEAVES INJURED (Seaside).—The spots and wrinkles on the cucumber leaves are chiefly the result of the sun striking on the leaves whilst there is an accumulation of vapour in the house. Early airing will prevent this, and a slightly drier atmosphere. We could see no thrips, but we almost think these little insects have been there. Examine the lower side of the larger discoloured leaves, and if the insects are there they will soon jump off. We have caught them on a wet sponge, but on a large scale the best remedy is smoking with tobacco.

CHRYSANTHEMUMS LOSING THEIR LEAVES (R. G. L.).—Chrysanthemums require much moisture, and everytime a pot plant becomes dry it revenges itself by throwing off some of the lower leaves. A sudden change will also cause this, and sometimes it results from the plants standing too thickly.

TREATMENT OF COLD STIFF SOIL (Idem).—Our mode of treatment would be to dig or trench now as deeply as the good soil, loosen the bottom with a pick and leave it, and as the work goes on leave the soil in rough ridges to allow the air to go freely through it. After it has been well exposed to frost turn the ridges over, and several times, and then in spring apply the manure, so that it shall not be wasted before the roots reach it.

FLUE HEATING A GREENHOUSE (Rugley).—We do not quite understand the mode you propose, as your end section merely shows the flue crossing the house at the end. If you mean to take a flue under your

pathway and then across the end, you will have more than heat enough in such a house, and for that matter, a flue across the house at one end will keep out frost, but it will always be hot at that end. From your section we see a stage at back and a platform in front, and pathway between them. If the chimney must necessarily be at that end, we would take a narrow flue and return it under the pathway—say, 5 inches wide, inside measure, and the same depth, or 6 inches deep. Three rows of bricks thus make your double flue, and if these are covered with thin tiles well plastered, and then with paving tiles, you will have a good inconspicuous flue. We have no faith in covering a flue with sand; according to the quantity and the dryness it will prevent heat radiating freely. Flues rarely crack if kept clean and sweet, and if the stoker shows some judgment.

SPAWNING MUSHROOM BEDS (D. B.).—If the bed, as you say, has declined gradually to 75° from 130°, spawn as soon as possible, and heat the bed firm. If the bed should still decline in heat, add 2 inches in thickness of good fresh droppings before putting on the soil. See a late number for details of management.

WINTERING CALADIUMS (Idem).—The Caladiums will keep very well in your warm stovehole, if it is seldom below 60°, and the pots may stand upright stacked and covered with moss, which will prevent the soil becoming too dry. As soon as the Caladiums show the least signs of moving rot them in fresh soil, and place them where they will have light as well as heat. The soil, even now, should not be dust dry.

FORCING BLACK HAMBURON VINES (J. C.).—Vines from which the fruit was all cut in September, and the wood now well ripened, will need no fire before starting them in March, on ordinary occasions, but if we had a frost nearly to zero, we would put a little fire on. The outside border will be the better of a little litter, but to force at that time there is no necessity for keeping out all the rain, but the roots will be more under command.

INSECT-TANK HEATING (A Constant Reader, Torquay).—The common centipede, *Julus terrestris*, is what is so common among the soil of the Cucumber beds. It delights chiefly in half-decayed vegetable and animal matter. So long as the roots of the Cucumbers are healthy, they will be little interfered with. We have found them in Cucumber stems when there was any crack, or the least signs of decay. A few times we have had healthy roots cut through by them. Altogether we would sooner be without them than have them, and we have used half-rotten cabbage stalks and stems of beans, and pieces of carrots showing traces of decay, to entice them, as well as bits of half-rotten Apples and Pears, and generally succeeded in thinning them by examining such baits. We do not think the damping-off of the leaves is to be traced to the doings of the centipedes, but would rather attribute that to want of air and want of sufficient heat. For such a contemplated Cucumber house with beds on each side, you will require tanks on each side, or two 4-inch pipes for bottom heat, and not less than two 4-inch pipes on each side for top heat, if you contemplate having winter or early Cucumbers.

ARBOR-VITÆ SEED (C. B. R.).—Your seed, if not abortive, as it very often is, will be easily disposed of. We do not know the value. Write to the wholesale seedmen who advertise in THE JOURNAL OF HORTICULTURE, enclosing sample of seed.

WINTER GREENS BLIGHTED (Idem).—From your description we should think your Greens are infested with the Cabbage plant louse (*Aphis brassicæ*). Dust them alternately with soot and fresh-slacked lime, or you may syringe them with a solution 1½ oz. to the gallon of Clarke's Insect Destroying Compound, which will free the plants of the vermin.

PERENNIALS FOR CUT FLOWERS (J. R.).—*Alyssum saxatile compactum*, *Anchusa paniculata*, *Anemonea cruenta*, *Antirrhinum*, *Aquilegia*, *Aubrietia deltoidea grandiflora*, *Aster tinnatifolius*, *Asclepias tuberosa*, *Campanula aggregata*, *C. carnatica*, *C. speciosa*, *Cheiranthus* varieties, *Convallaria majalis* varieties, *Daphne cneorum*, *Delphinium alpeceuroides*, *D. belladonna*, *D. formosum*, *Dianthus floribundus*, *D. fragrans*,

Pinks, *Carnations*, *Picotees*, *Dielytra spectabilis*, *Erigeron speciosus*, *Helicoborus niger*, *Hepatica* vars., *Snowdrop*, *Winter Aconite*, *Hyacinthus vars.*, *Hypericum calycinum*, *Lathyrus grandiflorus*, and its variety *Fretoloid*, *L. latifolius* and varieties *albus*, *pallidus*, and *splendens*; *Lilium auratum*, *aurantiacum*, *Brownii*, *oleichium*, *candidum*, *lancifolium*, and *tenuifolium*; *Lobelia fulgens* St. Clair, *Lychnis Haageana*, *L. vicaria splendens*, *Muscari botryoides*, *Myosotis azorica*, *M. palustris*, *M. sylvatica*, *Narcissus vars.*, *Paeonia* vars., *Phlox* vars., *Polygonum vacciniifolium*, *Pyrethrum vars.*, *Scabiosa grandiflora*, *Schizostylis coccinea*, *Scilla amona*, *S. bifolia*, *S. sibirica*, *Spiraea filipendula plena*, *Statice latifolia*, *S. tatarica*, *Stipa pennata*, *Tritoma Burchelli*, *T. uvaria* and var. *glaucescens*, *Trollius europæus*, *Veronica tozeriana*, *V. taurica*, *Viola villosa*, *Viola odorata*, vars. *striata*, *suavis*, and *calcarata*.

FUEL FOR HAY'S CONSTANT STOVE.—"D. Deal," wishes to know if this is to be had in London, and if so, where? Catalogues for "D. Deal," must now be sent to him at Westwell Vicarage, Ashford, Kent.

PLANTING BRIARS (S. M.).—If we understand you aright, your wish is to form a screen, and of Roses; but you propose to plant stocks and bud them next year. For a screen the plants should not be more than a foot apart, and if you plant Briars they must be headed or cut down to the height you wish them. The Briar's delight in a strong loam, and you cannot manure too highly. We would not plant Briar but Manetti stocks, and bud them close to or a little below the soil. The plants would, of course, be dwarfs, and the Manetti would be more suitable for your soil than the Briar. Dahlias should be planted 4 feet from the Roses, and that distance from plant to plant.

TRANSPLANTING SWEET WILLIAMS, WALLFLOWERS, AND STOCKS (Idem).—You may prick-off in a sheltered situation the Stocks, and plant out where they are to remain for flowering the Sweet Williams and Wallflowers, moving each with as much soil as possible.

ORANGE TREE LEAVES SPOTTED (X. Y.).—The leaves sent are spotted we think by drip, or water falling on them from the roof; but whether the drip be caused by imperfect glazing, or condensation of the moisture of the internal atmosphere, we are not in a position to state. The spots would also be caused by allowing water to remain long on the leaves at this season. What are the white specks on the upper surface of the leaves? Are they not the result of the recent painting of the house? If the drip be from a recently-painted house we should attribute the spotting to that, and you must give air so as to keep down drip from condensation. The tree from which the leaves are taken is infested with the Orange-tree Coccus or scale, there being more than one of these insects on the under side of the leaves sent to us.

TRENTHAM BLACK GRAPE (Reader).—In constitution and stamina the Trentham Black Vine is very robust and vigorous, it shows fruit freely, but requires a more than usual amount of heat to set the berries perfectly—about the same amount as the Muscat of Alexandria. The fruit if well ripened will hang well, but ordinarily the skin is apt to crack just at the insertion of the stalk, and speedily decay, the bunches thereby becoming thinned gradually, a berry at a time. It is not a good-keeping Grape, not equal to this Black Hsmburgh. In flavour it is superb.

NAMES OF INSECTS (F. Manning).—The insect on your Peach-tree leaves is the red spider, *Acarus tellarius*. The vapour of sulphur, not from burning sulphur, is fatal to this insect. Heat the hot-water pipes of the houses, or having hot-water plates filled with boiling water, sprinkle upon them flowers of sulphur, which begin to vaporize at a heat of 170°, and then shut up the houses or frames.

NAMES OF PLANTS (J. R. W.).—*Cornus mascula* or Cornal Cherry. (*J. W.*)—*Bupleurum fruticosum*. (*Tertia*).—1, 2, *Blechnum brasiliense*, slightly different forms; 3, *Nephrodium molle*; 4, *Pteris arata*; 5, *Gymnogramma tartarea*; 6, *Woodwardia radicans*; 7, 7, 8, *Adiantum tenerum*; 9, Too young for determination. (*B. B.*)—A *Nephrodium*, apparently, near to *N. arbusculum*, (*S. B.*)—A variety of *Asplenium Filix-mas*. (*P. P.*)—We do not recognise the leaf sent.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending November 17th.

DATE.	BAROMETR.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 11	30.193	30.028	46	39	45	44	N.E.	.03	Hazy; overcast, mild air; clear and fine at night.
Thurs. 12	30.354	30.295	47	37	45	43	N.E.	.00	Cloudy; overcast; very fine; clear and fine.
Fri. .. 13	30.347	30.290	45	35	45	43	N.	.00	Overcast; densely overcast; very fine at night.
Sat. .. 14	30.205	30.154	40	35	46	45	N.W.	.02	Cloudy; fine but cloudy; fine, clear, and cold.
Sun... 15	30.194	30.162	42	25	45	44	W.	.00	Clear and fine; sharp wind; fine; clear and fine.
Mon... 16	30.202	30.209	46	34	44	44	N.W.	.01	Sharp frost; clear and fine; fine, rather mild.
Tues. 17	30.205	30.153	43	38	44	44	N.W.	.00	Hazy; overcast, very dull; fine at night.
Mean	0.258	30.184	45.71	34.85	44.85	43.86	..	0.02	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

POULTRY SHOW DETAILS—JUDGES.

AMONG the "many things" to be considered at the meeting to be held pursuant to the proposal of your correspondent "J. WALKER," allow me to direct attention to that of the appointment of judges. The committees of some of the late shows seem to have supposed that any gentleman who had held office as secretary to a show must perforce have had conferred on him the ability to act in the capacity of judge. I am desirous to inquire if the meeting will not resolve to ask the managers of each exhibition if they are not prepared to go a

step further, and in future have the prizes distributed by lottery!—X.

AN OUTRAGEOUS CASE.

WE had a week or two ago a very excellent show held not far from Liverpool in which the secretary was a "very successful exhibitor," I was also an exhibitor, and, of course, patronised it, and you may judge of my astonishment when I found that the Secretary had entered in his own name forty-one pens, and nine others in the name of a member of his family, and the prizes awarded him were as follow:—Cups, 2; first-prize 11; second prizes 12; and commended pens 13, the total money value of which, including the cups, amounts to £35 7s.

Do you think exhibitors could feel satisfied? I can assure you they were not, and many were the complaints I heard, and if I may judge from the conversation I had with some parties, next year's show will prove a failure if such is again to be the case.

My own opinion is that a secretary has no right to show anything whatever, and if he does so it is doing an act of injustice to exhibitors generally. He is supposed to know to whom the birds belong, and in fact to have a knowledge of everything connected with the show.

I should like to hear the opinion of some of the readers of "our Journal" upon the subject. I think the majority of them would object to support a show if they knew the secretary would be the principal exhibitor, at any rate if such is to be the case another year they will not receive the support of—A CHESHIRE MAN.

[We partake your feelings and think such exhibiting should not be allowed. It would destroy any show in the United Kingdom if such things were permitted.—Eds.]

BREEDING PILE OR PIED GAME FOWLS.

In breeding Piles, or Pies, the golden rule that "like will best produce like," should be attended to, and the best and quickest Piles are produced by breeding "good Piles with good Piles" of different strains, and of first-rate blood, so as to make a first-cross of the Pile colour. The brood hens should be all sisters and of one strain, and the brood cock of a different strain and no relation to the hens in blood, but equally good, and matching them in perfect shape and colour. If "breeding in-and-in," put the best old cock to the best two-year-old hens; two, four, or six hens at most to one cock—two hens do best—and the chicks should be hatched in the last ten days in March, or in April or May. If crossing from different strains breed from a two-year-old cock and hens, as then in their prime. A two-year-old cock to the best old hens is also good in breeding in-and-in, but the first plan is, perhaps, the best. Red or bright red eyes are essential to obtain fine-coloured Red Piles, as the red eye gives a redder feather; the white-legged strains are hardest, keenest, and gamest, and do not run so large or heavy in flesh as others. Piles to be handsome should be neither too light nor at all dark in colour, the bright red-coloured birds being the best and handsomest.

The Chestnut, Ginger, Orange, Lemon, Yellow, Gravel, and Dark Piles possess less beauty than the bright red Blood Piles do, though some admire Orange Piles. Dark Blood Piles are also less beautiful than the bright Red Blood Piles. The old Black-marked Worcestershire Piles are also inferior as to colour. Yellow or daw-eyed Piles are inferior, but yellow-legged, red-eyed Piles are good birds and the handsomest Piles of all, if of a good red colour. Willow-legged Piles are handsome also, if red-eyed, as they generally are.

Piles were originally produced from the red-faced Red-breasted Ginger Reds (not Ginger Brown Reds), and the Black-breasted Reds; also, of course, from Whites, and some came from the Red Duns and Ginger Blues.

Piles, or Pies, as their name denotes, should be pied or slightly pied nearly all over, and such as these are the quickest Piles and most lively.

The exhibition "whole-coloured" Piles are merely "White-breasted Reds," and might be more correctly so termed than called Piles, and such, though very handsome in colour, are slower birds than the true Pies. Piles, however, should not be spangled, or spotted, or the markings approach the "spangles."

The usual way of making Piles is to put the White hens with yellow legs to willow-legged Black-breasted Red cocks. This keeps the Pile red colour from becoming too faint or too pale, but it makes rather slow Piles. The White cock put to Partridge hens makes more Piles than the above way, which makes most Reds, and the White cock makes rather a quicker Pile than the Black-breasted Red cock does. If Marble-breasted Piles are wanted, I should prefer making them from the Red-breasted Ginger Reds (not Ginger Brown Reds), which make quicker birds than the Black-breasted Reds do, and also harder and gamer. If good White-breasted Piles are wanted, I prefer breeding them from good red-eyed Red Duns with white or yellow legs, but never from the Smoky Red Duns, which would spoil the clear colour, but from the clear-coloured Blood-red Duns, and such Red Duns will, if really good, make a better Pile in my opinion than our heavy willow-legged, exhibition, Black-breasted Reds do.

Marble-breasted Piles are harder in breast and feather and gamer than White-breasted Piles are, and are faster Piles, and truer Piles. A breed of Red-breasted Ginger Red, yellow legs and red eye, makes the best Marble-breasted Piles I know of, crossed with white-legged red-eyed Pile or White hens. Good Red Duns also breed excellent Piles, and I heard that at the last Ashford Exhibition, in Kent, a Captain Lambert showed some excellent "Dun Piles." In breeding Piles with Piles, you preserve that quickness for which Piles have always been celebrated, and which the Black-breasted Red or Duckwing-cross does not always maintain. Slow Piles are poor Game fowls. The only fear in breeding Piles with Piles is, that the red colour should become too pale or faint, and the white colour gain too much. Most of our exhibition Piles have, I think, been bred from the old white-legged Pile hens, put to willow-legged Black-breasted Red cocks, which will give white, yellow, and willow legs.

Many Piles have been bred from Brown Reds and Ginger Brown Reds. These are generally "Gravel" Piles and browner in colour, and not very handsome-coloured, being often too dark in face, with dark nails, and a dark-stained white leg, but are game birds. Red feathers in the tail, I think, show goodness in Piles. Piles are remarkably prolific, but the hens want to sit more frequently than most Game hens, and both hen and cock chickens are more quarrelsome than in most Game breeds, Brown Reds being in general the next most quarrelsome. Pile hens generally lay better than either Brown Red or Duckwing hens. Piles, Ginger Reds, Gingers, and Whites are the liveliest and quickest colours of Game fowls, as are some Red Duns, Blue Duns, Birchen Duns, and Birchen Reds, and these colours never incline to "run to flesh" so much as Black-breasted Reds, Duckwings, and Blacks often do, these three sorts gathering more flesh in general than other colours, especially when inclined to be large.

Ten or eleven, or even nine, eggs are quite sufficient for most Pile hens to sit on, for they are rather scant in feather.

Piles seem to have been first brought much into notice in Chester and its neighbourhood, and were then mostly white-legged birds. I have heard the Lemon Piles were bred from Yellow Duckwings and the Derby Reds, also from Yellow Birchens, Ginger Blues, and Blue Duns (yellow necks). The true Lemon Pile has yellow legs and yellow or daw eyes.

No two colours cross or mix better than clear Red Duns and Piles do, and no cross is less trouble in making, or less liable to fail in colour than this cross, which makes both Piles and Red Duns good quick birds.

I am aware that my taste in making and breeding Piles may appear rather singular to our modern exhibition breeders, to such more especially as will always make their Piles from Black-breasted Reds, which is the more common method. I always look chiefly to great liveness in really good Piles. I also look for a light hard flesh, activity, and a very scant feather in first-rate Piles, which should never be heavy, fleshy, large birds, and to obtain such I like to breed a little out of the ordinary method.

In crossing Piles with Red Duns, the Dun cross will take out all tendency to a brown tinge in the feather or to red feather in the Piles. The Dun colour will also in crossing with Piles if too dark, cloud a little the breasts of the Piles so made. The Orange Dun Piles are, by some breeders, thought to be the handsomest Piles of all.

Piles do not fatten at all well for table, nor will they pen well at all, either for fattening or for exhibition, as they "fret" in the pen too much, and shed their feathers when penned more than almost any other Game fowls.

Our exhibition Red Piles with yellow legs and red eyes, are our handsomest Piles, and all must allow these to be as beautiful Piles as can well be produced, though the white-legged are harder and gamer. Breeders wishing both to exhibit and to have good layers, cannot do better than breed Piles and Black-breasted Reds, as birds of these colours will prove better egg-producers than either Brown Reds or Duckwings. Piles and the Black-breasted Reds should, however, be bred separately, or the Piles will give the Reds too much white, which will show itself in the wings and tails of the Black-breasted Reds, and spoil them for exhibition birds.

In remarking on the laying qualities of Duckwings and Brown Reds, I should state that Yellow Duckwings lay very well, but not so the Grey Duckwings in general, and that some of the strains of the Brown Reds also lay very well. Piles, however, lay better than either of them.

I omitted to state in my last paper on breeding Duckwing

Game fowls, that if the very hardest and gamest Duckwing Greys are required, they can be best produced from a dark willow-legged Grey Duckwing cock put to black-legged Dark Grey hens, also in less numbers from a Dark Grey cock put to Duckwing hens. Duckwings thus produced will not, however, be perfect in colour, and for exhibition I do not recommend such a cross, as "Duckwings with Duckwings" breed more perfect and correct-coloured birds as a matter of course. Dark Birehens crossed with Duckwings will also produce good Birehen Duckwings. I wish also to state that many of our present Piles were produced from the white-legged Pile cocks put to willow-legged Partridge hens, as well as from the reverse of this, as before mentioned.

I likewise meant to have stated in former papers, that the "whip" or "switch"-tailed birds so-called in our northern counties and elsewhere, I have generally heard termed the "seythe"-tailed birds in contradistinction to the "sickle" or "sickled"-tailed birds. I prefer the latter if hard, and close, and short in feather.—NEWMARKET.

TUMBLER PIGEONS.

I AM much pleased with the notes of the "WILTSHIRE RECTOR," but I certainly differ from him in some of his remarks on "common Tumblers"—but they must tumble, they must be true to their name."

I candidly confess that it is a difficult matter to find a first-class lot of good Tumbler Pigeons that will tumble well. By tumbling well I mean that in going over the circle it is fairly kept, the head of the bird being in a straight line with the centre of the tail, no deviation to one side or the other, but true as an accurately turned wheel, and this done so quickly that great care is required not to overlook the action.

The next quality in a good Tumbler is to tumble without losing any of the height, if the birds are sky Tumblers. Young birds frequently lose a good deal, and particularly if they tumble two or three times at once before they fly forwards, but old grown birds ought not to lose any of their height in tumbling.

The next quality is the number of times they tumble in a given period of their flight or the distance they fly. I am here referring to sky Tumblers, and my opinion of them is in proportion to the greatest amount of the above qualities; or, in other words, the birds that tumble the greatest number of times, and the cleanest, in a perfectly circular direction, and with least loss of height, are the best sky Tumblers.

I differ from "WILTSHIRE RECTOR" in his classification of the Short-faced Tumblers being "the highest class." They belie their name in a great measure. I have had some of them, and have seen plenty, but have seen no tumbling from them, and therefore they should lose the false name they bear. The correct eye of the naturalist would, I think, at once pronounce them a malformation.

I differ from "WILTSHIRE RECTOR," also, with regard to the eye. If I had him here I could show him one bird with nearly a red eye that would astonish him with its tumbling qualities. It is, of course, a ground Tumbler, and feather-footed also. I have tried and been successful in raising some splendid feather-footed birds. One of the best Tumblers I ever had was a dark black-and-white feather-legged Tumbler. I took advantage of a son from him and the ground Tumbler referred to below, and obtained some of the best feather-legged birds imaginable. I like to see pearl eyes in Tumblers, but I have many that have net pearl eyes that are very good Tumblers.

The Rector seems not to like ground Tumblers. I confess they are my greatest favourites. I have one fine fellow which has great pride in his tumbling. He will, for ten or a dozen times together, if thrown from one's hand, tumble, and frequently twice together, before he alights on the hand again; and as I have described before, his tumbling is perfectly circular.

I find the best sky Tumblers come from a ground Tumbler crossed with a sky Tumbler. I obtained some beautiful light blue-barred Tumblers from a ground Tumbler and a sky Tumbler, but they do not in the second generation breed a healthy offspring, and I have broken three pairs of them to pair with the offspring of some dark blue ground Tumblers, in order to raise some dappled ones, and in one or two birds I have been successful, and the tumbling qualities are all I can wish for.

I have a flight of more than seventy Tumblers, and I imagine some of the best and neatest in the country. They are great

pets; I cannot kill one on any account when I look at the watery, young, innocent eye of my pets.

I am very fond of beautiful-shaped birds, Tumblers of course, also of colour. I think I have about ten pairs of Black and White Splashes, shape and colour grand, and I have preserved them in consequence—that is my pet colour. The next are Red Splashes, but they are not so numerous as they were forty or fifty years ago.

Whether this characteristic tumbling arises from some particular structure of the brain I know not, but I am sure that there is a much larger brain in the Tumbler Pigeon in proportion to bulk than can be found in any other of the great family of Columbidae, and I have uniformly found the best Tumblers the most sensible birds. I spend much time in watching their habits, their sympathies, and antipathies. I have them perfectly docile, and can call very frequently a dozen at once from the roof of the cote on to my head, and arms, and hands.

I believe the best Tumblers if kept too much on very stimulating food are most subject to vertigo and wasting. I should like to hear if any of your numerous readers have tried any experiments on the above diseases. I had a very valuable bird which began to waste, and became so light as to be merely bones and feathers, yet he always kept the feathers smooth. An old friend told me when he had birds in that way he invariably pulled out all the tail feathers. I am glad to say I have tried the experiment with my bird, and with perfect success. For vertigo I have tried a few remedies, but without success, but I have only seen one case.—R. W.

SOUTHAMPTON POULTRY SHOW.

THIS year's Show, held on the 10th, 11th, and 12th inst., consisted of considerably more than six hundred pens, and the Victoria Rooms proved far more eligible for the purposes of such a display than those hitherto used for this Exhibition, being better ventilated, and the light throughout good. The remarkable excellence of the Show as a whole was a matter of general congratulation, whilst most of the prize birds were such as have a very fair chance of holding good their high position at any meeting. There were but few *Spanish* fowls shown, and most of them scarcely in the good feather that could be wished. *Grey Dorkings* were especially good, and we believe many were claimed at the opening of the Show. *Cochins* were very fair. The *Brahma* classes, however, were the chief feature of the Show, the Dark-feathered being not very largely represented; but the Light-coloured were there in extraordinarily large classes, and of a quality not seen for many years past. The silver cup given to this variety caused an almost general entry from the very best blood in the kingdom. The *Game* fowls proved very good, but as yet hardly in perfect feather. *Hamburghs* were generally so good that a visitor might easily have fancied he must be inspecting either a North Lancashire or Yorkshire show. *French* fowls were superior to those commonly shown. *Game Bantams*, *Ducks*, *Turkeys*, and *Geese* were especially noteworthy. Of *Pheasants*, strange to say, there was not a single entry.

Pigeons were never shown so numerous, nor of equal quality, at any of the preceding Southampton shows. The extra variety class of Pigeons contained many new varieties. There was a very good show of live *Foreign birds*, and also of *Mules* and *Cavaries*.

Eggs and dead dressed poultry were especially worthy of note. A pair of young cocks, plucked and trussed for the table, a cross between the Grey Dorking hen and Light Brahma cock, actually weighed 16½ lbs., and the next best couple proved nearly as heavy. So much for the improvement in useful poultry. The Committee and Honorary Secretary were exceedingly attentive to the welfare of the birds.

SPANISH.—First, J. R. Rodhard, Wrrington. Second, J. Jenner, Lewes. Commended, J. Jenner; H. Loe, Appuldurcombe.

DOUKINGS.—First, J. Smith, Shillinglee. Second, Dr. D. C. Campbell, Brentwood. Very Highly Commended, H. Pickles, jun., Earby. Highly Commended, St. J. Colvarg, Wimborne; R. Pople, West Moulsey; W. Peacocke, Eford; J. Elgar, Newark; Hon. H. Fitzwilliam, Wentworth Woodhouse. Commended, R. Pople; J. Smith; A. Saunders, Alder Moor, Old Shirley; W. Stanford, jun., Steyning.

COCHINS.—First and Commended, F. W. Rust, Hastings. Second, J. Gardiner, Bristol. Third, J. R. Rodhard. Highly Commended, Rev. S. C. Hamerton, Warwick; G. White.

BRAHMAS (Dark).—First, G. L. Macpherson, Bracknell. Second, Rev. J. Ellis. Highly Commended, Rev. R. Parker, Ipswich. Commended, G. Meares; P. D. Maddox, Bitterne; J. H. Cuff, Metropolitan Cattle Market; C. F. Hore, Tuubridge.

BRAHMAS (Light).—First and Second, J. Pares, Postford. Very Highly Commended, H. M. Maynard, Holme Wood. Highly Commended, P. Crowley, Alton. Commended, Miss B. Greene, Wickham, Fareham. **CHICKENS.**—First and Cup, H. Dowsett, Pleshey, Chelmsford. Second, F. Crook, Forest Hill. Very Highly Commended, H. Dowsett. Highly Commended, P. Crowley; F. Crook; H. M. Maynard. Commended, Mrs. Astley, Tring; J. Pares; W. J. Gotch; S. Felgate, Ipswich; C. H. Lang.

GAME (Black and other Reds).—First and Second, S. Matthews, Stowmarket. Highly Commended, H. C. Dear. Commended, T. H. Higden, Hove; C. F. Hore, North Stoneham Park; W. P. P. South Lancing.

GAME (Any other variety).—First, T. Dyson, Halifax. Second, S. Matthews. Commended, Rev. T. L. Iremonger, Goodworth; H. Loe.

HAMBURGHS (Silver and Gold-pencilled).—First, R. Barter, Plymouth. Second, F. Pittis, jun., Newport, Isle of Wight. Highly Commended, H. Pickles, jun. Commended, F. Pittis, jun.

HAMBURGHS (Silver and Gold-spangled).—First and Cup for heat pen F. Pittis, jun. Second, T. Blakeman, Tettenhall. Highly Commended, S. & R. Ashton, Mottram; H. Pickles, jun.; F. Pittis; R. Barter. Commended, J. Elgar.

POLANDS (Any variety).—First, G. W. Boothby, Lonth. Second, Mrs. Pettat, Ashe Rectory. Highly Commended, T. P. Edwards, Lyndhurst; Mrs. Pettat; H. Pickles, jun.

FRENCH.—First, Col. Stuart Wortley, Grove End Road, London. Second, H. M. Maynard. Highly Commended, Mrs. Astley; Mrs. L. Paget, Wimborne. Commended, Rev. N. J. Ridley, Newbury; H. S. Fraser, Headly.

ANY OTHER DISTINCT VARIETY.—First, J. Hinton, Hinton, Bath. Second, F. Pittis, jun. Highly Commended, J. Parea. Commended, W. Stanford, Steyning.

GAME BANTAMS.—First and Second, J. W. Kelleway, Merston Cottage, Isle of Wight. Highly Commended, J. W. Kelleway; C. Hore; J. W. Morris, Rochdale. Commended, W. G. Stevenson, Foxlease, Lynton.

BANTAMS (Any other variety).—First, Mrs. Pettat. Second, H. M. Maynard. Highly Commended, E. Cambridge, Bristol; H. Pickles, jun.

DOCKS (Ayresbury).—First, A. Saunders. Second, F. Cresswell, Handsworth. Highly Commended, F. Cresswell. Commended, Mrs. J. J. Maberly, Hawley Hurst, Petersfield; A. Saunders; F. Pittis, jun.

DOCKS (Any other variety).—First, C. Baker, Chelsea. Second, S. and R. Ashton. Highly Commended, Mrs. Hayne, Fordington. Commended, T. R. Hulbert, Old Alesford; H. S. Fraser; T. P. Edwards.

GESE.—First, H. C. Dear. Second, Miss E. B. Williams, Harrington. Highly Commended, A. Saunders.

TURKEYS.—First, J. Elgar. Second and Highly Commended, St. J. Coventry.

PIGEONS.

POUTERS OR COOPPERS.—First and Second, R. Fulton, Deptford. Highly Commended, H. Yardley, Birmingham; P. H. Jones; W. Cole, Warwick. Commended, T. H. Evans, Lambeth.

TUMBLERS.—First, R. Fulton. Second, P. H. Jones. Highly Commended, Hawley & Horner, Bingley; J. Lufkin, Farnham; R. Fulton; H. Yardley.

BARBS.—First, T. Fulton. Second, Miss Coker, Alesford. Highly Commended, Hawley & Horner; H. M. Maynard; J. Baxter, Newcastle-on-Tyne. Commended, Miss Coker; P. H. Jones.

JACOBS.—First, Miss J. Millward, Newton St. Lee. Second, Hawley and Horner. Highly Commended, W. Green, Ryde; G. Hill, Winchester. Commended, H. Yardley; H. M. Maynard; J. W. Edge, Birmingham.

FANTAILS.—First and Second, Rev. W. S. Shaw, Bath. Very Highly Commended, H. Yardley. Highly Commended, S. A. Wylie, East Moulsey; H. Yardley; Miss J. Millward. Commended, J. Lufkin.

OWLS.—First, S. A. Wylie. Second, P. H. Jones.

TURBITS.—First, Hawley & Horner. Second, J. W. Edge. Very Highly Commended, Mrs. Brent, Buxted, Uckfield. Highly Commended, H. Yardley.

CARRIERS.—First and Second, R. Fulton. Highly Commended, S. Harding, Farnham; P. H. Jones; H. M. Maynard; J. Lufkin; R. Wilson, Thirsk; P. H. Jones. Commended, H. Johnson, Farnham.

NENS.—First, P. H. Jones. Second, R. Wilson, Thirsk.

ANY OTHER VARIETY.—First and Extra Third, W. S. Loder, Bathwick Hill, Bath. Second and Third, H. Yardley. Very Highly Commended, Mrs. Brent. Highly Commended, Hawley & Horner; S. A. Wylie; P. H. Jones; H. M. Maynard; W. S. Loder, Bathwick Hill, Bath; J. W. Edge. Commended, A. P. Maurice, Herriard Grange, Basingstoke; H. Yardley; Hawley & Horner.

Cup for the greatest number of points in the Pigeon class, R. Fulton.

CANARIES.

NORWICH (Clear Yellow).—First, H. Vine, East Cowes. Second, E. Orme, Derby. Very Highly Commended, J. Bennett, Derby; R. J. Troske, Redland, Bristol; R. Mackley, Norwich. Highly Commended, J. Bennett; J. Bexson, Derby; H. Vine; W. Walter, Winchester. Commended, G. Cummings, Gloucester; J. Adams, Coventry; G. J. Barnesby, Derby; W. Walter.

NORWICH (Clear Buff).—First, E. Orme. Second, R. Mackley. Very Highly Commended, J. Adams; W. Heap, Horton, Bradford; H. Apter, Broadwater, Worthing; H. Vine. Highly Commended, G. J. Barnesby; J. Bexson; W. Walter; R. Mackley. Commended, E. Orme.

NORWICH (Marked or Variegated Yellow).—First, E. Orme. Second, R. Mackley. Very Highly Commended, J. Bexson; W. Walter. Highly Commended, W. Walter. Commended, W. D. Prosser, Wandsworth; W. Walter; R. Mackley.

NORWICH (Marked or Variegated Buff).—First, E. Orme. Second, W. Inson, Redlands, Bristol. Very Highly Commended, J. Bennett, Derby; W. Walter. Highly Commended, W. Walter; R. Mackley. Commended, R. J. Troske; W. Walter.

BELGIAN (Clear Yellow).—First and Very Highly Commended, O. Nicholson, Landport. Second, R. Mackley. Highly Commended, O. Hailes, Southampton.

BELGIAN (Clear Buff).—First, J. Bexson; Second, O. Nicholson. Very Highly Commended, J. Baxter; T. Moore, Fareham; R. Mackley. Highly Commended, O. Nicholson.

BELGIAN (Variegated or Marked Yellow).—First, O. Nicholson. Second, H. Vine. Highly Commended, J. Bexson; T. Moore. Commended, W. Clark, Nottingham.

BELGIAN (Variegated or Marked Buff).—First, O. Nicholson. Second, J. Bexson. Very Highly Commended, H. Vine.

LIZARD (Golden-spangled).—First, G. Harrison, Canterbury. Second, F. W. Fairbrass, Canterbury. Very Highly Commended, Rev. V. Ward, Canterbury. Highly Commended, H. Vine. Commended, T. Fairbrass, Canterbury; J. Bexson.

LIZARD (Silver-spangled).—First, T. Fairbrass. Second, W. Clark. Highly Commended, J. Bexson; H. Vine.

GOLDFINCH MULE (Jonque).—First and Second, G. J. Barnesby. Very Highly Commended, G. J. Barnesby; J. Bexson; H. Vine; T. Carrington, Derby; R. Mackley.

GOLDFINCH MULE (Nealy).—First, G. J. Barnesby. Second, R. Mackley. Very Highly Commended, G. J. Barnesby; T. Carrington; R. Mackley. Highly Commended, H. Vine. Commended, G. J. Barnesby; R. J. Troske; W. Inson.

LINNET MULE.—First and Second, G. J. Barnesby.

CANARY (Any other variety).—First, R. J. Troske. Second, H. Vine. Third, W. A. Blakston, Sunderland. Very Highly Commended, W. Walter; R. Mackley. Highly Commended, W. J. Toon, Kettering; O. Nicholson.

Cup for greatest number of points in Canary and Mule Classes, G. J. Barnesby.

BRITISH BIRDS.

BULLEFINCH.—Prize, H. Vine.

GOLDFINCH.—Prize, H. Vine. Very Highly Commended, W. Walter. Commended, O. Nicholson.

LINNET.—Prize, W. Walter. Highly Commended, H. Bromley, Southampton.

SKYLARK.—Prize, Mrs. Goulden. Very Highly Commended, H. Vine. Commended, T. Stewart, Glen Ayre, Southampton.

WOODLARK.—Prize, W. Walter. Highly Commended, O. Nicholson.

BLACKBIRD.—Prize, T. Hewlett, Southampton. Very Highly Commended, J. Titheridge, Winchester.

SONG SPARROW.—Prize, W. Walter.

STARLING.—Prize, H. Vine. Commended, W. Walter.

SISKIN.—Prize, Miss M. Harfield, Shirley, Southampton.

ANY OTHER VARIETY.—First, A. G. Hubbard, Southampton. Second, D. Barnes, Portswood, Southampton. Third, O. Nicholson. Fourth, T. Carrington.

FOREIGN BIRDS.

LOREYS (Any variety).—Prize, W. Walter.

LOVE BIRDS.—Prize, W. B. Bailey.

PARQUETS (Any variety).—Prize, W. Walter.

JAVA SPARROWS.—Prize, W. Walter. Commended, W. B. Bailey, Purfleet.

WIDAL.—Prize, W. E. Badler.

CARDINALS.—Prize, W. B. Bailey.

BISHOPS.—Prize, W. B. Bailey.

WAXBILLS (Any variety).—Prize, Miss M. Harfield. Very Highly Commended, W. Walter.

FOREIGN (Any other variety).—First, W. B. Bailey. Second, Miss M. Harfield.

Edward Hewitt, Esq., of Birmingham, judged the *Poultry and Pigeons*; A. Willmore, Esq., of London, *Canaries*; and Wm. Goodwin, Esq., of London, all *Foreign birds*.

GOLDFINCH MULE CANARIES.

THE queries of your correspondent, "ROBBIE BURNS," "How Goldfinch mules are judged in England, and how they ought to be judged," include widely different matters, and the answers are dependant greatly on the classification. In some schedules "nearest the Canary" is the standard—a definition so manifestly absurd as to need no comment. Last week, at a local show, I saw a splendid evenly-marked mule displaced by one marked on one wing only, on the ground that it was "nearest the Canary!"

The mule most difficult to breed is one absolutely clean, and it therefore ought to occupy the highest position. Next to this should rank an evenly-marked bird; then ticked and unevenly marked; and lastly, dark self-coloured mules. Colour, condition, and size are taken into consideration, and, all other points being equal, a bird which excelled in either would win.

A Jonque mule (formerly in the possession of Howarth Ashton, Esq., of Manchester, but now the property of John Young, Esq., of Monkwearmouth, who has, perhaps, the finest collection of mules in England), which for size, colour, and markings was considered the best mule of his class in the country, and has carried Mr. Ashton's colours to the front in many an all England show, is evenly marked on each wing, and beautifully pencilled on the eyes. He is named Edward I., and the last time I saw his majesty he was surrounded by such a group of satellites as it is seldom one man's good fortune to possess. Edward II., a Jonque cock, similarly marked, but with the addition of a black feather on either side of the tail; Black-eyed Susan, an evenly-marked and pencilled-eyed buff beauty; Cloth of Gold, a clean Jonque cock; Snowdrop, a clean buff cock, with Snowflake and Snowdrift, two spotless honris at his side, were among the number. The past season, however, may have given birth to new gems, and I have no doubt that Mr. Doel, Mr. Barnesby, Mr. Shiel, and other noted mule-breeders will charm us with a peep at some of their treasures at the approaching winter exhibitions.—W. A. BLAKSTON.

THE CAPE BEES.

I THINK it will be found that the two native varieties of the honey bee referred to by Mr. Woodbury's South African correspondent are nothing else than mongrel varieties of *Apis fasciata* and *Apis mellifica*. I very much doubt, because against all experience, that the pure African bee is to be found uncontaminated in presence of any known variety of *A. mellifica*, and hence I am inclined to think that both the varieties alluded to will be found to be mongrel races.

It would appear from Mr. F. Smith, that "the small black

bee possibly is the *A. Adansonii* of Latreille;" but I understood that the *A. Adansonii* of Latreille was a variegated bee, and agreed with *A. fasciata* in size and colour, differing only in its darker hair. It is said that this form of variegated bee occurs at the Cape. If so, I take it to be the "diminutive of the Ligurian" referred to by Mr. Woodbury's correspondent—*A. Adansonii*. I also understand that together with this variegated form, there occur at the Cape transitions of all kinds to a nearly uniform dark one, and that the darker variety only differs from the British bee in its smaller size. This seems to me to be the other variety referred to, which Mr. Woodbury has commissioned, and which is described as being nearly identical with the *A. unicolor* of Latreille, which abounds in the Mauritius and Madagascar, and which Mr. Gerstaecker says "differs from the north German bee (*A. mellifica*), only in its smaller size." In short, I expect that the African "niggers" on their way to England will resemble somewhat those propagated by myself (only darker), by the crossings of the *A. mellifica* with the *A. fasciata* in my possession.

That the characteristics of each variety should be thus maintained so conspicuously, as is represented to exist at the Cape, is one of those mysteries which it is difficult to solve, though a better acquaintance with facts might throw some light upon it. Where two opposing influences are at work it is natural to suppose that the strongest or largest will have the mastery. In this country it will be found that the Ligurian race will have much to contend against in this respect for many long years to come; but even when its propagation shall arrive at that point, when both the Italian and British influence shall be nearly equalised, I believe that even then in certain localities the Ligurian race will be found to prevail over the other race, and *vice versa*, just as is represented at the Cape with regard to the Egyptian and British bee.

I fear, then, that Mr. Woodbury in getting possession of these African "niggers," so far from obtaining any new race of bee, will only be renewing his acquaintance with hybrid descendants of his old "friend" (!) *A. fasciata*, only with a large preponderance of the black element; and that in making a choice of these for importation over the so-called "diminutive Ligurian," mentioned by his correspondent, so far as irascibility of temper is concerned, he will only be avoiding Seylla to fall into Charybdis.

In thus forming an opinion, however, I need not say that I shall be glad if that opinion prove incorrect. In any case, all apiarians must owe Mr. Woodbury a debt of thanks for his indefatigable and persevering exertions in this matter.

One or two very interesting topics have been recently mooted by your excellent correspondent, "R. S.," to which I hope to direct my attention at some future time, and to which other apiarians will, I doubt not, lend their aid towards a solution.—J. LOWE.

INTRODUCING LIGURIAN QUEENS.

The following is an account of our experience with six Ligurian queen bees we recently obtained from Mr. Woodbury. We first asked his advice about how we were to introduce them to the black bees, and were referred by him to the number of THE JOURNAL OF HORTICULTURE for the 5th of September, 1867. We got it, and were then prepared to act.

On the 15th of October we had a note saying that the bees were to leave Switzerland in a few days. We let the black queens remain in their hives four days after that, and then removed five of them, thinking that within five days their foreign rivals would be forwarded to take their place. We were disappointed, however, for instead of five days it was twenty ere they arrived.

My neighbour, who was to receive three of the six queens, became very disheartened; his bees came out, and seemed careless about going back again. He expected to lose all; around his hives the bees were lying dead. He shut them up, then dysentery began in two of the hives, and when the queens came, there was a great number of his bees dead in two of his hives (they were very strong hives to begin with). He cleaned them out, and tried one of the queens on a comb; she was received cheerfully. The other two had to be put into wire cages, and left for two days. He has now succeeded with all three.

A day before the Italian queens arrived I found a young queen cast out from each of my two hives, from which I had taken the queens about seventeen days before. This told me there had been queen-making going on, so I made a search

before putting in the new ones, and found a fine large queen in each, and four queen cells. This rather puzzled me; how was I to do now? As it was very cold, how was I to manage to keep the new queens five days, as Mr. Woodbury said the bees should be kept five days without a queen before putting in the new ones? The five queens we took out first died in ten days, and the frost being now so severe, I was afraid to keep them a day from the hives after the journey from Switzerland. I saw no alternative but to risk them at once; so I placed two of them each into a cage, and put them into their hives. I had not taken the queen from my third hive, so I went in search of her, and saw her on a comb, but ere I could take her off, she was out of sight. I then searched the combs four times over, but could see nothing of her, so I gave it up in despair till next day, when we found her outside of the house. It was a very hard frost all night, and the sun not making his appearance, I durst not open the hive, so I thought of just risking the new queen in at the opening or feeding hole at the top of the hive. I opened the box to take her, but found her lying on the bottom, and her companions along with her, to all appearance dead, so I shook her out on my hand (the reader may conceive my feelings after all my trouble); she seemed a beauty. I ran to the fireside, warmed my hand, held it over her, breathed between my hands to warm her, and was laughed at by my wife, who told me I was getting "bee-daft." The heat had the desired effect, however, for the queen began to move, and in ten minutes was on her feet. I put her into a box, placed a piece of glass over it, wrapped the box in warm flannel, ran to the bee house with her, and put the box on the feeding hole. I left the bees there, and examined the three hives at the end of four days, and found the queens in all doing well. I should have stated that my two queens that were caged at midday were released from their confinement by the bees excavating their cages out of the comb by next forenoon.

We have managed far better than we expected. We feared that the frosty nights would kill the queens on the journey. My neighbour and myself had both had one that was more like dead than alive.—H. L.

THE BERKSHIRE HIVE.

I CAN fully endorse what is said by "S. B." as to the advantages of the Berkshire bee hive, which I have used with the greatest success, and which I believe to be for ordinary bee-keepers the most satisfactory hive known. It is somewhat on the principle of the Canadian hive, than which nothing can be more simple or efficient for taking and storing honey.

Mr. Sadler's hives and bee houses both deserve notice, and I am surprised that they have only just found their way to the Bee-keepers' Chronicle.

This year I have taken 68 lbs. of honey from three hives, leaving, of course, the stocks well supplied for the winter. It is not true that the hives never throw off any swarms, for if exposed to the sun the bees are sure to swarm; they require to be kept entirely in the shade. My best stock swarmed twice this year, and made no honey in the supers because they were exposed to the sun all the previous season, and consequently prepared for swarming early this spring. I have tried many hives, but none with equal success to that of the Berkshire Hive.—HALCYON.

WAXEN SHEETS.

IN reply to "A LANARKSHIRE BEE-KEEPER" in your last number, I would observe that no wax sheet which I have purchased or made is of uniform thickness; the wax, tending downwards when the board or glass is dipped into it, accumulates in a greater thickness on the lower side of the sheet, and if care be not used to hang the sheet by its thickest edge a break-down frequently follows. The perforation which he describes I have occasionally observed in impressed sheets, but not to any serious extent, and never, so far, in plain sheets.

If "A LANARKSHIRE BEE-KEEPER" will refer to my letter in your number of September 10th he will see that I was speaking of impressed sheets, when I said that I had known worker comb built upon them by queenless stocks. This I have seen so frequently that I think I may say that it is the rule that drone comb is not built until the comb is brought below the level of the sheet; but in respect to plain sheets I may now say, that on the only occasion within my knowledge of bees build-

ing on such when queenless, a somewhat similar result ensued. On the 5th of July this year a stock of pure Ligurians having refused to swarm or work in supers, I divided the hive (a frame box of 20½ inches square) by a partition in the middle, and gave to the queenless half an outside frame with a plain sheet; the queen was hatched on the 20th, by which time the sheet was fully worked up, the greater part of it with worker cells, but a little drone comb round the edges; this comb, mostly sealed honey, was removed before the queen began to lay. With regard to the use of plain sheets in supers I can say nothing, not having yet tried them, but purpose doing so next year.

I may further inform your correspondent that I have never purchased wax sheets either in London or Ayrshire in smaller quantities than three dozen, and that I have paid in London 6s., and in Ayrshire 5s. a-dozen, besides packing-case, &c. I cannot undertake to make sheets for your correspondent, but as to their price it may suffice to say, that plain sheets somewhat thicker than the impressed ones weigh thirty to the pound, when trimmed for Woodbury frames, and the price of wax being 2s. per lb., makes the price of a sheet somewhat less than 1d. As to the labour of their construction, I can easily, by the method described in my former letter, turn out ten dozen in an hour, and have little doubt that with the aid of another pair of hands they could be impressed in two hours. The profit which the makers realise upon their sale at 6s. a-dozen may easily be reckoned.—*APICOLA.*

HOW TO SWEEP THE FLOOR.

In the days of our Puritan grandmothers, no girl was considered fit to receive proposals of marriage till she could make a good hemlock broom; to know how to make a broom in those old days, we presume, was always preceded by the knowledge of its use. But in these later times, many a young lady not only offers herself in the matrimonial market, but absolutely gets married and undertakes to manage her house without knowing how to use a broom that some one else has made. We have seen a broom used so unskillfully, that one would almost think the person engaged in using it was endeavouring to change the place of the dust from the floor to the furniture. It requires some science, or at least some skill, to use a broom well, as it does to do anything else.

To use a broom skillfully, the handle should incline forward and not backward, as is often the case. If the top of the broom inclines forward beyond the part next the floor, it will prevent much of the dust from rising into the air, and will carry it along by a gently sliding motion towards the place where it is to be disposed of.

If, on the other hand, the handle of the broom inclines backwards, the dust is sent into the air by a kind of a jerk, to the great annoyance of those who occupy the room, and to the great detriment of everything the apartment contains. More than this, it wears off the threads of the carpet quicker, injures the paint more, if the room is uncarpeted, and destroys the broom sooner, than if the sweeping was done in a more rational way.

A brush of bristles is always better to sweep a carpet, as it is less liable "to kick up a dust," or to injure the texture of the carpet. Moistened tea leaves thrown over a carpet before sweeping, will help to prevent the dust from rising, and on account of the peculiar property of the tea infusion, they will not injure the colour of the cloth. After the first snowfall, carpets may be cleaned of dust by throwing a little hard snow on them when the room is cold, and quickly sweeping it off.

OUR LETTER BOX.

CHINESE GEESSE—CHARACTERISTICS OF DORINGS AND BRAHMAS (*Notice*).—We know nothing of Messrs. Lucas' sale. Chinese Geese lay at all times. We have known them lay, sit, and rear their young in mid-winter. The principal characteristics of Dorking and Brahma cockerels are size and weight, but of course the latter is not accompanied by symmetry. They are lanky and narrow. Golden-pencilled Hamburgs lay more eggs than either Brahmans or French fowls, but their eggs are smaller. The French lay the largest eggs. They, like the Hamburgs, are non-sitters.

QUANTITY OF FOOD FOR FOWLS (*An Amateur*).—It is quite impossible to give any quantity as the average consumption of food by a given number of fowls, unless we know every particular—whether confined or at liberty, and the nature of their run. We do not like your feeding. The morning feed of corn is a good one; barley is better than wheat. The midday and evening feeds are bad. Billed Potatoes are bad feeding. They make bad flesh and flat, and they do not promote laying. Pollard is bad. Kitchen scraps are good. You will do better if you will adopt

the following dietary:—In the morning, at daybreak, barley; middle, ground oats slacked with water or milk, and in the evening whole corn, either barley or Indian corn; the former preferable, the latter useful for a change. The old moulting hens will not lay in the winter. The pullets of last spring should do so, and will as soon as you alter your style of food. No hens, however well fed, will lay in the winter. You must form your own idea of the necessary quantity of food from observation. The better their condition the less they will eat. Rice is utterly worthless.

COCHIN-CHINA HEN NOT LAYING (*S. B.*).—Either your Cochin hen was too fat to lay, or she ate her eggs, or they were taken by some one or something. It is against nature that a hen should lay one egg and then leave off. Judging from her weight we should say she was very fat. At her age she will not lay at this time of year; but when Christmas is turned bring her down in condition till she is comparatively thin, and we believe you will find her a layer.

BREEDING BUFF COCHIN-CHINAS (*Lemon Buff*).—What colour do you want to breed? We should prefer the dark cockerel with the light hens.

PROMOTING SIZE IN FOWLS (*C. L.*).—Nothing can be more fallacious than your friend's advice, to feed less nourishingly. You want size, and that can only be produced by good feeding when the birds are growing. If you feed on bran you will have a lanky, narrow, knock-kneed bird, that will pass all his time sitting on his hocks. A growing bird will not fatten, all the support goes to make scaffolding, and to supply thew and sinew. Year 8-lb. bird had done growing at eight months old. Barley-meal and ground oats are good, so is a little whole barley. We do not approve of wheat, bran, Indianmeal, or peaseal. A little Indian corn may be given at times. The secret of making large fowls is to feed judiciously from the first. Growth cannot be made afterwards. Weight may be added, but it is such as you saw in the fowl you mention, and such as you would obtain in a Capon. Hatch early, feed often on chopped egg and cooked meat, bread and milk, ground oats slaked with milk, bread crumbs, tallow wheat, &c. When growth has ceased, feed them as adults; meal night and morning, whole corn in the day. Judges are not infallible, and if the cock has done as much as you say, continue to show him.

HEN-CKOCK (*Mr. A. P.*).—Your Black Spanish hen, which has been laying for the last two years, and this year after the moult has feathers like those of a cock, tail and hackle, and to colour rich glossy black, having a metallic green lustre, is not a phenomenon. It is a change which often occurs, and though the sex is changed only in appearance, yet she will lay no more eggs.

ROUP PILLS (*M. Mowcroft*).—Messrs. Baily, 113, Mount Street, Grosvenor Square, London, W.

HANLEY POULTRY SHOW (*T. Dean*).—Our note about Keighley Poultry Show, at page 352, should have been headed "Hanley Poultry Show," and our observation applies to this. We see no reason to pursue the subject; if you can show any unfair proceedings we will aid in exposing them.

CROSSING TOLLHOUSE AND NORFOLK GEESSE—EGGS UNFERTILE (*A. B.*).—You may safely allow the Tollhouse Gander to run with the Norfolk Geese. You are altogether mistaken about the eggs; those that remain perfectly clear have never been impregnated—they would have remained clear for six months. There has never been the germ of life in such an egg, and there can consequently be neither development, death, nor decay.

BALDHEAD AND BEARD PIGEONS.—A correspondent says that these are very different varieties to breed, and that he, "A Beard," would readily subscribe, as would many others, for prizes to be awarded to them in separate classes.

LARGE HIVES (*Inquirer*).—If, as we suppose, you intend to deepen your hives permanently by means of ekes, it had better be done in the spring as soon as they become tolerably populous. It may be as well to change their floor boards, but we do not deem it very essential. Waxen sheets should first be slightly warmed, so as not to chip before the knife or scissors, then make incisions from a quarter to three-eighths of an inch deep, and about an inch apart along the upper edge. Next warm the wax a little more, and bead over each portion so divided alternately from right to left until they stand at right angles with the sheet itself, when, if our description has been sufficiently clear to be intelligible, it will be found easy to cement the foundation thus formed to a comb bar, by means of melted wax. We see no reason why your hives should not travel safely if you can get the crate carefully handled and kept in its proper position. Tie the hives up in cloth of open texture (cheese cloth), invert them, and pack them firmly with straw, taking care that ventilation is perfectly unimpeded in every case.

FOOD FOR BEES (*E. Hoare*).—We always use simple syrup made of lump sugar in the proportion of three parts of sugar to two of water (by weight), and boiled a minute or two. When administered by means of an inverted bottle this really leaves nothing to be desired. Treacle should never be used for feeding bees.

FEEDING BEES IN WINTER.—"G. S. T." asks for the best method of feeding bees in winter, and as we never attempt doing so, we shall be obliged by a reply from any one who has successfully fed bees at that season.

BUTTERFLIES AND MOTHS (*A Young Entomologist*).—We cannot recommend deners. There is no serial relative to Lepidoptera publishing in parts. If you need a cheap illustrated book on the British Lepidoptera, purchase Stainton's "Manual of Butterflies and Moths."

GREEK WINES (*Rev. W. R. P.*).—We have already stated that Kephisia and St. Elle are two of the most refreshing wines that we know. All the Greek wines are pure and unbranded. Why not call at Mr. Denman's, in Piccadilly, and taste the wines? You will find all the information you ask for in a small volume he has published. It is well written, and tells much that you will like to know.

POULTRY MARKET.—NOVEMBER 18.

	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls.....	3	0	3	6	Pheasants	2	6	0	0
Smaller do.....	2	0	2	6	Partridges	1	6	1	9
Chickens	1	6	1	9	Hares.....	2	6	3	0
Geese	5	6	7	0	Rabbits.....	1	4	1	5
Ducks	2	0	2	6	Wild do.....	4	8	0	9
Pigeons	0	8	0	9	Grouse	3	0	3	6

WEEKLY CALENDAR.

Day of Month	Day of Week	NOV. 26—DEC. 2, 1868.	Average Temperature near London.			Rain in last 41 years.		Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	m. h.	m. h.	Days.	m. h.				
26	TH	Show of Royal Horticultural Society of [Ireland.]	47.1	33.0	40.1	22	39 af 7	56 af 3	47 af 2	57 af 2	12	12	21	591				
27	F		47.0	34.0	40.0	20	41 7	55 3	12 3	6 4	13	12	1	592				
28	S	48.3	34.9	41.6	20	41 7	54 3	40 3	15 5	14	11	41	593					
29	SCN	1 SUNDAY IN ADVENT.	48.0	33.9	40.9	20	43 7	53 3	9 4	26 6	15	11	21	594				
30	M		48.0	34.1	41.0	21	44 7	53 3	51 4	38 7	0	10	58	595				
1	TU		48.4	35.1	41.8	20	45 7	52 3	41 5	45 8	17	10	35	596				
2	W	Meeting of Nottingham Horticultural [Society.]	47.7	34.0	40.8	19	47 7	52 3	40 6	43 9	18	10	12	597				

From observations taken near London during the last forty-one years, the average day temperature of the week is 47.8°; and its night temperature 34.1°. The greatest heat was 62°, on the 1st, 1857; and the lowest cold 14°, on the 30th, 1856. The greatest fall of rain was 1.31 inch.

SOME NOTES ON FERNS, HARDY AND EXOTIC.



FERNS are ever worthy of admiration, but if I admire them more at one season than another, now is the time,

“When bleak November's winds are blowing,
Baith snell and keen.”

When summer flowers lose their beauty and fade away, Ferns are lovely and graceful as ever; they are plants for everybody, and are to be found in the garden of the cottager, in

the small greenhouse of the man of limited means, and in the garden of the nobleman, who can afford to build large conservatories where tree Ferns may luxuriate in abundant space.

First, I will jot down some notes about hardy Ferns, which are very easily managed, and the nurserymen's lists of which are numerous, especially in varieties of the normal forms of British species. These can be purchased at a cheap rate from the dealers in them, but are not so interesting to the enthusiastic cultivator as plants which have been collected during a holiday tour, and which have been obtained at the expense of many a fatiguing journey over hill and dale, and sometimes at much personal risk.

Some of the rarest of our native species are difficult to manage under cultivation, and require peculiar treatment to have them in a flourishing condition. The best place out of doors for them is a position partially shaded, but not too much confined, as they can bear a little exposure.

I will notice a few of the most interesting native sorts which I have successfully cultivated, and there is none more worthy of notice than the true Maiden-hair, *Adiantum capillus-Veneris*. It is one of the rarest of our native Ferns, and is found in tolerable abundance at Tintagel, in Cornwall. It grows best in a moist warm temperature; in fact, it pines away and dies in the open air, and just manages to live in a greenhouse. I grow it in the plant stove in a compost of turfy peat, a small portion of sandy loam, and a few rough pieces of charcoal, placing plenty of drainage at the bottom of the flower pot.

Asplenium marinum requires the same treatment. I had a large plant of it which threw up fronds 18 inches long in the stove; it also succeeds well in ainery where it is partially shaded by the Vines during the season of its growth; the moist atmosphere which the Vines require during the growing season just suits it. It does not succeed nearly so well in a cool greenhouse. I was planting a specimen of it in a rockwork I formed out of doors in the spring of the present year, when a lady, visiting here, told me it was useless planting it, as she had proved that it would not so live in the neighbourhood of London. My plant looks healthy as yet; it has just been covered with a bell-glass, which will be allowed to remain on all the winter, and I have the hope that under careful management it will succeed. It grows and thrives in an exposed position on the north shore of the Firth of Forth, or did grow eight years ago, but the spot was often visited by collectors, and the plants were fast disappearing.

Ceterach officinarum is another interesting little Fern which I obtained from an old wall, where it grows naturally, in a cottage garden about two miles from Godalming, in Surrey. It succeeds well in a greenhouse temperature, or out of doors. I have raised numbers of plants from spores of this species. To cultivate it I half fill a 6-inch pot with crocks and broken bricks, placing some of the fibrous part of turfy loam over them to prevent the compost from mixing with them. The material in which they are potted consists of good turfy yellow loam one part, mortar rubbish one part, and one part bricks broken into small pieces, with a little silver sand. I raise the compost in the form of a mound in the centre of the pot. A 6-inch pot will hold six plants, one on the top of the mound in the centre, and the others in a circle round it. This Fern must be kept very dry in winter, and only just moist in the growing season.

To raise young plants from spores, fill a pot with the same material which I have recommended for growing the plants in, up to within 1 inch of the rim, then place some small pieces of broken bricks on the surface, and lay over them the fronds with ripe spores, placing a square of glass over all. I prepared a pot in this way, and the young plants came up in dozens all over the surface of the bricks; a green moss-like appearance first showed itself, and from this the fronds ultimately protruded. The plant I have out of doors is healthy, and, under a bell-glass, will, I hope, survive the winter at this place.

Allosorus crispus is another pretty little Fern, which I brought from its native mountain home on the Eldon hills, near Melrose, in Scotland, where it grows abundantly. It here flourishes out of doors, and does not require pot-culture. It has been grown here for five years.

Polypodium dryopteris and *P. phegopteris*, natives of the Scotch mountains, succeed well here. I brought the plants from the highest part of the Cheviot range, where they grow abundantly. *Allosorus crispus* is also found there in dense tufts, 2 feet in diameter, clinging to the face of the rocks, and living on the smallest amount of nutriment.

Polypodium vulgare cambricum, is an easily-cultivated Fern which ought to be in every collection; it retains its very pleasing shade of green throughout the winter; it is well adapted for pot-culture, and it is easily propagated by division.

Of *Scelopendrium vulgare*, the numerous varieties are very interesting, and easily cultivated. The variety *crispum* is very pretty, and does well in the rockwork out of doors; it is also fine for pot-culture, and easily increased by division.

Athyrium Filix-foemina, the Lady Fern—there are numerous forms of this graceful Fern now, most of them worthy of cultivation. I have grown the variety *crispatum* for a number of years, and I admire it much. I raised a large number from spores, and the young plants nearly all came the same as the parent. This Fern thrives well in a compost containing a large portion of peat.

Cystopteris fragilis is another easily-cultivated species. The fronds of this Fern do not last long, but are renewed

throughout the summer, although the best fronds are those produced first. The variety *Dickiana* is a very neat form of it; the fronds are more upright, and very much shorter, it is a very neat little plant for pot-culture, and is also reproduced by spores.

Trichomanes radicans I have never attempted to grow, either out of doors or in the greenhouse. I grew it in a cool stove, and the treatment seemed to suit it; it was kept under a bell-glass, and the pot in which it grew was never watered; it was plunged in another pot, and the intervening space filled with sand, which was always kept moist. The plant was potted in turfy peat, with some rough pieces of charcoal and broken bricks. It will also succeed in the greenhouse, but the plants must always be under a bell-glass, and shaded.

One more hardy Fern I will notice, and that is the *Botrychium Innaria*. I well remember walking eight miles, after a hard day's work, to the haunt of this plant, guided by a friend, who had gathered specimens of it. We searched until dark, and had to retrace our steps without meeting with a single specimen. It grows at "St. Martha's-on-the-Hill," near Guildford. I have dried specimens which my friend found there, but I would have been more pleased to have discovered it myself. The *Botrychium* is not easily cultivated, and requires careful management to grow it well; it ought to be potted and grown in a cold frame.

On Exotic Ferns I will not make any lengthened remarks. It is not necessary to maintain a high temperature during the winter months; in fact, I think it injurious. 55° are a good night temperature, or in very cold weather 50° will be enough, and it will not be injurious to the majority of stove plants. There will only be disappointment in summer if plants are unduly excited during the winter months. I believe manure in any form to be injurious to Ferns, and ammonia from the evaporating troughs does not seem to suit them. Watering is very important; they will never succeed with stagnant water near the roots, therefore see that good drainage is secured, and water sparingly during the winter, but never allow the plants to be dust-dry, and always use rain water. This ought never to be allowed to run to waste; large tanks ought to be provided in all houses, and placed, if possible, where the hot-water pipes will warm the water a little.

There have been some interesting additions to the numbers of Exotic Ferns within the last few years; foremost amongst them is a very pretty *Lomaria*, named *ciliata*, introduced by Messrs. Veitch, of Chelsea, from New Caledonia; it is one of the most distinct and elegant of the species. I have it growing freely in a cool stove. *Adiantum concinnum latum* is another of their more recent introductions; it is very pretty, and is said to be a useful exhibition sort. The true *Adiantum farleyense* is still scarce, and is not yet within the reach of everyone. It is a very fine plant, the beauty of the individual fronds cannot be surpassed; it seems to be of moderately free growth. *Lomaria zamiaefolia* is a free-growing distinct sort, and will succeed in a greenhouse. *Neottopteris australasica*, another greenhouse species, is a grand Fern, and a full-grown specimen of it is a noble feature in a collection. It is easily managed, and will well repay all attention. It will, like most Ferns, grow best in a moist, rather warm atmosphere.

Dicksonia antarctica I will just mention as a most desirable species to grow; it is a tree Fern, but is very fine in its young state; it succeeds as well in a greenhouse as in a stove temperature. It is one of the sorts which thrips are fond of, and they will spoil the beauty of any Fern. The best cure for this is smoking the house with tobacco until it is cleared of them. J. DOUGLAS.

GROWING FRUIT FOR MARKET AT LITTLE SUTTON, CHISWICK.

MR. FRANCIS DANCER'S.

MR. DANCER is so well known in the horticultural world as an able and experienced cultivator, that further introduction is unnecessary. He is one of the largest and most successful of our great growers of fruit for market. If about Fulham, Deptford, and other places our greatest vegetable gardens are to be seen, assuredly at Chiswick will be found some of the finest, best managed, and most productive fruit gardens, from which Covent Garden receives a goodly portion of its enormous supplies.

The fruit gardens around Chiswick form, indeed, quite a feature of the place, as much so as do the Lettuces and Cab-

bage of Fulham, the Onions and Cucumbers of Sandy, or the fine Lavender of Mitcham. It is curious, and instructive as well, to observe how certain districts become devoted to the cultivation of one particular product. This is especially noticeable in market gardening. It is even so with fruits. Locality and soil are not alike suitable for all classes of plants, or every system of culture, neither will every variety of fruit succeed equally well in the same place. Now, as the object of growing fruit for market is mainly that of profit, it is perfectly natural to suppose, when we see a certain district chiefly devoted to the cultivation of certain things in certain ways, that that system is a profitable and proper one.

The specialities of fruit culture about Chiswick, and those in which Mr. Dancer particularly excels, are:—1st, Plums, which are cultivated on a very large scale, and most successfully. Every season the trees are heavily laden, and literally breaking down with their enormous crops of large and handsome fruit. 2nd, Pears, which are also largely and well cultivated, but not quite so extensively as Plums; 3rd, Apples; 4th, Currants, which last are an extremely pet subject of Mr. Dancer's, and one deserving of especial notice.

Having now had for some years abundant opportunities, through Mr. Dancer's kindness, of observing all the various methods and details of his culture and the results, I have been enabled to form some opinion of their respective value, however slight. Although the few observations I am about to make may refer chiefly to the results of the past season, which was in many respects a very exceptional one, the conclusions I have tried to arrive at, or the lessons learned therefrom, are the impressions of a series of years.

There is, I may premise, a very great difference between growing fruit for market and growing fruit for a gentleman's table. The method of cultivation, and the end desired—good fruit, may be the same, yet the one is generally for quantity, while the other is for quality and variety. The best fruits in quality are seldom the most profitable for general market purposes. Usually the highest-flavoured are the most delicate growers and least productive; and again, a certain variety may have all the good qualities, yet if it is not known in market it will not sell. A fruit to become a profitable market variety must be well known. A particular colour, even, will frequently cause its rejection in Covent Garden. Tastes change, however, and a variety which may at one time be much disliked may afterwards become very popular. The masses of the people, however, the London mechanic and his wife, who are the great consumers of Covent Garden fruit, appreciate and care but very little whether a fruit is fully up to any horticultural standard of perfection or not, provided they have plenty for their money. Quantity is evidently more prized than quality, especially if the latter is attended with scarcity.

Of Plums, one of the principal varieties cultivated by Mr. Dancer is Gisborne's, a rather shabby-looking, medium-sized, oval, yellow Plum, with a rather firm yellow flesh, not very juicy; neither is it of very excellent flavour in general. In the past summer, however, I tasted some fruit which were very fine indeed, and they were of an extraordinary size, although the trees were all very heavily laden with the crop. They were so large and so highly coloured that they could scarcely be distinguished from the fruit of the Jefferson. The flesh parts freely from the stone, whereas the Jefferson is somewhat of a clingstone.

Gisborne's, or Gisborne's Early, is a favourite Plum in Covent Garden. Its excellent qualities are so well known that it commands a very ready sale. As a tart Plum it is much in request, and as a preserving Plum it has no rival. It is first-rate for the latter purpose. This is one of the most profitable Plums to cultivate. The tree is hardy, not a very tall grower, and a most abundant bearer. It is very rarely indeed that Mr. Dancer misses having a crop of Gisborne's; during the past season the trees were not so loaded as usual, still the fruit was finer and larger, and consequently filled the measures quickly. I counted on some twigs, and there were plenty such, about two dozen fruit within the space of 12 inches. I am afraid to say how many trees Mr. Dancer cultivates of this variety, or how many bushels of fruit are gathered annually. I know, however, that one day there were no less than 153 bushels of this sort sent to market. This is Plum culture in earnest. Gisborne's is one of the earliest Plums to ripen, but Mr. Dancer generally gathers all his fruit before they have arrived at that stage. Nearly all the Plums sent to market are gathered from the trees in this half-ripe state. They may not be quite so good for dessert, but as they are principally used for jams, &c.,

it matters little. It does not pay a Plum cultivator to wait until the fruit are quite ripe; they would not carry to market in good condition, and the losses arising from spoilt fruit, through bad weather and other causes, are sometimes very serious indeed. A day of rain makes sad havoc amongst ripe Plums; I have seen hundreds of bushels destroyed; the skin cracks, and the fruit splits and is totally spoiled. Mr. Dancer runs no risks of this sort, but gathers the fruit as soon as it will sell.

Another variety of Plum, largely cultivated, and held very high in Mr. Dancer's estimation, is the Prince of Wales, which is a medium-sized roundish fruit, with a bright purplish skin. This is also of second-rate quality; the flesh is somewhat coarse and of a yellowish colour. It belongs to what is called the Orleans class, and is a most excellent culinary variety and a most abundant bearer. There is no variety of Plum which can be depended on with so much certainty of a crop as this; there is never a season in which it does not bear one. It might be called frost-proof, its peculiarity, which at the same time is also a great recommendation, being that the flowers and the leaves expand at one time, so that the leaves, which are large, become in a great measure a protection to the flowers. There are seldom frosts severe enough to injure the young fruits which are thus protected. In the case of every other variety that I am acquainted with, the flowers open a good while in advance of the leaves, and so are quite unprotected for a time. The tree grows freely and to a tolerably good size; yet here again it is subject to another peculiarity—freak it might be called. It is this: The trees may have attained a good size and appear as healthy as need be; they blossom well, and there is every appearance of a good crop, when suddenly one or two droop their leaves, shrivel up, and die. No, not quite; for if left alone until next season the main stem or trunk will throw out some young shoots, which, when the entire dead top is taken off, will again grow up into a tree, thus showing that the cause of death—the death of the top at least—did not arise from any defective root action, the roots being quite sound and active. Mr. Dancer has numbers of trees going off in this way every year, yet he is totally unable to account for this result in any way. I myself have examined both the living and dying trees, and can assign no reason for its occurrence. There is no gumming, nor anything of that sort apparent, which would be likely to cause the mischief. *Apròpos* of this, a certain grower of this particular variety of Plum, the Prince of Wales, some two or three years ago sued a certain company for damages for having caused the death of several of his Plum trees, through the establishment of some works immediately adjoining, from which great quantities of smoke and other noxious gases were distributed. I believe the Plum grower gained his point; yet here, in Mr. Dancer's grounds, are the Prince of Wales Plum trees dying off in exactly the same manner, without, as Mr. Dancer says, the slightest suspicion of any such cause. Despite this drawback, it is a Plum which Mr. Dancer highly recommends, and I am able here to state that he has upwards of three hundred trees of it in cultivation.

The next Plum which I shall notice is Mitchelson's. It ought properly to have been mentioned first, as it is one of Mr. Dancer's "bringing out." It is cultivated very extensively at Little Sutton, and greatly valued. It is a rather small, roundish-oval, black Plum, somewhat like a Damson, but larger than that, and not quite so large as the Diamond, which it also sometimes resembles when well grown, as Mr. Dancer has it. Mr. Dancer grows a very great number of trees of this sort. There are lines upon lines of them from 10 to 20 and 30 feet high; and every tree this season, and for that matter every year, is a perfect sheet of black (there are more fruit than leaves), with the thickly clustered fruit. It is, indeed, a most prodigious bearer, and very valuable as a market Plum. A portion of Mr. Dancer's ground having been required by the new railway to Richmond, about two hundred of these Mitchelson's Plums were removed to other quarters two years ago. Almost every tree is growing, and many of them were well loaded with fruit. Plum trees bear removal very easily, and if unfruitful it is an excellent plan of inducing fertility. Mr. Dancer was the first to bring this Plum into such good repute as it now enjoys, and nobly he shows it off. Although a very profitable variety for the market gardener, it is not in my opinion so good in any way as Prince Englebert, which at first sight might pass for Mitchelson's. It is more oval in form, larger, and sweeter. Mitchelson's Plum usually ripens in the end of August; this year it was much earlier. It is often

confused with Ickworth Impératrice, from which it is totally distinct, the Ickworth Impératrice being quite a late Plum.

ROSE LORE.

A WHITE ROSE seems to have been unknown to the ancients, and, indeed, until comparatively modern times, consequently from *Rodon*, ruddy, its Greek designation, almost all the nations of Europe have adopted a name of synonymous meaning. *Rosa*, its Latin designation, has the same reference to colour, and it is surprising—because without a parallel—that nearly every European nation has done likewise. In Anglo-Saxon it is *Rose*; in Welsh, *Rhos*; in Dutch, *Roos*; in German, *Rose*; in Danish, *Rose*; in Swedish, *Ros*; in Scotch, *Ros*; in French, *Rose*; in Italian, *Rosa*; in Spanish, *Rosal*; in Portuguese, *Roseira*; and in Russian, *Rosa*.

The unanimity characterising its nomenclature also characterises the high esteem in which it has always been held. It was the flower dedicated to Love and its birthgiver Beauty—to Cupid and Venus. The arrows of Cupid were said to be formed of Rose thorns, and his wings of its petals; he is always fresh, ruddy, and smiling, and his hair as golden as the flower's anthers. The flowers were said to have been created white from nectar spilled by Cupid at a banquet of the gods, but that blood from the foot of Venus as she rushed to the aid of Adonis fell on the petals and stained them permanently.

A deity to whom a flower was dedicated by mortals seems to have exercised the rights of ownership, and to have rededicated that flower to such as he or she deemed meriting the distinction, or even as a bribe. Thus, Cupid, like a dutiful son, dedicated the Rose to Harpocrates, the god of silence, to engage him not to betray the evil acts of his mother Venus. Hence it became the emblem of silence; was held up as a polite check to the loquacious, and was placed upon the guest table to intimate that the conversation around it was confidential. With a similar intent the Greeks also wore Roses at their feasts; *Comus*, deity of the table, and *Hebe* and *Ganymede*, nectar-bearers to the gods, were crowned with Roses.

"None, crown'd with Roses, drink the insipid spring;
No joy to mortals thin potatoes bring.
Bacchus loves flowers; to Bacchus garlands dear;
Witness the starry wreath on Ariadne's hair."—*Ovid*.

When arnucular confession prevailed here, the English clergy wore commonly a Rose, and it frequently was retained by them until about a century and a half since.

The Rose also was placed in the hand of one of the Graces, and wreathed the heads of two of the Muses, *Erato* and *Thalia*; it was also the emblem of youth, and sculptured on the tombs of the maiden dead. Even the tombs of all ages were decked with its flowers.

"When life's no more their odours shed
A grateful fragrance o'er the dead:
'Tis well, for when their charms decay,
And sinking, fading, die away,
Triumphat o'er the work of time,
They keep the fragrance of their prime."—*Anacreon*.

Even now in some parts of Wales it is customary to plant a white Rose upon a maiden's grave, and a red Rose on the grave of any one of noted excellence.

The Rose has always been preferred as the emblem of Beauty but it is also associated with effeminacy and voluptuousness. *Gallienus*, the Roman Emperor, justified this association by having in summer time a bed of Rose petals, and he, like *Smindyrides*, complained that a crease in one of them caused pain.

At Athens, early in May, at the festival of *Hymen*, the maidens and lads were crowned with Roses. Similar crowns were awarded to poets, and the Feast of Roses was one of the assemblies of the *Troubadours*.

Nor has the Rose escaped from association with superstition. In mediæval times the maiden gathered Roses on Midsummer eve,

"And bid it, for her shepherd's sake,
Await the new year's frolic wake—
When, faded, in its altered hue
She read, 'My lover is untrue';
But if retained the crimson paint,
Her sick'ning hopes thee ceas'd to faint."

It has been a custom for the popes annually to bless and perfume a Golden Rose tree, and to send it to some sovereign or other eminent person who has markedly served the cause of Romanism. The French Empress had it presented to her by the present pope. This ceremony of blessing the Golden Rose was instituted by Pope Leo IX., who was elected to the ponti-

Escote in 1048. When the monastery of Saint Croix, in Alsace, was founded, he stipulated that the brethren should send to the pope yearly a Golden Rose. The ceremony of its presentation to and benediction by the pope takes place at Rome on the fourth Sunday in Lent. Our Edward I. was not only a Crusader, but so aided the popes in their Sicilian wars, and so sumptuously furnished their table with a golden service, that it is probable "the Golden Rose" was presented to him, and that consequently he adopted it as his badge. At all events, he was the first English monarch who adopted the Rose as a badge, and his was a golden Rose on a green stalk. The red Rose was first assumed by the Duke of Lancaster, John of Ghent (Gaunt as usually erroneously pronounced and spelt), in the reign of Edward III., but Henry IV. was the first of our kings to adopt that badge. Edward IV., among other badges, had the white Rose, and it was a white Rose *in soleil*—that is, surrounded by rays. The succeeding kings had the same badge, but Henry VII. had for his badges the white and red Rose joined. Henry VIII. had both the red Rose alone and the white and red Roses joined and crowned. Queen Anne Boleyn had a white crowned falcon, holding a sceptre in her right claw, perched on a golden trunk, which bore both white and red Roses. Catherine Parr had a maiden's head crowned, issuing out of a bush of white and red Roses, very appropriate, considering the narrow escape from the executioner she had as Henry VIII.'s wife. Edward VI.'s badge was of red and white Roses combined. Mary had a red and white Rose and a Pomegranate, in compliment to her Spanish husband, knit together. Elizabeth had not only the red and white Roses, but many other devices. James I. had for his badge a demi Rose crown, impaled with a demi Thistle. Anne had the Rose and Thistle borne by one stem, and so had George I. Queen Victoria's badge is a red and white Rose united.—G.

BEET AS AN EARLY BEDDER.

I HAVE much pleasure in again replying to Mr. Robson's inquiries (see page 356), as to the merits of Beet for decorative purposes, and this time I will be a little more explicit than I was in my former article on the same subject.

The following is the treatment I adopted with it in the past season, and if Mr. Robson should feel disposed to give the same variety a trial under the same or similar treatment, I am sanguine enough to think that he will not be disappointed, and will find it equal to any of its competitors for early decoration.

The seed was sown in a shallow seed-pan in the middle of March and placed in a propagating house, where the pan remained until the plants were showing their second leaf from the seed leaf. They were then taken to a cool greenhouse where they remained in the seed-pan for about a fortnight, when they were pricked out into boxes and shallow pans at about 3 inches apart, and again placed in the greenhouse; there they were kept until finally planted out in the flower garden in the end of May, by which time they were good stiff plants 4 or 5 inches high.

In moving them out of the boxes and pans at planting-out time, care was taken to lift as much of the soil with the roots as possible so as to prevent flagging, and as the sun was rather powerful just at that time, I had them shaded for a few days, in the middle of the day, by placing a flower-pot, inverted, over each plant, so that the plants never received any sudden check to their growth, and I assure Mr. Robson that by the end of June they were in advance of *Perilla* planted out at the same time, and were quite in character with *Pelargoniums*, *Calceolarias*, and the other occupants of the flower garden. As with me early effect is of as great importance as late, I would not give the Beet the character I have done unless I had proved it to be good throughout the season.

Last season being the first I had ever used the Beet for decorative purposes, I had grave doubts about its continuing all the season without running to seed, through being sown so early, and in order to be prepared against anything of the kind occurring, I made a second sowing in May, so as to have a reserve to replace any plant that might "bolt," but I am happy to say that I did not require to fall back on the reserve stock, as not a single plant out of the early sowing went to seed, or showed any symptoms of doing so, and every plant was almost as uniform as if cast in one mould.

The soil of our flower beds is light but good. The only manure I ever apply to our flower beds is leaf mould, which I use rather freely, being no advocate for starving any occu-

pant of the garden if I can help it. I am also strongly in favour of a good depth of soil for the beds, finding that it suits either wet or dry seasons better than beds composed only of a few inches of soil. Most of our beds consist of from 18 inches to 2 feet deep of prepared soil.—JOHN MARON, *Prince's Park*.

SUBTROPICAL GARDENING IN THE NORTH.

NOTICING in your number, dated September 12th, page 357, an article on subtropical gardening, I send these few words to encourage others who may feel interested in this my favourite branch of horticulture. I may say that with care and attention, combined with a little study of the nature and habitat of the plants used, even the inhospitable north is capable of this style of gardening. I live in a bleak, exposed spot on a high table land in Wigtonshire, yet this year my first attempt had considerable success.

To speak briefly, I planted out beds of *Dracæna terminalis*, *Misrauta fasciata* and *zebrina*, *Alocasia metallica* and macro-rhiza variegata, *Tradescantia discolor*; *Begonia Hélène Uhder*, *Kerama*, *Marquis de St. Innocent*, *Adolphe Pollack*; *Caladiums Cannartii*, *Wightii*, and *picturatum*, among the smaller-growing plants. Among the larger there were *Bananas* (*Musa Cavendishii*), *Ferdinanda eminens*, *Solanums*, *Cordylone indivia*, *Latania borbonica*, *Sesforthis elegans*, *Wigandia caracasana*, *Monstera deliciosa*, *Indian-rubber plants*, several sorts of *Cannas*, *Castor Oil plants*, *Aralia papyrifera*, *Calla æthiopica*, and *Chamerops humilis*. These were all young plants, have done well, increased visibly in size while planted out, and are now taken up quite healthy to store up for next year. The only things to mar the effect were a little scorching on the lower leaves of the *Dracænas*, and some of the *Cannas* being exposed too much to the high winds prevalent in this part of the country; the foliage, however, was only a little damaged. Next year I hope still more to extend the collection. Should this be considered worth printing, I will give a more detailed account of my method of procedure at a future time.—GEORGE R. HARRIOTT, *Killmore Lodge, Kirkcowan, Wigtonshire*.

THE FLOWER BORDERS DURING LAST SUMMER.

LET me say a few words about our borders now that the summer is ended. I will begin with the Roses. With us they have been all that could be desired during the season. Pillar Roses have been forced upon us, owing to our exposure and suffering from the winds, which compelled us reluctantly to give up the cultivation of standard Roses. When they had attained any size we frequently found them in windy weather, in spite of all our watchfulness, sweeping a certain space, disfiguring all around them with dirt, and spoiling themselves for months, after all the care exercised to preserve them from the insects and diseases they are subject to.

The *Crimson China* Roses in beds have this season been remarkably fine, and a large bed of that fine old kind, *Géant des Batailles*, makes a display of no mean order; or, if thought desirable, one can have a splendid contrast by planting the centre of a bed with *Mrs. Boanquet* or others of that class, then a belt of the *Géant*, with a ring of *Bourbon Queen*, or something of that kind, finishing with the *Crimson China* Rose.

For the borders we have adopted the pillar system. Our plan is to put in good strong poles or stakes 6 feet apart, then prepare the place to be planted by mixing the best loam we can obtain with well-rotted manure, charred refuse, and a little coarse sand, filling in the compost some time previous to planting in order to allow for settling. After planting we mulch as may be necessary, and we take up the plants every second or third year and renew the soil if requisite, keeping the plants secured to the stakes. We are well repaid for our labour in pursuing this mode of treatment, by the abundance and continuance of the beautiful flowers which are produced, and the roots are numerous and under control. During the past season the plants have been the admiration of all who have seen them, their rich foliage adding to the charms of their blossoms.

Most of our Roses are on the *Manetti* stock, the remainder on their own roots, which I much prefer. To enumerate anything like the collection would be quite foreign to my present intention, but I will name a few of the varieties which are doing good service as pillar Roses:—*Baronne Pécovost*, *Colonel de Rougemont*, *Charles Lawson*, *Paul Perra*, *Madame Hector*

Jacquin, Senateur Vaisse, Prince Camille de Roban, Marie Portemer, Madame Vidot, Madame Laffay, Jules Margottin, Madame Bill, Madame Charles Crapette, Victor Verdier. Monthly China, Madame Furtado, D'Aguesseau, Glory of France, Triomphe de Jaussens, Chénédolé, Général Jacqueminet, Fulgens, Coupe d'Hébé, Paul Ricaut, Persian Yellow, Lælia, Comtesse Cécile de Chabrillant, La Reine (opened first-rate with us this season), Madame de Cambacérès, William Jesse, Dr. Ruschpler, Acidalie (a fine white Rose but rather shy-flowering; it requires to be kept stopped to make it branch and bloom), Devoniensis, Madame Willermoz, Niphotos, Isabella Grey, Lamarque, Triomphe de Rennes, Souvenir de Malmaison, Céline Forrestier, Gloire de Dijon, Solfaterre, America, Rev. H. Dombrain, John Hopper, William Paul; and of Moss Roses, the Commou, Cramoisis, and Laneii. Besides the preceding there are many others too numerous to mention.

Between each two Roses we plant such plants as Japanese and other Honeysuckles, Loasas, Tropæolums, Canary Creeper, Convolvulus, and other tall-growing plants calculated to make a display in this department. The Hollyhocks with us, considering the season, have been remarkably fine.

Herbaceous plants have made ample compensation for our care. Many of this fine race of plants deserve far more extensive cultivation than they are at present receiving. I trust ere long to see them better cared for. I only intend to mention a few which have done us good service during the present year. There are among them some very interesting plants—for instance, *Morena persica*, *Aconitum versicolor* and autumnale, *Thalictrum aquilegifolium*, *Aster dumosus*, *Campanula Van Houttei*, or, as some call it, *Verschaffelti*, *Ammobium alatum*, *Chelone barbata*, *Dietsmnus ruber* and *albus*, the Delphiniums (all fine border plants), *Dodecatheons*, *Echinops*, *Epilobium*, *Eryngium*, *Lathyrus*, *Linarias*, *Primulas*, *Veratrum*, *Yuccas*, *Antirrhinum*, *Brompton Stocks*, *Gynerium argenteum*, and other ornamental Grasses, *Astelma lanatum*, *Tritomas*, *Alstromerias*, *Gentians*, *Aubrietias*, *Sedums*, and *Saxifrages*.

Among annuals we have many very desirable plants for border decoration. African and French Marigolds have been very fine with us during the past season. China and other Asters have been of first-rate quality, not quite so large as in more favourable seasons, but really good. Stocks of various kinds have flowered well, and at the present time many of them are very fine indeed. *Callirhoe pedata* and others have been very beautiful. Double and single *Zinnias* have flowered well; they deserve more extensive cultivation.

Amaranthusea of various kinds have made a fine display, many of the *Silenes*, as *Silene compacta*, *rubella*, *pendula*, and *Schafti*, have been very fine. *Arctotis breviscapa*, a Gazania-like plant is a very fine flower; to bloom freely it should have poor soil. *Veronica syriaca*, a little gem, is of very dwarf habit, and now, from self-sown seed, is blooming freely. It succeeds well on rockwork, or in the border, and likes a shaded situation. *Viscaria oculata*, *splendens*, and others have flowered well; *Schizanthus pinnatus* and others have likewise been very fine; they require a little care in keeping them tied-up or well stopped, otherwise they suffer from wind. *Whitlavia grandiflora*, a fine, dwarf, border plant, succeeds well in most situations. *Sanvitalia procumbens* and its double variety are very desirable, being of neat dwarf habit; the latter is well adapted for dwarf edgings. *Acroclinium roseum* and others have succeeded well this season. *Salpiglossis atrococcinea*, *nana*, and *nana cærulea* are fine for borders, and have made an excellent display; they grow well in a moderately dry situation. *Phlox Drummondii* in named varieties has been fine with us. *Radowitzi*, *Empress Eugénie*, and *Black Warrior* are the best; they make a first-rate bed. *Petunia phœnicea* answers well as an annual, either raised in pots or sown where it is intended to remain. *Pectis angustifolia* is a diminutive little fellow, but very pretty; it succeeds well at the base of the rockery or in a moderately dry border: it is rather subject to damp-off. *Nolana striplifolia* and *paradoxa* have been fine with us and flower a long time.

Oenothera Lamarckiana is a noble border plant, often attaining 4 feet in height, with large pale yellow blooms. It flourishes in most places. This plant ought to be more grown. *Oenothera bistorta Veitchii*, a very beautiful little plant, is tolerably well adapted for forming dwarf edgings; it is bright yellow and very showy. *Nigella hispanica*, a singular-looking plant, has been very fine during the summer. It has grown well in all places. *Nemophilas*, of various kinds, have been good with us. *Lavatera trimestris*, with large pink flowers, is a splendid

annual for borders. It is very distinct and beautiful, and grows well in any soil. *Kaulfussia amelloidea* is a very dwarf-growing plant, makes a neat edging, but is not of very long duration. *Lupinus nanus* has flowered well this season; *Atrococcineus* is a splendid plant for borders, so is *hybridus Dunnetti*, *birsutus*, *albo-coccineus*, *roseus*, and *mutabilis versicolor*. We have during the past season had plants of the last-named 5 feet in height, and its variously-coloured flowers have been admired by all who have seen them; it is certainly one of the finest *Lupinus* I have met with.

Linum grandiflorum stands high in my estimation both for beds and borders. *Loasa aurantiaca* and *Herberti* make fine border plants raised in frames, hardened-off, and planted in the borders. They are very attractive on account of their curious-formed flowers, but are rather unpleasant to handle. *Loasa lateritia* is very pretty, but virulent to handle. *Leptosiphon densiflorus* and *aureus*, are beautiful flowers; they will do for beds or borders. The *Ipomæas* are a splendid race of summer-flowering plants; raise them in pots, plant them where wanted, give them a support, and they require little more care. Their diversity of colour has a charming effect, either when they are mixed or grown separately.

The many varieties of *Helicrysum* are very useful, both for beds and borders; they have been very fine, and many of them are still so. They, as well as other Everlastings, are useful plants to cut for winter decoration. The *Gilias* are useful, and have done well this season. *Godetia bifrons* and *Lindleyans*, are good border flowers. *Gypsophila elegans* is a graceful little plant. *Dianthus Heddewigii*, *D. laciniatus*, and *D. dentatus*, have made a fine display during the summer, continuing a long time in bloom. *Clarkia grandiflora*, *Clarkia pulchella integrifolia*, and *pulchella alba* and *plena*, have been good. *Artemisia annua* is a tall-growing, graceful plant, by some persons considered rather desirable on account of its scent. Though of no great beauty, it is useful for bouquets. *Aster tenellus*, a pretty annual, has been much finer during the autumn than it was in the hot summer. *Athanasia annua* is a useful plant for either beds or borders; it continues in flower a long time, is very showy, and seems to succeed well in all places. *Calandrinia umbellata* is a little gem too little known; it has done well with us this season. *Bartonia aurea*, as a border plant, has been fine with us all the season. *Coreopsis tinctoria*, and other kinds, are a beautiful tribe; their diversity and richness of colour commands general admiration. *Calendula Pongei*, and its double variety, are very desirable, and have been very good.

Alonsoa grandiflora, and others, succeed well as annuals. *Linaria bipartita*, and *bipartita splendida*, are very showy, and flourish in most situations. *Sedum cæruleum* has been very fine as a border plant; it likes a rather shady situation. *Salvia horminum purpurea* and *rubra* have done us good service, their red and purple tinges have some attraction at a distance. *Centaurea cyanus* is a very desirable plant as an annual. *Centaurea moschata*, and *moschata alba*, have made a fine show. *Brachycome iberidifolia* has done well in beds and borders; it can either be raised in pots, or sown where it is intended to remain; when well selected it is of a fine blue.

The imported German Larkspurs have been remarkably fine. I have often experienced some difficulty in keeping them after they come up; the slugs are very partial to them. I find it good practice to sow in pots, set these on ashes, and when the plants become strong to plant out. *Adonia aestivalis* is very fine, but of short duration. *Atriplex hortensis rubra*, a tall-growing red-leaved plant, is a conspicuous object at a distance; it has been very fine. Lord Anson's Pea, *Lathyrus magellanicus*, is a beautiful border plant, and deserves far more extensive cultivation. *Corydalis glauca* (sempervivens of some) is very handsome and hardy. I have sometimes seen it stand through the winter, and flower very early in the spring; it is then very fine.

Mesembryanthemum tricolor and *glucum* have been very fine, the hot summer being all in their favour. *Helenium Douglasii* has been fine; this makes a good display early in spring when sown in autumn and kept through the winter. *Hibiscus africanus* has been good with us this season. *Caecalia coccinea* is a very fine border annual. *Eutoca viscida* has done better with us this season than I ever remember. I have seen it go off all at once as if struck with some disease. *Centranthus macrosiphon* is a good useful annual.

One of the best annuals we have is *Saponaria calabrica*. We have sometimes used it for bedding, and very fine it has been; it has played a very conspicuous part in the border at all times. *Malope grandiflora* is a fine border plant, and continues long in

bloom. *Chrysanthemum segetum*, though a native plant, is well worth a space in the border among other annuals. *Malva zebрина*, a tall-growing plant, is fine as a third or fourth row plant in the border, and is one of the most showy plants we have. *Cistus helianthus*, a splendid little fellow, should be sown in autumn, potted, and plunged in a cold pit; and planted in the spring, it makes a lovely bed for a short time.

Many other annuals might be enumerated, which give our borders a charm during the summer months, that nothing else can, and they are all the better of being transplanted and moved to their blooming positions with balls. They will repay any amount of care bestowed upon them.—M. H., *Acklam Hall, Middlesbrough-on-Tees*.

SUBTROPICAL GARDENING—PLANTS OF EASY CULTURE.

I QUITE agree with Mr. Williams, page 357, that subtropical gardening in its varied forms requires to be more freely discussed, so as to place it in its true light before those who may be anxious to try it. For this purpose it would be quite as useful to have fair statements of the cases of those who have made the attempt and failed, as of those who have done so and under favourable circumstances been successful. Unfortunately few are willing to do this, yet it ought to be done, as nothing is more instructive than failure when the mode of culture adopted is fully known; and as there have been many failures with subtropical gardening, it would be well to consider the whole question in all its bearings, and ascertain whether that branch of gardening is within the reach of many who now attempt it. As there are, doubtless, many persons who are anxious to do so, the plants most generally useful might with advantage be pointed out, and as these are both numerous and interesting, and can be grown by almost all having a hotbed, the observations on each will be plain and brief.

Before, however, entering on this matter, it may be said here, with all respect to those who have of late years done so much to place this description of gardening in the high position accorded to it by those devoted to ornamental plants, that it had its advocates in days long since gone by—certainly not to the extent it is at present practised, but still some of the plants now employed had been tried then, and not altogether without success, for I recollect that upwards of forty years since some little sensation was created by *Melianthus major* being grown and flowered out of doors about four hundred miles north of London. Ten years or so later found *Brugmansia* (then called *Datura*), arborea flowering likewise out of doors, and it is upwards of twenty-five years since I saw the first bed of *Cannas*; and I suppose the *Sedums*, *Saxifrages*, and *Sempervivums* were almost as plentiful thirty years ago as now, as succulent plants were more popular then than they have been since, but they were seldom turned out of doors. However, it must not for a moment be supposed that I wish to detract in the least from the merit due to Mr. Gibson and others who have done so much in bringing subtropical gardening before the public, only in cases where the means are scant annuals ought only to be used, and these give more diversity, and on the whole a more tropical aspect to the eye, than the more costly shrubby class, although the latter may be more robust in habit. Commencing, therefore, with plants of easy culture, we have the large family of *Solanums*, the *Castor Oil* plants, *Wigandia*, *Ferdinandia*, some *Arabias*, &c., as well as some hardy plants, to which sufficient justice has not yet been done.

RICINUS, OR CASTOR OIL PLANTS.—These are of easy culture, as some plants here attained a height of upwards of 8 feet, though not sown until the middle of April, when single seeds were put into separate small pots, which were placed in an ordinary hotbed. The young plants were forwarded in heat and planted out by the third week in May, and no further attention was paid them than staking after some high winds about the beginning of September. There are several species and varieties, but those with the red and the green bark respectively are the best two. In the trade they are called *R. sanguineus*, *R. macrocarpus*, and *R. glaucus*; one of them has ripened seeds here this season. They ought to have a sunny but not windy situation. The past summer seems to have suited them exceedingly well, more so than it has done other plants of apparently kindred habit, as will be shown.

WIGANDIA CARACASANA.—Although seedlings of the present season attained the height of 6 or 7 feet, they never presented the large foliage which the plant did in 1865 and the following

two years, the absence of rain doubtless being the cause, and here we had not the means of artificially supplying them with water. It may, therefore, be inferred that this plant requires moisture as well as warmth, and, like the *Castor Oil*, a sunny but not windy situation. It is advisable to sow much earlier in the spring than is necessary for the *Castor Oil* plants, and even plants kept over the winter, by being sown about July in the preceding season, make the largest specimens; but as the plants, unless kept in a warm house, are not ornamental after the dark days commence, it would not be worth while for those whose room is limited to attempt their growth during the winter. This plant seems to like a good rich loam, and its broad ovate leaves, with the upper surface beautifully netted and indented, while the under surface is slightly stinging, especially in the young state, the immense size of its leaves, and its good habit, entitle it to a first place amongst out-door fine-foliaged plants; neither do its flowers, which it often produces, detract from its merits.

FERDINANDA EMINENS.—Although I have had this plant 12 feet high by keeping it through the winter, I am by no means fond of it. Its apparent resemblance in the distance to a patch of *Jerusalem Artichokes* gives it a common character, and I think it has lost ground elsewhere of late. It is easily raised from seed, but ought to be sown early in heat like the *Wigandia*, and kept growing till the proper planting-out time, which must not be too early, the end of May being quite soon enough.

CANNAS.—The great diversity there is in this family, and their graceful appearance, added to their easy culture, give them a claim possessed by nothing else in their way for a bed or a mass, but they are hardly so well suited for planting singly. They are much hardier than is supposed. We have here two large beds that have stood the last two winters with only a slight covering of leaves, and this season I intend to deny them even this advantage, from noticing plants elsewhere that have stood without it. The varieties are endless, but in general a good dark-leaved and dark-stemmed variety, of which the *Canna nigricans* may be regarded as the type, is indispensable as one. Then there is a fine, broad-foliaged, green-leaved variety of dwarf habit that is also good; and I believe the tallest of all is a yellow-flowered species, rather deficient of foliage near the ground, but otherwise of striking habit. Generally *Cannas* do best in a dry soil which is plentifully supplied with moisture, and a circular or oval bed of a large size, with a mass of this plant as a centre, and an edging of other plants, forms an important feature in the dressed grounds.

TOBACCO is certainly more picturesque than *Ferdinandia*, independent of the interest that attaches to it. I believe the *Nicotiana wigandioides* has the most striking appearance, but I have not seen it in perfection. Tobacco ought not to be planted out until the 1st of June, and then let it be done in dry weather, otherwise the slug will be sure to find the plants out. The middle of April is early enough to sow the seed, and the sowing ought to be made in a pan or box in a hotbed, and the plants pricked out, either into separate pots or into larger frames or boxes, to be forwarded and hardened-off in the usual way.

BRUGMANSIA ARBOREA and other varieties are not so easily obtained in quantity as plants that are reared annually from seeds; but the roots, like those of old *Scarlet Pelargoniums*, will endure being taken up in autumn and kept in a dry cellar during the winter, and can be brought on in spring in the same way. The fine foliage of this plant and its still more remarkable flowers, entitle it to much attention.

ARALIA SIROLDI.—Perhaps this plant ought not to be included, as it is an evergreen shrub of doubtful hardiness, but very desirable if it would succeed well out of doors; for its large, glossy green, deeply palmate leaves give it a very handsome appearance. However, it has not as yet been sufficiently tried in all situations to speak with certainty as to its hardiness, but it is a handsome conservatory plant.

As the above plants are principally given as examples of what may be had in most cases where a hotbed is at command, it is not to be inferred that the collector need stop there, for some of the *Solanums* are interesting, and they differ widely from each other; but as a class I have never admired them so much as others have done. *Solanum robustum* and *argenteum* are about the best, while some prefer *S. cabiliense* or *betaceum*. The *Japan Maize* is also an easily grown plant and looks well, as do some of the ordinary plain-leaved varieties. Then there is a host of hardy plants with foliage more or less remarkable, not the least so being the common *Globe Artichoke*, the *Cardoon*, some varieties of shiny-leaved *Rhubarb*, and other plants,

to which, of course, the term subtropical cannot be applied. But as this article is more to assist those of limited means than to suggest fresh subjects to those already conversant with the matter, plants more difficult of increase need not be mentioned here; neither is it necessary to enter upon the lower-growing class of plants, some of which become green when planted out, and consequently lose all beauty, which, however, is not the case with *Tradescantia zebrina*.

To mention Indiarubber plants, *Dracanas*, *Crotons*, *Marantas*, *Caladinms*, and other above plants would only be tempting persons possessed of limited means to devote too much attention to a description of gardening which an adverse season would render a pitiable feature; and it is to be feared that the past unusually hot summer, which has favoured the growth of so many tender plants, may tempt some to extend their cultivation in another year, which, perhaps, may be diametrically the opposite of this in respect to the heat and sunshine, and disappointment will be the result.—**JOHN ROBSON.**

KEEPING APPLES FROM FROST.

Is it correct, that if pans of water are placed in a room where Apples are stored, they are never affected by frost? A dealer who purchases very largely for the markets, states it to be a fact.—**L. B.**

[There is no doubt that water in a room checks the temperature of that room falling below 32°, the freezing point of water, for the water in cooling, and in freezing, gives out heat. But when the water is frozen, and the temperature of the room is below the freezing point, it would not prevent the Apples being frozen.—**EDS.**]

THE USES AND MAKING OF CHARCOAL.

So extremely useful to the gardener is charcoal, that he can hardly be said to have all his necessaries about him when it is absent. It is, first of all, invaluable as a manurial agent, there being few soils, or rather plants, which are not benefited by its application. Who has not noticed how lovingly the rootlets of a potted Strawberry twine round and hug the little bits of it which have been put within their reach? or how those of pot Vines which have been top-dressed with a rich compost in which some of it has been mixed, will, front-like, come almost to the surface to grasp the savoury morsels?

As is well known, charcoal is carbon in a more or less impure state, and as carbon forms rather more than half of the constituent parts of woody fibre, it would at first sight appear obvious that plants will find in it abundance of wood-forming material ready for use; but those who peer into these curious subjects, and tell us what they see, say that before it can become vegetable food it must be turned into carbonic acid, and that charcoal under such circumstances as being simply mixed with soil is never so transformed, but remains insoluble though reduced to the finest powder. Its undoubted nutritive qualities are, notwithstanding, accounted for by its very slowly forming carbonic acid when buried in the soil; partly also by its chemical power of absorbing and retaining ammoniacal gas, as well as moisture, in its pores, thus making each piece a little pantry full of all the good things of vegetable life; but in whatever way it acts is not of much consequence so long as we reap the benefits.

Used as a mulching material, either in summer to prevent evaporation, or in autumn to keep in heat, it is most efficient, as it is one of the worst conductors of heat known; it has also the advantage over many other materials so used, of being not unsightly, and if roughly powdered, of being somewhat harrowing to the slimy sensibilities of our enemies, the snails. Strewed over the surface of the soil, and frequently renewed, it protects from damp such crops as Lettuce, Endive, Cauliflower, &c., wintering in frames; and sprinkled over boxes of *Pelargoniums* which have been stumped in, and are hibernating, *à la Fish*, in a dry loft, I have more than once seen it do good service. Being a powerful absorbent it acts as a trap for moisture, of which it is also very retentive, parting with it only at a high temperature, or on exposure to currents of dry air. Hence the ease with which gunpowder gets damp, and the difficulty of again thoroughly drying it.

Charcoal dust, and in an inferior degree both wood and peat ashes also, greatly assist the germination of small seeds, and the subsequent development of the young plants; and this, too, no doubt, results from their power of absorbing moisture. The

ploughing-in of peat ashes along with artificial manures, before sowing Turnips in dry weather, is sometimes practised by farmers in this part of the country, where, unfortunately, an unlimited supply is always to be had for the burning.

In the formation of Vine borders charcoal seems to be less employed now than it was some years ago, owing, perhaps, to the more liberal use of bones; but setting aside the question of expense, where it cannot be made at home, there can be little doubt about its being greatly superior to lime rubbish.

In making charcoal for any of these, or for potting purposes, where there is a choice, the lighter woods should be preferred for the simple reason that they are more porous, those of an opposite character being generally selected when it is to be used for fuel. The professional charcoal burner cuts the wood up into short lengths, and splitting these carefully into pieces of nearly equal thickness, piles them up in a conical form, each piece lying in a nearly horizontal position; but the whole of the work can be done in a rough-and-ready way with half the labour, something in the following manner:—Collect a lot of wood, rejecting nothing thicker than an ordinary arm, or that has not had its fibre destroyed by decay. Cut it into lengths varying from 3 to 7 or 8 feet, and, having fixed upon a suitable spot, proceed to build the kiln. In doing this, place first two or three bundles of dry Spruce branches where the centre of it is to be, over these put a barrowload of coals in such a way that any good hothouse stoker will be sure of their igniting; then, beginning with the shortest lengths of wood, set them on their ends around, and leaning against the faggots and coals, and continue thus packing them closely together, and keeping the base within as small a circumference as possible, until the wood is all piled up. Two spaces filled with faggots, opposite each other, and communicating with the centre, must also be left. The next operation is to cover the whole, except the top, with thick turves or sods, and in most cases the procuring of these is the most difficult part of the business. Where there is a farm near the difficulty can be easily surmounted, by making the kiln in the corner of a pasture field, which has either just been, or is about to be ploughed; but if this cannot be done, and if there is no suitable place about the grounds or woods, then the next best place to select is somewhere in the vicinity of the rubbish-heap. Here the whilom glories of the flower garden will likely be rotting in cartloads, and they answer pretty well if put thickly on, although it does entail a little loss in manure.

When the heap has been fired, and after the coals are burnt, and it is found that the flames have entirely pervaded the heap, cover up the holes at both top and bottom, and continue to put on more turves or rubbish wherever the flame attempts to break out, as the less air we admit, the less ashes, and the more charcoal we shall have. When burnt out, cooling may be accelerated by throwing a few pailsful of water over the heap, but so as not to saturate the charcoal, which should be stored in a dry shed, and sifted into various sizes ready for use.—**AYRSBIRE GARDENER.**

CHRYSANTHEMUMS.

MR. FORSYTH'S, BRUNSWICK NURSERY, STOKE NEWINGTON.—No one, probably, has been more successful than Mr. Forsyth as a cultivator of specimen plants of the *Chrysanthemum*, both large-flowering and Pompon; and the large, admirably grown and flowered specimens which he has exhibited so successfully at the various shows, have won for him a high reputation as well as many prizes. His show-house at present contains a large collection of the best varieties, some trained in the bush form, others as standards, and many more (massed in the centre of the house), in the usual manner for furnishing large blooms for exhibition. Ranged on the side shelves are the specimens trained in the roundish bush-form, and among them a plant of Mrs. George Rundle is especially remarkable for its fine growth and the abundance of its pure white flowers. Dr. Sharpe, crimson, another new variety of 1867, also forms very fine specimens, and among older kinds *Christine*, *Golden Christine*, and *Annie Salter*, all of which are well known, are represented by large plants in beautiful bloom.

Among new varieties of 1868, *Bronze Jardin des Plantes* and *Princess Beatrice*, the former bronzed orange, the latter, large, lilac tipped with blush, are especially worthy of note; also Mrs. Sharpe, pink with a silvery tinge, and *Le Grand*, rosy peach. Of the previous years' flowers the most noticeable besides those already referred to, are *Fingal*, very large and fine; *Dr. Lindley*; *Lord Stanley*, orange amber; *Lady Tal-*

fourd, rosy lilac with a silvery back; Yolande, and *Purpurea elegans*, purplish crimson, fine in colour though not so large as some.

In the general collection we noticed the following as the most conspicuous for their size, colours, and beauty—viz., Prince of Wales and Virgin Queen, magnificent, the one purplish violet, the other pure white, and nearly 5 inches across; John Salter; Prince Alfred; Queen of Whites, with some splendid blooms; General Bainbridge, Crimson Velvet, Cherub, Beverley, Golden Dr. Brock, Defiance, as a fine specimen; Lord Clyde, crimson; Lord Ranelagh, Rifleman, Sir G. Bowyer, Lady Hardinge, Hereward, Donald Beaton. Pandora, Prince Albert, Anaxo, Rev. J. Dix, Sam Weller, Jardin des Plantes, Antonelli, Countess of Granville, Raymond, St. Columba, golden amber; Yellow Perfection, Julie Lagravère, Oliver Cromwell, Mr. Wyness, and Golden Beverley.

In rear of the specimen plants on the side shelves before alluded to, Mr. Forsyth has a number of fine standard Pompons with stems about 3 feet high from the pot, and fine heads of bloom. The Pompona are well suited for this mode of training, and as grown and flowered by Mr. Forsyth, are very effective in the conservatory. Among the specimens trained in this manner were fine examples of Bob, crimson; White Trevenna, a remarkably free-blooming variety, and excellent for the purpose; Cedo Nulli and Lilac Cedo Nulli, of which the same may be said; Andromeda, Aurore Borcalle, General Canrobert, Dnruftet, and Lilac Gem. Several Anemone-flowered Pompons, are also grown in the same way. Among the newer Pompons, in addition to Little Gem, the most notable are Madge Wild-fire, red with golden tips; Little Creole, brownish orange; and St. Michael, golden yellow; and of older kinds Salamon, Mustapha, Florence, and Brown Cedo Nulli.

It may be added, that besides the show-house there are several others in which, in addition to the large stock of bedding plants which is annually produced, there are specimen Chrysanthemums in various stages of flowering, and in concluding we may mention that we saw in the seed-shop blooms of two seedlings which gained first-class certificates at Stoke Newington Show. These were raised by Mr. Morgan, of Plymouth, and are called Mr. Morgan and Mr. Everany. The former is of a delicate lilac, and the latter in the style of Oliver Cromwell, reddish chestnut, and golden tinged at the tips.

TEMPLE GARDENS.—In the garden of the Inner Temple, Mr. Broome, and in that of the Middle Temple, Mr. Dale, have as usual a good display, Mr. Broome's being by far the more extensive, and including excellent examples of nearly all the leading varieties. These, having been protected by an awning, have not suffered from the frost like the Pompons and others exposed in the beds, and have been inspected by thousands.

THE PERSIMMON TREE WANTS TO BE CIVILISED.

ALL over our vast domain, from Cape Cod to Florida Reefs, there flourishes in a sort of neglectful luxuriance a beautiful little tree, known as the Persimmon, or American Date Plum. The botanists, who are always fond of calling things by hard, outlandish names, name it the *Diospyros virginiana*, and tell us that it belongs to the family of plants known as the dioecious, meaning there by that there are two kinds of trees, one producing female and the other male flowers, both of which must be grown near together, in order to produce fruit.

The Persimmon tree grows from 30 to 60 feet high, is of graceful and symmetrical shape, has long, glossy, shining leaves, and when loaded with fruit, present a very handsome appearance. There seems to be a much larger number of sterile than of fertile trees, as they are found wild in the woods. This tree is not very dainty in respect to the soil on which it feeds. It is found on the moist borders of the Southern swamps, by the running streams of the Middle States, and on the high and rocky hills of a more northern latitude. It seems to love both the deep black soil of the American bottom, and the thin, gravelly earth of our hill sides. No American wild fruit, if we except the Strawberry, can adapt itself to so wide a range of latitude, or can flourish in such a variety of soils.

"Growing in valleys deep and fair,
And on the mountain high,
And in the silent wilderness,
Where no man passeth by."

In size, shape, flavour, and quality, the Persimmon varies as much as the Pear or Apple. On some trees it is scarcely larger than a Cherry, while on others it equals in size the largest

Plum. Scarcely two trees can be found, even in the same neighbourhood, that produce fruit of the same degree of excellence. Sometimes the fruit is so mellow at maturity that it is crushed by its own weight as it falls to the ground; at other times it will bear a large amount of pressure without injury. Its period of ripening, too, is almost as variable as that of any cultivated fruit.

As with the form, size, and period of ripening, so also the flavour of this fruit is wonderfully varied. Sometimes it is hardly fit to be eaten, even after the frost has exerted its influence to soften its astringency. Of such as this old Captain John Smith, of precious memory, must have tasted when he exclaimed, "It turneth the month awry with torment." So, too, it is likely that it was an unfrozen, unripe, and naturally very poor Persimmon that the Poor paddy tasted, and called on the Virgin for help, thinking he was poisoned. That there are varieties of this fruit whose disagreeable astringency not even the frost can remove, and other sorts that are insipid and almost lacking in the peculiar flavour of the Persimmon, is true; but then objections can be raised against every kind of uncultivated, and most kinds of cultivated fruits, taken as a class. It is also true that there are trees of this that produce fruit that is at once sweet, mellow, luscious and delicious.

The Persimmon is one of the most nutritious fruits that can anywhere be found. The fruit contains so much nitrogen, that carnivorous animals will devour it with relish. The opossum feasts on it during the latter part of autumn, as it ripens on the sunny slopes of Kentucky, and then rolls down like a butter ball. During the late war much use was made of Persimmons, as supplies of meat and grain were scanty; and before and since the war, the Persimmon has been highly prized all over the south. Persimmon beer in an old Virginian household, is what home-brewed is in the establishment of an English country gentleman. It is a beverage which unites all the excellencies of old wine, new cider, and fresh-drawn milk. It invigorates, but does not intoxicate.

In former times, in the old dominion, they made brandy of the Persimmon; but it was in the good old days of "pure nature and primeval innocence" when logwood was used to colour cloth, and before country druggists sold prussic acid. But Persimmon beer does not find a substitute; it is a southern institution that no plan of reconstruction will seek to change. The freedman now, as the bondman did of old, gathers the ripe Persimmons, mashes them with bran, dries and bakes the mass, and puts it by to brew beer from for use in the harvest or tobacco field.

A good article of vinegar, too can be made from Persimmons, by simply macerating them in warm water and leaving them to ferment, as you would cider or high wines. Doubtless a superior yeast could be made from Persimmons, judging from the great amount of nitrogen they contain; but we doubt if the experiment has ever been tried. Recently, while travelling among the mountains of Arkansas, we found the Persimmon cured in dry houses the same as Apples or Peaches, ready to be cooked for the table.

Now what we are going to say is, that a tree which is so promising as the Persimmon deserves to become civilised; and that its merits should be taken in charge by some of the enterprising horticulturists who have done so much for the Pear and Apple, which are not half so promising in their wild state.—(*Prairie Farmer*.)

[This fruit tree deserves in England a place under glass. It is no novelty, for Parkinson, in the reign of Queen Elizabeth, described and portrayed it, adding, "it hath not borne flowers or fruit in our country, but the fruit as it came to us was firm as a Date, and almost as sweet." Attention was drawn to it in 1854 by M. Morren, in the "Belgique Horticole," where there is a good coloured portrait of the fruit. It requires to be grown under glass, if ripe fruit is desired. This is round, terminated by a small and point, about the size of a small Medlar; skin orange-coloured. Like the Medlar, it requires to be kept until "luscious in decay," and is then quite a sweetmeat. Its flowers are yellow, opening in July, and the fruit is mature when the leaves fall in November.—*Ens.*]

PRIZES FOR BRITISH FERNS.

Few people are aware of the immense size some species will attain under cultivation, and as great interest is now taken in them, can we not, by offering tempting prizes, bring some of the finest-grown specimens before the public?

If a £10 10s. cup, with a second prize added, were offered for each of *Athyrium*, *Polystichum*, and *Lastrea*, I think some of our first amateur Fern growers would be induced to compete for the championship.

The prizes should be awarded to the (say six) largest and best-grown specimens, the varieties at the same time being good and distinct.

Could not such sums be raised by subscription, and the prizes be offered at one of the Royal Horticultural Society's Shows? I should be glad to contribute £1 ls. towards the *Athyrium* cup.—P.T.E.R.I.S.

ROOKS AND CROWS.

INSTEAD of answering "AN ALLOTMENT GARDENER" in our replies to correspondents, we will respond to his query. "Are rooks and crows injurers of growing crops?" by making a quotation from a lecture recently delivered by Mr. Scott Skirving to the members of the Haddingtonshire Farmers' Club.

"That rooks help themselves to the fruits of the earth, no one, least of all the naturalist, can deny. Has he not called him *Corvus frugilegus*, the fruit-gathering crow? So much for the evidence for the prosecution; now for the defence. The whole of these attacks are more easily guarded than those of any other bird. The rook is such a sensible person that he knows a ploughman in his furrow will do him no harm, but he gives an old man with a little gunpowder a very wide berth. Then, though he likes Potatoes and Corn, he is by no means obliged to subsist upon them. On the contrary, his usual, ordinary, daily food consists of worms, slugs, grubs, beetles, and insects of almost every description. I have opened and examined so many rooks that I think I may say that, taking all the year round, nine parts in ten of their food consist of insects. And what insects? The common black beetle, the parent of wireworm, the wireworm itself, the Crane fly, the parent of the grub, and multitudes of the grubs themselves—in fact, almost every one of the larger foes of the farmer. One most unfounded charge has often been brought against the rook, even by practical farmers. He has been charged with plucking up grass and Clover, and with pulling up young Turnips, just as the starling has been charged with plucking out the wool of sheep. In every case that the rook has plucked a blade of grass or pulled a Turnip, it was to destroy the insect that, as soon as it had ruined that plant, would have proceeded to attack and destroy another.

"Yes, I say, the rook does much more good than harm, but you may have too much of a good thing, and, therefore, care ought to be taken that his numbers are not allowed to be excessive in any one locality. It is a mistake to say of him that his natural enemies have been destroyed by man. I should like to hear the names of his natural enemies. He has put himself under the care and control of man in a way that no other wild bird has. He builds on the ancestral trees around his house, without attempt at concealment, and it is for man to say when he becomes too numerous. He is the useful servant of man, but a man may have too many useful servants. I think, considering that almost every rookery is open to juvenile sportsmen, there is not much fear of a too great increase of these birds, the best of all rural police. Talk of rat-catchers, rabbit-catchers, and mole-catchers (the last animal doing more good than harm, by the way): what are these persons compared to the early-rising crow? Perhaps few here ever heard a song dedicated to a crow, for, with all his excellences, I cannot call him musical; yet a true poet has shown himself a true observer of Nature also. Bailey, among the many odd songs he makes his characters sing in his wonderful poem of *Festus*, has one on the crow, of which I shall read a couple of verses:—

'The crow! the crow! the great black crow!
He cares not to meet us wherever we go;
He cares not for man, beast, friend, or foe,
For nothing will eat him, he well doth know—
What a comfort to feel like a great black crow!'

'The crow! the crow! the great black crow!
He loves the fat meadows—his taste is low;
He loves the fat grubs, and he dines in a row
With fifty fair cousins all black as a Sloe—
Oh, it's jolly to fare like a great black crow.'

ENTOMOLOGICAL SOCIETY'S MEETING.

THE first meeting of the season was held in the rooms of the Linnean Society in Burlington House, the President, Mr. H. W. Bates, being in the chair. An extensive list of valuable publications added to the Society's library during the autumn recess was read, and thanks ordered to be given to the several donors. The Secretary also announced that two parts of the Society's Transactions had been published since the last meeting in July.

Mr. S. Stevens exhibited a fine specimen of *Sphinx celerio* captured hovering over Verbena at Brighton on the 20th of September, also a remarkable variety of *Sterrhia elathraria*, figured by Hubner as a distinct species, *immoraria*, from the collection of M. Desvignes. Mr. Edwin Burchall exhibited a number of specimens of *Vaessa Urtice* and *Zygana filipendule* from the Isle of Wight, which were uniformly

much smaller in size than ordinary British specimens. The former, also, were more strongly marked with black.

A letter was read from Gunner Wilson, of the Royal Artillery Woolwich, describing a gynandromorphous specimen of *Lasioecampa Quercus*, in which the left half of the insect was masculine, and the right half feminine.

Mr. Davis exhibited a number of beautifully prepared caterpillars of Lepidopterous insects (which he makes for sale at very reasonable prices), and also stated that he had observed that *Sphinx Populi* and *ocellata* had been double-brooded during the past season. A letter requesting information and specimens of galls and Gall Flies of various kinds was read from Messrs. Muller and Kidd; also on a species of *Oiketius* and other Lepidoptera observed at Shanghai, in China, by Herr Schrader. Mr. Muller exhibited a box of Lepidoptera from New York, and Mr. Pryor specimens of the rare *Scoparia Zellori* and *Agrypua picta* recently captured.

Letters were received from A. H. Haliday, Esq., noticing the forthcoming first part of the Transactions of the Entomological Society of Italy; also from Mr. Rowland Trimen, giving an account of a remarkable Cricket, found in gardens at Cape Town, having a gigantic-sized head, and belonging to the genus *Anastostoma*.

Mr. Briggs, of St. John's College, Oxford, exhibited specimens of a new British Moth, which has proved to be *Leucania albimaculata*, taken by himself and his brother at Folkestone on the 15th August and 5th October; and the Secretary exhibited a specimen which he had received from Woolwich as the "Musquito," and which proved to be a species of *Chrysopa*!

The following memoirs were read:—Comments upon Mr. Baller's recently published Catalogue of *Satyridæ*, so far as relates to the South African species, by Mr. Rowland Trimen; Contributions to the Knowledge of European Trichoptera, by Robert McLachlan, Esq., F.L.S.; Further Descriptions of Exotic Heteromeroous Coleoptera, by Mr. F. Bates.

GARDENING IN THE FAR WEST.—No. 1.

THE vast wildernesses of Canada and the States have required whole generations of toil for their subjugation; toil too exacting and constant to admit any of the beauties or enjoyments of decorative gardening, so that gardening as a fine art has there been lost. But a large extent of these regions is now thickly populated with independent cultivators of the soil, who own their lands free of claims or dues, and who emulate each other in improving and embellishing their homes. These forest-bred landowners live in fine houses, eat and drink, and wear of the best, and are in manners and habits genuine country gentlemen; but, bred in the courts of nature, and accustomed to cutting wide swathes, and working in a hasty way, they cannot condescend to take pains with trifling details, and it is a very rare thing to find a native American engaged in careful nursery work or gardening. It is too "pottering." "There is not enough to show for the time you have spent." Yet no people are readier to appreciate or applaud the fine results of the gardener's art and skill that are sometimes seen near the cities, or on exhibition at the fairs, and nowhere certainly is there greater want of his skill.

Green leaves and flowers in winter are wanted to solace the long months during which the whole scene is sheet snow, and when blasts prevail which nip everything above the snow line that is not of the very hardiest, window gardening and winter gardening generally are most desirable there. Fruit is wanted over vast sections, which are parched by wind, drained of moisture by its condensation on frozen mountains and plains; this dried air combining with severe spring frosts and hosts of summer insects to destroy the bud, the blossom, or the fruit itself. Yet when or where fruit escapes, the finest flavours and colours are developed under the clear sky and bright hot sunbime. At thousands of homes there are wanted carpets of thick grass, choice patterns of flowers, curtains of shrubbery, and canopies of shade. There are elegant and handsomely decorated houses, beautifully kept internally, but devoid of all suitable setting externally for want of knowing how to effect it, or because the effect cannot be seen and enjoyed at once.

English gardeners are often met there—some very successful—others, who do not happen to have a theoretical knowledge adequate to enable them to adapt their accustomed practice in the mild humid climate, yet high sunless latitude of the country of their birth, often fail sadly in everything but neatness of work, and being isolated, unless in large cities, they can learn only in the too slow and dear school of individual experience one lesson per annum.

German gardeners are mostly growers of vegetables, and do better; yet are often defeated by the peculiar, half-tropical rain drenches and droughts of the summers. French, mostly florists, few, and confined to the cities by their language and

their tastes, often succeed well. Their native climate is less dissimilar, their culture is more under glass, and they seldom go far from the humid moulifying air of the seaboard or the great lakes.

Notices of a few of the principal points of climate and other differences, and how they are met or evaded, may be useful to some of your readers who may choose to encounter difficulties for the sake of ultimately attaining an independent position for themselves, and a better provision for a family than old and crowded countries afford.—PENNSYLVANIA.

PEACH CULTIVATION.—No. 5.

MODE OF BEARING.—The fruit is borne on the shoots of the previous year. The shoot in the year previous to bearing produces leaves at every joint, singly, or in twos and threes, and in the axils of the leaves wood buds or fruit buds are formed. Fruit is also borne on spurs or short shoots closely studded with blossom buds, and having blossom buds at the extremity of each, and a growing point or wood bud which the blossom buds in a manner enclose.



Fig. 9.

Fig. 9 represents a mature shoot of the current year furnished with wood buds, *a*, and fruit buds, *b*. There are usually at the bases of such shoots two or three wood buds, and invariably a wood bud at the point.

Fig. 10 is a representation of a short shoot or long spur, having a few wood buds at the base, one at the extremity, *a*, and a majority of fruit buds, *b*.

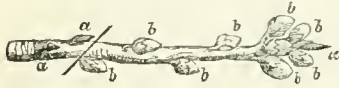


Fig. 10.



Fig. 11.

Fig. 11 is a very short shoot, or spur proper, which is rather uncommon, except where close pinching is practised, this kind of spur being generally destroyed in the process of disbudding. It is seldom present when long pruning is practised. Such spurs rarely have any wood buds except that at the extremity (*a*), which is always one; all others are fruit buds.

Now, to comprehend the process of pruning, it is necessary not only to know the difference between the various fruit-producing shoots, but also the buds upon them; for if in pruning we cut back to a fruit bud no young shoot can proceed from it, and the shoot must die back to the nearest wood bud. The difference in the buds will be seen on reference to the accompanying figures. The wood buds, *a*, have a pointed conical form, and consist of scales enclosing a growing point. They are generally solitary, except in the case of young trees, or situated by the side of a fruit bud, when the buds are called double, as at 1, *fig. 9*, or between two fruit buds, when they are termed triple buds, as at 2, *fig. 9*. The fruit buds are more plump and less pointed than the wood buds, still ovate, but in or after February they become globular, and, as they unfold, hoary. They are sometimes single, occasionally double, when one may be a wood bud, or both fruit buds, and in old trees there are occasionally three blossom buds together, but generally the triple buds have two fruit buds with a wood bud between them.

In young trees, wood buds in general are chiefly produced; in older trees, or those of considerable proportions, the disposition is to produce a majority of fruit buds, and without pruning they become too numerous, hence the necessity for pruning so as to promote the production of young shoots, and maintain the vigour and fertility of the tree.

PRUNING.—The Peach and Nectarine require winter and summer pruning. Winter pruning is best performed as soon as the leaves have fallen; but some advocate its being deferred until the buds have begun to swell, on the ground that they are then distinguished with greater certainty. Winter pruning may, however, be performed at any season, from the fall of the leaf until the rising of the sap, but not in frosty weather, for to cut and handle the shoots when frozen is a false economy of labour, and leads to gumming, and the dying back of the shoots

operated on. I can see no advantage in pruning and nailing trees in periods of severe frost, and doing so is a needless trial of man's power of enduring cold. Summer pruning will commence with the pushing of the shoots, and may be continued as required throughout the summer.

From the principal branches, shoots for bearing must annually be allowed to proceed. The extremities of these shoots in our climate are not generally sufficiently ripened, and that is the principal reason why they should be shortened, it being well in the first instance to proceed by stopping, and then shorten back to a wood bud. *Figs. 1 to 8* inclusive, show the training of the principal and secondary branches, and the origination of the bearing wood, and the directions for pruning will be understood on reference to *Figs. 9, 10, and 11*, in which the wood and fruit buds are shown. It would be wrong to cut where the bar is on the shoot, *fig. 9*, for beneath that is a fruit bud, which would not produce a shoot, and if the blossom produced a fruit, the latter would fall, and the shoot die back to the nearest wood bud or shoot. The shoot should be shortened to any of the joints where there is a wood bud. If it be required for extension, or be the extension of a branch, it should be cut to a bud on the side next the wall, as in that case it will proceed straight; but if the bud is situated on the front, the shoot from the bud will curve outwards, or if on the side it will curve sideways. The shoot, *fig. 10*, has but three wood buds, two at the base, and one at the apex. In pruning, it must be cut above the wood buds at the base, or left its entire length. If not pruned it would in the following year be naked, but no doubt give fruit, and might then be pruned to the wood buds at the base where the bar is, and shoots would proceed from it in the following year. If cut to the wood buds before it produces fruit, a successional shoot will be gained, it being desirable to keep up the number of such shoots, and if they are not required they may be stopped and treated as spurs.

On reference to *fig. 4* (page 267), it will be seen we have main branches, and secondary branches from them, and that on these the bearing shoots are produced, the tree bearing on the shoots and natural and artificial spurs of the previous year. In *fig. 8* (page 303), the fruit is produced on the shoots of the previous year only, there being no spurs, but shoots only, and on the upper as well as under sides of the branches. *Figs. 1 to 4* are intended to represent the short-pruning system, in which summer pruning and stopping act a most important part, these operations, in my opinion, having a powerful effect in thoroughly ripening the wood, securing an equal distribution of the sap, maintaining an equality of vigour in the several parts of the tree, and completely preventing the sun-burning of the stem and branches. By sun burning the sap is arrested, and the branches become enfeebled and die off; but this evil is prevented by the foliage of the spurs and short stubby shoots affording the necessary shade from the powerful rays of the sun. It is not the short-pruning system advocated by some, which, however well it may answer under glass, and in a warm climate, is not according to my experience adapted for trees against walls in our climate.

We have seen how to train the trees, how to originate the branches producing bearing wood, or from which it is originated, and I will now endeavour to explain its management, taking the tree shown from *figs. 1 to 4* (see pages 266 and 267).

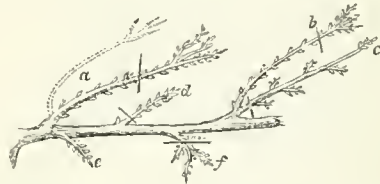


Fig. 12.

Fig. 12 shows part of a branch after the fall of the leaf, *a* being a bearing shoot which in summer had been stopped when it had grown 10 inches, or not more than 1 foot. Laterals will result from the stopping; these are to be stopped when they have made one or two leaves, and as they push again stop them at the first leaf. The laterals chiefly pushing just below where the shoot was stopped lower down, a sufficiency of fruit and wood buds will be formed. This shoot at the winter pruning should be cut back to a wood bud, either by itself or best when it has fruit buds at its side. This shortening will do away with the cluster of laterals at the top, as shown by the

bar across the shoot *a*, it being left about 8 inches in length, more or less as the buds determine; and by the shortening, whilst the shoot produces fruit in the following year, a successional shoot from its base will be originated as shown by the dotted line. That shoot, or another of the same year, of production, is to be stopped as its predecessor *a*, and at the winter pruning shortened or cut back to a wood bud.

The shoot *a*, in addition to the shoot from its base, will push from all the wood buds. These will not all be required; part must be removed, but only those having no fruit at their bases. The terminal young shoot from *a*, which I will for explanation transfer to *c*, should be retained and allowed to grow until the lower leaves are nearly full-sized, then shorten it to 3 inches. The other young shoots with fruit at their bases should be stopped when they have formed three leaves; all others are to be rubbed off in disbudding, always excepting the young shoot from the base of the bearing one, which is to furnish fruit the following year. Upon thinning the fruit it will be found that there will be some of the shoots stopped with no fruit at their base; these may be removed, but leaves must be preserved on the bearing shoot above the fruit. If the shoots on the bearing wood push laterals, take out their point at the first leaf after the first stopping. *c* Shows a shoot which has produced fruit. It will not do so again (except from the short stubs, which is not desirable), as we have a young shoot to replace it, and therefore it must in autumn or winter be cut off close to the successional shoot *b*.

The successional shoot *b* is to be cut back to the bar, or to 8 or 9 inches in length, and from its base a bearing shoot is to be originated and treated as its predecessor, which it will replace in the following year. As a rule, every bearing shoot should have a successional young shoot, and springing from the base of the bearing shoot, and as near thereto as possible. The successional shoots may be encouraged one year from the opposite side of the bearing shoots to that next the branch, and in the following year on the side next the branch. In this way they will be kept nearly in the same position, whilst if encouraged from one side only they become too close or too distant from the branch. Sometimes a bud will push from the stub closer to the branch than the origin of the last successional shoot; this should be encouraged and be made the successional shoot, and in this case the stub above may be cut off in the following autumn. This will keep the bearing wood close to the branch, which is desirable.

The long spur or short shoot *d*, *fig. 12*, may, if there is a deficiency of fruit buds, be left its entire length—that is, if fruit is to be taken from it, and in autumn it should be cut back to the wood buds at its base if they have not pushed in the summer; but if they push, stop the shoots at the third leaf, and repeatedly afterwards to one leaf, and in autumn shorten them to two or three buds from their base, and they will form spurs. If there is a sufficient number of fruit buds on the bearing wood, then these long spurs should be cut back at the winter pruning to a wood bud at the base, where the bar is on *d*, *fig. 12* and in *fig. 10*, and from it a shoot will push in the following spring; and it may be allowed to grow to replace the bearing wood if desirable and well situated, or it may be stopped at the third joint, and afterwards to one joint, cutting back at the winter pruning to three buds, and it will form spurs in the following year, or shoots, and probably afford fruit.

The spur or short stubby shoot, *fig. 11*, and *e*, *fig. 12*, having no wood buds except one at the extremity, must not be shortened at the winter or summer pruning, but must be left its entire length, and suffered to grow annually until its length becomes too great, then cut it back to the branch, within half an inch or so, for it is probable that a shoot may start from its base or from the branch whence the spur in the first instance originated.

We now come to the shoots that are stopped, and they include all shoots except the bearing wood and the short or natural spurs. In *fig. 12*, *f* is intended to represent one of these shoots stopped as it ought to be when it has made three leaves, and repeatedly pinched back to one leaf after the first stopping. If it should not grow more than an inch do not stop it, but leave it entire; it is a natural spur. It requires some experience to distinguish between a shoot that is a spur and a shoot on its first appearance; but the spurs are in general much weaker-growing than the shoots, and have the leaves very close together, whilst on a shoot the leaves or joints are more than twice the distance from each other that they are on the spurs.

The shoot may not push after stopping; in that case it will form blossom buds in the axils of the leaves, and the object of the stopping is secured for it is a spur. If it push, for which we have already provided the needful stopping, buds, and more or less of them blossom buds, will be formed at the bases of the laterals, and below them blossom buds may have formed. In case of there being blossom buds below the laterals, the shoot should be cut to the next wood bud below the starting of the laterals, where the bar is across *f*, *fig. 12*; but if there are no blossom buds on the part left, or below the laterals, as will be the case if the shoot be strong, there will, no doubt, be some near the bases of the laterals. Instead, therefore, of shortening at the winter pruning to below the laterals, we must shorten the lateral or laterals to a wood bud having fruit buds by its side or immediately below it. It will be enough if from four to six fruit buds are left on each of the stopped shoots; but if this number cannot be secured without great length of shoot, it is better to rest satisfied with a less number, or with none, rather than have a long stub. In that case the shoot must be cut off below the laterals.

The pruning being upon the laterals, the shoots they produce in the following year must be pinched at the third joint if they grow more than an inch, and a shoot must be encouraged from the base (see dotted line *f*, *fig. 12*), and it will be stopped at the third leaf, and repeatedly to one afterwards. This will in winter be shortened to the nearest wood bud at its base, and all others shortened to two or three joints. If the spur, however, is long already, and shade the bearing wood and spurs, it will be well to cut the spurs off, leaving none but that which originates from the base, which is to replace them when they become too long and unmanageable. In general these spurs will need to be replaced every third year, so that a successional one must be originated in the following season from near the base, and held in reserve, one or more of these successional being secured according to the duration of the original spur.

The spurs must be kept short, and as near the wall as possible, and for the most part originated on the lower side of the branches, where they will not shade the bearing wood, though where there is room they may be left on the upper side, and they will be a means of replacing any worn-out old bearing shoot, a shoot being encouraged from the base of the spur; and the part above the shoot being cut away, it will grow strongly. The strong foreright shoots should be stopped, and treated for spurs the same as those similarly treated on the under side of the branches, only they must be more closely pinched, and shortened at the winter pruning, and ought not to exceed 1½ inch in length. If the spurs become very twiggy they should be thinned, and when old and long they ought to be replaced by others from the branch or base of the spurs.

It should be borne in mind at all times of pinching, stopping, or pruning, that all wood of the Peach or Nectarine above one year old is of no use, except to support the parts that then or afterwards may bear fruit; care, therefore, should be taken to keep the old useless wood as near to the branches as possible, by encouraging a young shoot from the branches or bases of the bearing shoots or spurs, so that these, when old and long, may be replaced speedily and with certainty.—G. ABBEY.

POMOLOGICAL GLEANINGS.

A JAPANESE APRICOT.—“A few years since,” writes “T. R.,” “I received a variety of Apricot imported from Japan by the late M. Siebold, and named ‘Mumô.’ My attention was soon attracted to it by its early blossoming in the orchard house, once or twice towards the end of January, some five or six weeks before the earliest sorts now cultivated. I quite hoped it would prove a valuable assistant in producing something quite new among Apricots, as the tree could be retarded by placing it out of doors, so as to have flowers ready for crossing when the early varieties put forth their flowers in the house. As far as I recollect, it gave its first fruits in 1866; they ripened comparatively late, and were not at all promising. Thinking it might be the effect of that cool season, I waited, hoping for something better. Last spring my tree put forth an abundant crop of blossoms early in February; they were of a pale pink, and very ornamental. A good crop of fruit followed, which, owing to the hot weather, ripened well. They were yellow, and of the exact form of the fruit of the Common Sweet Almond, with the same pointed shape, but not so large, and they ripened about a fortnight after the Early Moorpark, thus destroying my anticipation of having an early sort to improve

our present race of Apricots. As to the flavour of this enrious fruit, it is difficult to describe; it was acrid, acid, and nauseous, with hard tough flesh. As compared with our Apricots, it was something worse than an English Crab to a Ribston Pippin. It is just possible that this tree may be employed by the Japanese merely for ornament, and it is also possible that they may have a peculiar taste in Apricots, and enjoy the flavour of 'Mumc.'

— THE TANGIERINE ORANGE.—“This delicious little fruit is most worthy of culture for this reason: it ripens in October, and thus gives a succession of soft fruits when late Peaches have passed away. It requires constant gentle heat except in the hot weather of summer, and seems to succeed better if the pots are plunged in tan while it is in a state of fermentation, or placed on a heated surface in cocoa nut fibre. The trees bear much more abundantly when planted in a raised border in a house kept warm. In a border that is heated they bear still more freely. I have one little tree only 3 feet high, on which are six dozen of fruit. This is planted in a border 5 feet wide, in the centre of which are two 4-inch hot-water pipes lying on the ground nearly close together, and the border filled with a compost of two-thirds loam and one-third rotten manure from an old hotbed. The gentle warmth given to the border by these two pipes is most favourable to their growth and fertility of the trees, for they seem to grow all the year.

“A house 30 feet long, 14 feet wide, and 6 feet high at its sides, with two borders 5 feet wide, heated as above described, and two additional 4-inch pipes on each side to warm the surface air in autumn, winter, and spring, as in my house, would give bushels of Oranges, not only of Tangierines, but of Maltese Blood, and St. Michael's. My trees of these sorts are loaded with fine fruit, which, owing to the hot summer, are fast ripening. The trees stand on slates over the two 4-inch hot-water pipes, the pots plunged in cocoa-nut fibre. They bear very large fruit even in 8 or 10-inch pots.—T. R.”

— DOTENNÉ DU COMICE PEAR.—Out of twenty-three dishes of Pears exhibited at the meeting of the Fruit Committee on the 17th inst, many of them of great excellence, this new variety carried off the highest honour, the first prize being unanimously awarded to it as the best-flavoured Pear exhibited, beating in that respect all our well-known good Pears which were pitted against it, such as Winter Nelis, Passe Colmar, Glon Morcean, &c. This is the third season in succession that this handsome variety has received the same signal honour. Twice, the present season and the last, it has been exhibited by the same cultivator, Mr. John Garland, gardener to Sir T. D. Acland, Bart., Killerton, near Exeter, and the year previous from the Society's Garden, Chiswick. This is sufficient distinction to stamp Doyenné du Comice as a first-rate late autumnal Pear. It is of large size, one of Mr. Garland's specimens weighing 15½ ozs. The flesh is beautifully white, delicate, and buttery, of a very rich and pleasant flavour. We do not know of any Pear that can be more highly recommended for general cultivation than this. It succeeds admirably as a pyramid on the Quince stock, in the neighbourhood of London, and it appears to do equally well in Devonshire, a county not very celebrated for the production of fine Pears. The fruit which Mr. Garland exhibited were grown on a pyramidal tree on the Quince stock, in a border much exposed to the south-west winds, which are very powerful in that part of the county. The soil, a heavy fresh loam, was specially prepared by Mr. Garland, the ordinary soil of the garden being of a worn-out character; subsoil loam, slightly mixed with gravel. Winter Nelis from the same exhibitor, grown on a south wall, in the same sort of soil, and equally exposed, was likewise of remarkably fine quality, and was awarded a special certificate.

CAMPANULA PYRAMIDALIS.

For a long time this was a fashionable plant, and adorned the halls of the nobility, and was frequently trained (as we have seen it in the north of Scotland) to cover the fire-place in summer. This Campanula is hardy, but its greatest beauty is developed in pot culture under glass; in greenhouse culture the flowers expand in such a marked degree compared with plants grown in the open border, that many assert that what is grown here in pots is a distinct variety from that grown in the open border; yet the plants are taken from the same stools, and the difference of flower is simply brought out by culture under glass. The outside plants have been in full flower for at least three months, and are now (Oct. 13) fairly covered with

fresh flowers from the ground to the height of 7 feet. The plants are sheltered by Rhododendrons, and growing in rich light earth.

The white variety of this Campanula we find rather more tender than the blue, but it is equally ornamental, perhaps more so, in pots. At Rothie, in Aberdeenshire, we remember having seen a border planted with the blue and white Campanula, and the effect was grand. This fine old plant is easily propagated by seed, or by division of the root; for common practice, division of the old stools will be found the most convenient. Stronger-flowering plants will be got from seedlings, but then it takes much longer time to get the plants into flower; it is generally the third year before good flower-stalks appear from seedlings. Suckers taken early in autumn, or good crowns, with ordinary care, will flower the following summer; every inch of the fleshy roots will grow into plants if put into a pot in light sandy soil; but seedlings are to be preferred to dormant eyes for good plants. To raise seedlings of this Campanula the seed should be sown under the same treatment that is given to half-hardy annuals, taking care that the seed is sown on the surface of the soil; the seed will grow in a cold frame, but not so surely. No finer old plant can be found for frame gardening; the young plants always do best in frames, and a frame is the best winter quarters for plants to flower the coming season; it is the previous season's growing that makes the fine pyramid of flowers. For pot culture small shifts are the best in the summer previous to flowering; flowering plants we shift early in spring into the pots in which they will flower, and water freely with liquid manure. A 12-inch pot will be sufficient for the largest-sized plant it can be wished to grow for greenhouse or conservatory. A free light rich soil should always be used in potting; in stiff soil the plants are apt to rot in pot culture.—CHAS. McDONALD (in *The Gardener*.)

THE COMMON BERBERRY.

I AM pleased that Mr. Robson has directed attention to this much-neglected shrub. I find from experience that it merits all he has said in its favour. Besides this there are many other berry-bearing shrubs—such as *Pernettyas*, *Berberis Darwinii*, and other kinds, *Arbutus*, &c., which are far too little planted. Considering the ornamental character of most of them, it is painful to the lover of beautiful shrubs to see the miserable specimens struggling for an existence in the most awkward positions it is possible to assign them, often overgrown by other shrubs and trees, and where there is not the shadow of a chance of their admirers ever seeing them in perfection.

We have the common Berberry largely planted here, and no shrub is better suited for a place in the front of shrubbery beds or borders, the pendent habit it acquires in this position is in pleasant contrast to the long-legged objects sometimes met with. Apart from its ornamental character, it is likewise used for garnishing fish and other viands where Parsley is used, and quantities of its fruit are here annually gathered and preserved for that purpose. I also use it daily for garnishing the dessert, small twigs of foliage and fruit mixed with dark green leaves have a lively appearance on the dinner-table.

Like most other plants the Berberry requires its favourite soil to bring it to perfection, and that soil appears to be a heavy rich loam, but if such does not naturally fall to its lot, it will accommodate itself to circumstances, and do fairly in any soil.

The *Arbutus*, too, is a highly ornamental evergreen shrub at this time of the year; it has fruited so abundantly with me that I could have gathered gallons of its berries this autumn. I sent a bunch of flowers and fruit to the Royal Horticultural Society's meeting on the 17th of this month, but no notice was taken of it, so I presume its fruiting is so general this season as not to be worth mention.—THOMAS RECORD, *Lillesden, Hawkhurst*.

NOTES AND GLEANINGS.

WE regret, and all who knew him will regret, to hear of the death of the Rev. ROBERT PULLEIN, Rector of Kirby Wisk, near Thirsk. He has for many years acted ably as one of the Judges at the Birmingham Poultry Show.

— HER MAJESTY has presented to the LINDLEY LIBRARY of the Royal Horticultural Society, Dr. Roxburgh's "Plants of the

Coromandel Coast," and Sir W. Hooker's "Filices Exoticae," splendidly bound, and the presentation duly recorded on the binding.

— It is intended to hold an "INTERNATIONAL HORTICULTURAL AND FLORICULTURAL EXHIBITION" AT HAMBURG early in the September of next year. Prizes are to be given for Cultivated Vegetables, Fruits, Flowers, Garden Buildings and Appliances, and for Seeds and other articles. The proposed site for the Exhibition is in a park on a bank of the Elbe. The guarantee fund has been satisfactorily arranged, and a Committee formed, who promise ere long to publish full details. Exhibitors will be invited from all Europe, America, and elsewhere. Dr. C. H. Merck has been appointed Chairman of the Committee; Senator C. De Chapeaurouge its Vice-Chairman, and Mr. E. L. Behrens, Treasurer.

All communications should be addressed to Dr. Donnenberg and Dr. Göze, Advocates, Hohe Bleichen, 16, Hamburg.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Artichokes (Globe), protect the roots for the winter. *Asparagus*, examine that in frames. *Celery*, earth-up when you can, and dig, trench, or ridge all vacant ground. *Cauliflowers*, *Endive*, *Lettuce*, *Radishes*, and *small Salad* will be quite safe where they are in pits or frames, as there is little difficulty in protecting them from frost under such circumstances. Although we do not yet expect much severe weather, no time should be lost in securing plenty of *Endive*, and *Cauliflowers* of the June and July sowings, to be protected with straw or reed covers in turf pits. In making these covers, take three slips of wood, from 2 to 2½ inches broad, and from one-half to three-quarters of an inch thick, according to the intended length and width of the cover; put two pieces for the sides of the cover at the distance of from 3 to 4 feet apart, and the third in the middle, between the two; nail pieces of wood of similar thickness across the two ends, and in the intervening space use lighter wood at the distance of from 1 foot to 1½ foot apart: turn the frame of wood thus formed, and fill it neatly with reeds or straw to the thickness of the three longitudinal pieces, then nail on slips of wood opposite to those on the other side, cut the ends of the straw, and the cover is fit either for turf pits or glass frames. The using lighter wood for the cross pieces in the middle is for the purpose of causing less strain to be placed on the longitudinal pieces when moving the covers, also for rendering these lighter. Wheat straw is preferable to reeds, as being less expensive and not so liable to break when exposed to frost and wet alternately; but the straw ought to be drawn before the crop is threshed, and all the ears cut off, otherwise it will be bruised by the flail or machine, and the ears will not only act like a sponge in retaining moisture, but will offer an inducement to birds to pull the covers to pieces. Such covers are not quite so effectual in excluding rain as painted canvas, glazed calico, &c., but they are a valuable protection from frost, are inexpensive where straw is to be had, and afford employment to labourers in unfavourable weather. *Rhubarb* and *Seakale*, the most economical method of growing the latter is to sow every year and take up and force it when of sufficient size. Those who depend on beds out of doors for the first supply must examine the state of their fermenting material, to see that it is not becoming overheated; nothing is better than tree leaves alone. Those who desire a tolerably early supply with little trouble should cover their beds with any litter they can procure, so as to prevent the escape of the heat now existing in the soil. You must not overlook the *Spring Broccoli*. The plants have been growing luxuriantly all along, and although they seldom suffer from frost until January, they had better now or very soon be inclined with their heads towards the north. Whether it is from the check they thus receive, or from being less exposed, or from both, they are much safer in this way than left upright.

FRUIT GARDEN.

Those who find that the leaves of their Peach trees are still in a green adherent state, had better protect the trees slightly by means of straw-ropes, netting, or sticking fern, &c., among the branches, as a sudden check to growth after such mild weather would be more prejudicial now than after the trees had become accustomed to variations of temperature. In a garden in this neighbourhood I have seen some Currant trees trained with clean stems 4 feet high, and their tops

looked like the heads of standard Roses. When the bushes are pruned about this time short cuttings are made of the middle part of the shoots, with only two eyes at top, and are planted in a rich bed in a shaded place, and watered well in the summer. Some of them will be long enough for standards the first season, and all of them in the following one. The reason for discarding the bottom of the shoots is, that many latent eyes are formed there which cannot be seen and picked out, but which would push afterwards as suckers. Two eyes are to be left in case one should fail, but only the strongest shoot is to be allowed to grow, and the cutting ought to be short, so that the shoot may grow from the surface of the ground, and thus look clean and straight all the way up, which could not be the case if the cutting were far out of the ground, because the young shoot would form a "knee" with the top of the cutting.

FLOWER GARDEN.

As the leaves are now all in a great measure off the trees, the pruning of common shrubs may be proceeded with, and the border put in order for the season. As the ground must be cleared of leaves, it is best, when they are not wanted for other purposes, to draw them into ridges in the back part of the shrubbery, and there to let them rot, to be distributed over the ground about this time twelvemonth. It is not a bad plan to fill holes intended for American and other choice plants with wet leaves, and to place the ball level with the surface of the ground; as the leaves decay, the plant will sink to its proper level and grow admirably.

GREENHOUSE AND CONSERVATORY.

The earliest of the *Chrysanthemums* will now be nearly over, and when they are turned out the best way is not to cut them down, as is generally done, but to store them in light dry soil under a west wall, turned out of the pots; the tops being left on will keep the suckers more backward, and also shelter them in some measure. The less the suckers grow before March the better plants they will make next year. Spring-forced *Camellias* now in bloom should be guarded against currents of cold air and damp. *Cinerarias*, which are great ornaments for the conservatory in winter, are thirsty plants, and good subjects on which to try experiments with some of the new fertilisers, mixed with the water given them; they are also liable to the attacks of insects, which, unless looked after, will soon establish themselves among other plants. The fine large varieties of the Chinese *Primrose*, although they grow well near the glass, do best in shaded places where the sun cannot reach them. Two parts rough leaf mould, and one of very old cow dung, with a little sand, form the best compost for them, and in this they like plenty of moisture. Besides the double white and double pink, which are very showy at this season, there are sorts of all shades from pure white to very dark purple, and some with fringed edges, which look gay. The late mild foggy weather has been a trying time for delicate young plants, and sometimes fires have been in requisition for a few hours in the middle of the day. The double Roman *Narcissus* of the shops is the first of the forced bulbs to be in bloom in the conservatory; those who potted this and the *Hyacinth* early last August will in a few days see them in bloom. Cuttings taken off the tops of *Gesnera zebrina* after the flower buds were formed, are also now coming on to succeed the old plants, and, like cuttings of the *Hydrangea* similarly treated, flower almost as strongly as if left on the parent plant, and, as they stand dry heat, are excellent little ornaments to the sitting-room. Plants of *Euphorbia jacquiniiflora* cut down last January are now coming fairly into flower; they also stand dry heat, and will do in a sitting-room for two months. Moss Roses will soon be in; the mildness of the last two months was in their favour, as they dislike strong fire heat. This is the time to test the best stock to graft Roses on for forcing. Dog Roses make slow stocks compared with the old China or Boursault; but, of course, to begin in January or February to force Roses, they will do well enough on any stock and with little forcing.

STOVE.

The *Clerodendron splendens* prefers a cool shady part of the stove, and is better fitted for an intermediate house, but it will grow freely in a good conservatory if not allowed much light, which is disagreeable to it when growing. There is little doubt but that many other stove plants will prove sufficiently hardy to do in the conservatory, and this is the best time to begin the experiment. Look out duplicates, and place them by themselves to be kept drier through the winter than the rest of the

collection; they should also be placed in the coolest part of the house.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

LITTLE has been done here beyond securing crops that would be likely to suffer, as Lettuce, Endive, Radishes, and Cauliflowers. Banks of Coleworts, planted even more thickly than we stated, are coming in most useful. Cauliflowers out of doors had a bunch of sweet litter placed over the half-swelled crowns, with a broad leaf interposing between the litter and the head of the Cauliflower, so that the colour should not be injured.

Dwarf Kidney Beans have been sown in a mild heat and in small pots to occupy little room for the present, until they are planted out in masses to take the place of those now bearing profusely. We always think that Beans obtained in November and the first weeks of December are a very cheap and useful crop, as for their first stages they may stand out of doors with only a little protection, and we always think that a Bean that has been grown under glass has a richness and crispness all its own if gathered and cooked whilst it is young and tender, which it seldom is when the pod shows the place where the young seed is swelling. It is best to have every pod crisp, and smooth and regular in outline from end to end. The little Newington Wonder makes a fine dish if its pods, when from 2 to 2½ inches long, are cooked whole, and then the gatherings are very abundant. It should be remembered by all beginners that one pod on a plant swelling its seeds will exhaust the plant more than a dozen where there is no appearance of the seeds swelling.

Seakale and *Rhubarb* are going on well in a very mild heat in the Mushroom house. We have earthed-up a third piece in the Mushroom house, and put in manure for a fourth piece. The first piece is just showing all over, but small at present, and therefore not to hurry it too much we have put more covering on our bed in the open shed, and treated it much as described lately in these notices. We are slightly troubled in the Mushroom house with condensed moisture falling on the bed we wish to bear, and if it continue we will suspend a mat or a cloth over the bed to receive the drip and throw it off the bed. Though the Mushroom rejoices in a moist atmosphere, it does not like this drip, and if the manure is at all fresh the coloured drip will disfigure the appearance of the Mushrooms. We would refer beginners to a short article that lately appeared on growing Mushrooms, with the help chiefly of horse droppings. We have used a great variety of materials down to stubble, as forming the chief portion of our beds, but we must vary the practice a little in proportion to the materials to be obtained. It is of little use saying, at the present day, "It can't be done." Attempts must be made with very unpromising materials, and they often, with a little thought, result extremely well.

Cucumbers.—A few lights of these in a pit are bearing too profusely, though we cut off numbers of the fruit to ease the plants. We expect such bearing will finish them about Christmas, and we have three lightful of young plants, though strong, put out in large pots, so as to be more under control, and from these as yet we nip off every fruit as it appears, and if we make up our mind to keep them bearing through the winter, we will not allow a fruit to swell for some weeks. We in the country are often circumstanced quite differently from gardeners near town. Cucumbers are often useful for shooting parties, and whilst they would be most valued in spring in London, they are of little value to us. Our own idea is that what appears at table every day in the year, ceases to be valued, and a short cessation often heightens the enjoyment.

Leaf-collecting.—We have collected a good quantity of leaves, but not one-half of what we wish to have, and which we will only obtain if we have a few more calm days, as, if a high wind come, most of ours will be off to the valleys for miles round. A fortnight ago we expected to collect some loads from the pleasure grounds, but the part that was thickest was as thoroughly cleaned one morning, as if it had been carefully swept with a broom. We find fault with no kind of tree leaves—Ash, Elm, Beech, or Oak, all are acceptable; for though the first do not last long, they soon become a valuable vegetable mould, and they yield a good heat for many purposes. Beech and Oak leaves, however, are our favourites, and of the two, for lasting we prefer the Oak leaves. We have known Oak leaves yield a fine genial heat for a twelvemonth, and then all but the

sides, when turned over, continue to yield heat nearly as long again, especially if some fresh leaves be mixed with them. For present use it matters little how they are collected, and they are easiest managed in dull damp days. The damp will cause them to ferment and heat at once. When intended to be kept for some time, they should be collected dry, and be stored under cover; though when built in a round or oblong shape out of doors, and the top tapered like a stack, they will throw off the rains, and thus be dry for the most of their bulk. We have taken leaves from such heaps after eighteen months storage so fresh, crisp, and dry, that we had to sprinkle them with water when we wished them to ferment and yield a sweet heat. One great recommendation of the leaves is that the heat they yield is sweet and mild at once. With abundance of this material we can never be at a loss for a little sweet bottom heat.

Bottom heat used in moderation is one of the best means for insuring good results; for, as a rule, it will ever hold good, that it is well to excite the roots a little so as to have them in action before the buds are greatly excited. From an old roastery we mean to pot a lot of plants to produce early flowers, but we could not expect to succeed if we put the plants in a mild heat at first, as the buds would break before the roots were acting afresh to keep up the growth. If we plunge these pots in a mild heat of leaves out of doors, letting all the tops be exposed, we shall have fresh roots in the pots before the buds swell much, and then we can force them gently in the usual way. Some so treated last winter did better with us than Roses that stood in pots all the summer, and were brought gradually on without this bottom heat. In all such cases, forcing bulbs, exciting Strawberries, &c., it is important that the heat should not be too strong, ranging from 65° to 70° and 75°, and rarely above it. When we go to 80°, or higher, the plants should be well established, and balanced as respects roots and branches, and an equivalent, though a lower temperature, given to the branches. All plants, especially those fresh potted and intended to be brought in early, that is, less or more forced, will be the better of this mild bottom heat in the open air, whilst the tops are kept cool. Even when a frame is used, the coolness at the top should be secured, by air at back and front, except in the coldest weather.

FRUIT GARDEN.

The work has been very much the same as in previous weeks' notices, clearing the orchard houses of decayed foliage, fresh mulching Strawberries out of doors, planting, and commencing pruning; and we noted that the titmouse and the bullfinch have begun their unwelcome visits to Cherries and Gooseberries.

ORNAMENTAL DEPARTMENT.

The frost having left more wrecks of vegetation than were fair to look upon, much time has been taken up in removing the thickets of growth in beds, and heavy work it has been. The lawn, however, looks cheerful where the beds are cleaned, and the grass fresh swept and rolled. Where a weed appeared on the walks, it was pulled up; and hard swept and rolled, they looked clean and cheerful, as no leaves will now encumber them, unless they come from long distances. Most of the scarlet Pelargoniums that were taken up and left in sheds, have been pruned in and faggoted away as closely together as they could be placed in boxes and pots. Of *Calceolarias* we took up a few dozens with balls, potting them where growing, so that the ball should not fall off, as we want these for good-looking, early-flowering plants in spring. Took up lots of double Stocks, double and single Wallflowers, and placed them under glass in the orchard house, as these will force a little if so wanted, and flowers are valuable in spring, however humble they might be considered in summer.

Took up and potted *Lily of the Valley*, and boxed more, merely for the flowers. When a fine pot is wanted, only the large firm buds should be selected, and be closely packed, and if they receive a little bottom heat at first, with a cool atmosphere near the surface of the pot, they will come all the finer, though it will require the best of our home growth, to equal the patches that come over from the Low Countries along with the bulbs, which are such an advantage to us in the winter and spring. We have seen this *Lily of the Valley* become a perfect weed, almost as difficult to destroy as so much Couch Grass; we have also seen unavailing efforts made to grow it in some places, and believe that in many of these cases the failure was owing to mistaken kindness and attention. It seems to delight most in a firm loamy soil, and when it must be grown in a sandy or chalky soil, an additional proportion of sweet rotten manure

should be applied; and after planting, and the leaves begin to appear, the soil between the rows should be trodden or malleted so as to be tolerably firm, and then the mere surface kept scratched or stirred to prevent gapes and cracks. Making the soil firm where naturally loose, we imagine to be of great importance. This was first brought to our notice by a seeming accident, but just one of those little things that often teach us a useful lesson. All efforts to grow the plant in the well-stirred, pulverised border of a kitchen garden seemed next to futile, but some of the roots found their way into a hard old gravel walk, and there they did well, far excelling those with which so much trouble had been taken.

Put Roses established in pots, Deutzias, &c., in a mild heat. We do not notice that anything has gone wrong with us particularly, except a hatch of cuttings of the brown Coleus, which we left too long in a cold pit, and which are now likely to die. We are sorry for this, as we shall be forced to give room for some old plants that otherwise we would have thrown away, but we must keep them for cuttings in spring. We have seen several times lately, that this plant may be kept in a temperature of from 40° to 45°, but we fear the times of such low temperatures must be short indeed. It would be safer at from 50° to 60°, as a general rule, with a fall only for short periods in cold weather.

Calceolaria cuttings in the cold pit are looking well, though not yet beginning to root. All the care, after pricking them out, which they have had, was slightly syringing them over about eleven o'clock in a bright sunny day, and shutting down the glasses. During mild nights left a little air on all night, in cold nights shut up closely, and in the very coldest sprinkled a little litter over the glass. In a dull muggy day left a little air at the top of the sashes all day, say a quarter of an inch of an opening. The object is to prevent the little cuttings being extended much upwards before, or even after, they root downwards. In dull, damp weather they have hardly been looked at for a week together, except for giving or taking away the little air afforded. Of course it would be had policy to give air when the sun shines. The close, damp atmosphere then keeps the tops from flagging, and we prefer that the leaf of a cutting should never droop, instead of having to make it rise again after it has fallen. Unlike some other things, a little damp, and even cold if not at or below freezing point, will do little or no harm to a *Calceolaria*.

Through a little carelessness we have lost an old favourite of ours—*Calceolaria amplexicaulis*, but we must have it again, as its creamy yellow is extremely rich. We mention it for stating that it is the only *Calceolaria* we have tried that will not do with such rough treatment as we give the other kinds in a cold pit. After being struck it is better kept a little drier and warmer, not hot, in a house. To have this fine old sort splendid early in summer as well as late in autumn, the first shoots should not be stopped or shortened in the spring.

Turfing.—On making alterations we have had a considerable amount of this to do, though for certain reasons, as respects time, &c., some of the work was not done in the very best way. When old beds and groups are to be turfed, they must be well beaten, as well as levelled to the requisite sweep; but even then it will often happen that such places will not suit in a year or two with the turf spaces left between them. In many cases it is best in every way, where such beds are tolerably close together, to take off the intermediate spaces of turf, turn up the ground, level, and beat the whole, and then the turf will keep its uniform sweep for a long time.

What we wrote lately about autumn planting applies equally to autumn turfing. What is done now will rarely give any more trouble in watering, filling up cracks, shading, &c.; and there is another great advantage where turf must be carted from a distance, that thin turf, say from half to three-quarters of an inch in thickness, will be as ample now as turf 1 inch or 1½ inch in thickness in March and April. Where much turf is to be laid the men's knees should be kept off the damp ground. No beating or rolling will ever make amends for not properly levelling the ground at first.—R. F.

TRADE CATALOGUES RECEIVED.

- W. Rollisson & Sons, Tooting, London, S.W.—*Descriptive Catalogue of Hardy and Orchard House Fruits.*
- André Leroy, Angers.—*Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, &c.*
- Louis Van Houtte, Ghent, Belgium.—*General Catalogue.*

COVENT GARDEN MARKET.—NOVEMBER 25.

THERE has been scarcely any alteration worth quoting. Supplies are ample. Great complaints are made of the quality of the bulk of the Potatoes coming in now. There are large arrivals of these both by rail and sea.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	1	6	2	0	Melons..... each	2	0	5	0
Apricots doz.	0	0	0	0	Nectarines..... doz.	0	0	0	0
Cherries lb.	0	0	0	0	Oranges..... 100	8	0	12	0
Chestnuts..... bush.	10	0	16	0	Peaches..... doz.	0	0	0	0
Currants..... ½ sieve	0	0	0	0	Pears (dessert) .. doz.	2	0	6	0
Black..... do.	0	0	0	0	Pine Apples..... lb.	4	0	7	0
Figs..... doz.	0	0	0	0	Plums..... ½ sieve	4	0	0	0
Filberts..... lb.	0	9	1	0	Quinces..... doz.	0	9	1	6
Cobs..... lb.	0	9	1	0	Raspberries..... lb.	0	0	0	0
Gooseberries .. quart	0	0	0	0	Strawberries.. per lb.	0	0	0	0
Grapes, Hothouse.. lb.	2	0	5	0	Walnuts..... bush.	10	0	16	0
Lemons..... 100	6	0	10	0	do..... per 100	1	0	2	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes..... doz.	3	0	6	0	Leeks..... bunch	0	4	0	6
Asparagus..... 100	0	0	0	0	Lettuce..... per score	2	0	4	0
Beans, Kidney ½ sieve	3	0	4	0	Mushrooms... pottle	2	0	3	0
Beet, Red..... doz.	2	0	8	0	Mustd. & Cress, punnet	0	2	0	8
Broccoli..... bundle	1	0	2	0	Onions... per bushel	5	0	7	0
Brus, Sprouts ½ sieve	2	0	0	0	Parsley..... per sieve	3	0	4	0
Cabbage..... doz.	1	0	2	0	Parsnips..... doz.	0	9	1	0
Capsicums..... 100	3	0	0	0	Peas..... quart	0	0	0	0
Carrots..... bunch	0	4	0	8	Potatoes..... per bushel	4	8	6	0
Carliflower..... doz.	0	0	0	0	Kidney..... do.	4	0	7	0
Celery..... bundle	1	6	2	0	Radishes doz. bunches	1	6	0	0
Cucumbers..... each	0	4	1	0	Rhubarb..... bundle	0	0	0	0
Endive..... doz.	2	0	0	0	Sea-kale..... basket	3	6	0	0
Fennel..... bunch	0	3	0	0	Shallots..... lb.	0	8	0	0
Garlic..... lb.	0	8	0	0	Spinach..... bushel	2	0	3	0
Herbs..... bunch	0	3	0	0	Tomatoes..... per doz.	1	6	2	0
Horseradish .. bundle	3	0	5	0	Turnips..... bunch	0	6	0	0

TO CORRESPONDENTS.

* * * We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

MELADON.—"J. K." wishes to know the botanical name of a plant so-called, having "roots the same as the Ranunculus, and flowers between those of Anemone and Ranunculus, but larger."

PICKERING'S SEEDLING (W. H. C.).—The Apples have not come to our notice.

CHRYSANTHEMUMS (Mrs. Roberts).—You will see the names of the principal growers in our advertisement columns.

SALE OF FRUIT AND FLOWERS (A. B. C.).—Write to Messrs. Webber and Co., Central Avenue, Covent Garden Market.

SORGHUM TATARICUM (Sorghum).—It is worthless, and can only ripen here in very hot summers. Mr. Hullett, who persuaded purchasers that it is a novelty, is now awaiting trial on a charge of forgery.

ESPERIONE GRAPE (One Fond of Vine Culture).—It is a good Grape for ripening on an open wall. Berries quite round, dark purple, juicy, and sweet, yet briskly flavoured.

WHAT CONSTITUTES MANURES (Rosebud).—The best answer we can give is the following extract from Johnson's "Science and Practice of Gardening." You can have the volume free by post from our office if you enclose forty postage stamps with your address. "Manures are derived from animals, vegetables, and minerals; they directly assist the growth of plants—firstly, by entering into their composition; secondly, by absorbing and retaining moisture from the atmosphere; thirdly, by absorbing the gases of the atmosphere; and, fourthly, by stimulating the vascular system of the plants. Manures approximately assist vegetation, firstly, by killing predatory vermin and weeds; secondly, by promoting the decomposition of stubborn organic remains in the soil; thirdly, by protecting plants from violent changes of temperature."

PROTECTION FOR FRAME (Idem).—The best materials for covering a two-light frame are Archangel mats, employing one thickness for a slight frost. Two thicknesses, and 6 inches in thickness of dry straw, will be required in very severe weather. You cannot have a charcoal fire or lamp in so small a compartment with safety, and you may ward off frost by putting the mats and placed against them all round.

LIST OF ROSES (M. Rose).—William Griffiths and Gloire de Vitry are both show Roses, vigorous, and generally good. William Griffiths is the type of shape and of fair size. It has but one fault, in very hot weather it does not always retain its colour. I always consider this Rose, Madame Vidot, Madame Rivers, Guinnoisean, and Comtesse Océle de

Chabillant to be the 'elegant extracts' of the rosery. Gloire de Vitry (here on its own roots), is a very fine Rose, and in the fall of the year like Lælia. I have not had any healthier, or that have done better than these plants. It is a very large Rose. Of the three crimson Roses you named, I prefer Lord Clive. Veinqueur is very handsome, but not a very good grower, nor full enough. With regard to white Roses, they are still 'desiderata.' Not one of those mentioned by you is full-sized except Queen Victoria, which is peach-tinted in the centre, and not always a free bloomer. Devonensis and Mrs. Bosanquet are the best of those named. I advise you to buy Sambredj (Tea), Mad. Willermoz (Tea), and, as you do not object to that, re. Souvenir d'Elise (Tea). They are admirable. The first is as hardy as a Hybrid Perpetual. My plants of it are still full of fine fat buds. The finest of the white Roses is Madame Zoumpan, a summer Rose. Mr. W. Paul says as a white Rose, Mlle. Berthe LeVêque is desirable. I strongly recommend you to buy the following crimson Roses, if you do not know or possess them, for they are superior to those you have named—viz., Charles Lefebvre, Semateur Vaissé, Alfred Colomb, Antoine Ducher, Michel Vaillant, Madame Routin, Madame Victor Verdier, and Pierre Notting, the finest of all the globular Roses. These are all excellent in every respect.—W. F. RADLYFFE.

MULCHING OVER THE ROOTS OF ROSES—ROSE CUTTINGS (W.).—"You need not fear the mulching rotting your Roses, though it touch the shoots. If you see danger lift the mulching with a fork. I have mulched all mine, nearly 190 plants, and put a little earth over the mulching, and have tied up lightly with Asparagus haulm and fern all my yellow Roses. The lofty yellow Roses on my south front have sheep hurdles leaning endways against them, in addition to the mulching. I look for sharp weather between this and February 1st. Bottom heat would assist the Rose cuttings to strike. They are deceptive, they will often look as if they had roots, and yet will be found to have none, and die away in March. Put your cuttings in the earth in September and mulch them; many of them will make roots without trouble. Do not move the cuttings, but sink the pots in the earth in the spring. By the autumn they will have good roots. For cuttings, pieces of hard wood with a heel are the best; or wood of the current year with a bit of old wood. It is too late to strike cuttings now without bottom heat.—W. F. RADLYFFE."

NAMES OF FLOWERS.—1, Love-in-Idleness, is the Pansy; 2, Cuckoobuds, uncertain, perhaps the common Buttercup; 3, Dead-men's-fingers, is *Orchis mascula*; 4, Crow-flowers, both the Buttercup and Ragged Robin, *Lychnis flo-cuculi*; 5, Sweet Moly, *Allium moschatum*; 6, Kiss-me-at-the-garden-gate, another of the many names of the Pansy.

MANURING A VINE BORDER (A. S.).—It is well to cover an outside Vine border with dry litter at least a month before commencing forcing. If the manure heat a little all the better; but if it or litter be laid on from 15 inches thick before the earth becomes cooled, the heating afterwards is of less importance. There are several works on "Taxidermy." Any bookseller could tell the names and prices.

VINE LEAVES FALLING (J. F. C.).—Although the colour of the falling leaves of some young Vines is yellowish brown, and of one claret red, still we do not think that it is certain that it is a different variety. We so say because the great heat of last summer has caused singular variations in the colour of the falling leaves of Vines. You must wait until they have fruited before you can be certain that your Vines are not all alike.

TRAINING VINES (Boston).—We would prefer single stems of Vines 3 feet 8 inches apart for general purposes, and where subsidiary crops had to be grown. But if the house were to be given up to Vines alone, then you might have two stems in that space, and would obtain rather more fruit in consequence in the same space. We have no doubt that the Royal Champion, Royal Ascot, and Pince's Black Muscat will do in the same house, but we cannot speak practically on the subject.

GLANDS OF PEACH TREES—PEACHES FALLING (C. R.).—Glands are small, generally wart-like swellings, found on the surface of plants and on different parts of leaves, and are mostly visible to the naked eye, though greatly varying in size. Thus, so far as Peaches and Nectarines are concerned, you will find kinds, the leaves of which are serrated; and beyond that, you will find others, perhaps not so deeply serrated, but especially near the base of the leaf and close to these serrations you will find little globose-shaped glands, or little protuberances. In other kinds you will find these little warty glands of a reniform or kidney shape. Sometimes they are so small that you can scarcely distinguish at first the shape of the glands, and in that case must examine a number of leaves instead of one. So much for Peaches. The size and form of glands in many other plants are extremely various. For a Peach to come in before the Royal George, have Early Grosse Mignonne. To begin to come in after the Royal George is over, have Walburton Admirable. The Royal George is not peculiarly liable to drop some of its fruit when nearly ripe. All stone fruit is liable to do the same when overcropped, or too little or too much water is given. In fact, a fruit or two will drop at times, and no particular reason can be assigned. We think it very likely you have the right kind. We do not think the Mountain Ash is much used as a stock for Pears now, though we have seen numbers so grafted. Though belonging to the same natural family, it is rather far removed from the Pear.

KEEPING MICE FROM PEAS (A Novice).—We know no better plan for keeping mice from Peas fresh sown than to put the Peas in a basin, make them slightly damp with a few drops of water, and then sprinkle them with a little red lead dust. Very little will do for a quart of Peas if you turn them over well with a stick until all are red-coloured. Barley sown along the rows will help to deter; but the best simple remedy is to cut up small gorse or furze and strew it above the Peas in the rows before covering with soil.

PEAS—SOWING GOLDEN PYRETHRUM (An Amateur).—We can find no list of Peas in the number for October 15th, to which you refer. We would advise you to sow the Golden Pyrethrum in March in a little heat, prick off, grow, and harden off before planting out.

WILL MICE DEVOUR DAHLIA TUBERS? (Quiz).—We have not found mice eat the roots of Dahlias when stored away for the winter.

CHRYSANTHEMUMS MILDEWED (A Novice).—You may safely take cuttings from plants that have been infested with mildew. We think the mildew a result of an insufficient supply of water at the roots during the summer, and had you given liquid manure once or twice a week, and kept the heads thin and the plants not too close together, the mildew would not have

shown itself. Dusting with flowers of sulphur is the best remedy; it will not only check but destroy the parasite.

CHRYSANTHEMUM FLOWERS IMPERFECT (W. H.).—The flowers are imperfect, and yet we think they will improve and expand better than you anticipate. Afford an abundance of air, keeping cool but safe from frost, and apply liquid manure at every alternate watering until the flowers are fully expanded.

VINES INFESTED WITH THRIPS (A Young Beginner).—The thrips will not interfere with next year's crop, providing their attacks this year did not injure the foliage seriously; but if they caused the foliage to become prematurely yellow, and to fall earlier than usual, it is likely the eyes will not be so fully formed as they ought to be, nor the wood so mature as desirable, and that will to some extent prejudicially affect the Vines' next year's produce. You will do well to not only clean and paint the Vines before starting them again, but also wash all the woodwork with soap and hot water, and thoroughly clean the glass with water only, for soap ought not to come near glass, and give the walls a thorough lime washing. The Vines ought to have the loose bark taken off, and may be coated with a solution of Clarke's Compound at the rate of 3 ozs. to the gallon—a better dressing than that of soft soap and sulphur, &c., and much less noisily.

FIG FOR POT CULTURE IN A VINERY (Idem).—The best Fig, where one kind only is required, is the Brown Turkey. If you wish for a white sort, White Marseilles will suit you.

PLANTS FOR BASKETS IN ROOM WINDOWS (W. D.).—A few good plants for suspended basket for windows are *Convolvulus mauritanicus*, *Alyssum variegatum*, Ivy-leaved Pelargoniums with pink, white, and scarlet flowers, and silver and golden variegation; *Linaria cymbalaria* and its white variety, *Lobelia speciosa*, *Gordonia*, *Trentham Blue*, and Miss Murphy, *Lithospermum fruticosum*, *Tradescantia zebrina argentea*, *Nierembergia gracilis*, *Naxifraga sarmentosa*, *S. Fortui variegata*, *Vinca elegantissima*, and the small-leaved green and variegated Ivies.

DIVIDING MASSES OF EUPHARIS AND VALLOTA (C. M. Major).—We must have mislaid your letter, but have no recollection of it. The best time to divide these plants is in February or early in March, they being kept cool and dry during the winter, encouraging them with a slight increase of temperature after dividing and potting, so as to promote speedy re-establishment.

PROPAGATING BERBERIS NEPALENSIS (Idem).—Failing seeds, the only plan will be to layer the long straggling shoots. If you do this between now and spring, the bending of the head will probably give you shoots from near the base of each plant, and you may secure a plant from the top and shoots from the bottom. We are not aware that they are propagated by cuttings. The shoots layered should have a cut made in them immediately below a joint, and in an upward direction, on the lower side, and about half way through the shoot. Make the head secure with a stick, and firmly peg in the soil. If you cut them down, fresh shoots will come from the base of each.

SCALE ON ARBISIAS (J. D.).—You may syringe the plants and the berries with a solution of Clarke's Insect-destroying Compound, which will destroy the scale without injury to the plant or berries; 2 ozs. to the gallon of water will be a sufficiently strong solution, but not too strong. The parts where the scale is should be thoroughly wetted with the solution.

PRUNING ORANGE TREES (Idem).—The best time to prune Orange trees is in February, or before they begin to grow, cutting on the old and weak wood.

DISTURBING THE GROUND BETWEEN RASPBERRIES (James Pim).—It is an old but a very bad practice to dig the ground between rows of Raspberries. The canes should have a good manuring now, if not already done, and for neatness it may be lightly pointed up with a fork, but a spade ought not to be used near them. The less a spade is used about fruit trees and bushes the better.

KEEPING APPLES AND PEARS (Idem).—They should be kept from air and light. Shutters should be placed in the windows to exclude the air. The room is too dry, or the fruit has been gathered too soon, or it would not have shrivelled. A few days before use, dessert Apples and Pears should have a rather warmer atmosphere, and have air and light to give flavour.

KEEPING GRAPES (Idem).—The temperature you name, 65°, is much too high. No fire heat should be used at night, except to exclude frost, employing fire heat by day with air to dry up damp. The temperature from fire heat should not exceed 50°. With the temperature you mention we are not surprised that the Grapes are becoming "soft and flabby, with skins tough," for they are being converted into Raisins.

TOP-DRESSING BEDS OF BELLS (F. J.).—The top-dressing of the beds with good rotten manure to the depth of an inch is excellent. It will be a good protection, and the roots will not be too deeply buried, as before winter is over the top-dressing will be considerably reduced. When the foliage appears you may, for neatness, point in the manure with a small fork or trowel. The depth of planting bulbs is calculated from the crown or summit. They are to be covered with soil to the depth named for each sort above the crown.

DIGGING FLOWER BORDERS (Idem).—Now is the best time for digging flower borders and re-arranging the plants. The border should have a good manuring if the ground is poor, and after re-arranging, the surface may have a top-dressing of leaf mould or well-rotted manure. Whilst the plants are up let the ground be well and deeply dug, trenching if necessary.

CYCLAMENS AFTER FLOWERING (Beta).—Your Cyclamens are, from your description, *C. neapolitanum*; the flowering being now just over, a number of leaves are appearing. It is hardy; but as you have hitherto kept it in the greenhouse you may still do so, letting it have the coolest and most airy situation, and one well exposed to light. Water should be supplied copiously, so as to keep the soil moist, and if the plants are in small pots shift them into larger ones, draining the pots well. The plants will continue to grow all the winter, making very ornamental foliage; and you must supply them with water until the leaves begin to turn yellow, then place the plants out of doors in a rather shady situation, plunging the pots to the rim in coal ashes; or you may plant them out in good, rich, rather light, well-drained soil, and so that the crowns will be covered

about 1½ inch with soil. When grown in pots the crowns of the oorms should be covered about an inch with soil.

PROPAGATING CHRYSANTHEMUMS (Ignorance).—Having no glass, except a window, we would advise the propagation to be deferred until March, then divide the old plant, choosing the strongest suckers, and not leaving more than one or two shoots to each root. These should be planted 2 feet apart every way in ground deeply dug and well manured. After planting, water if dry weather prevail. When the plants have grown to a height of 9 or 10 inches peg them down. This saves tying up, and causes them to bloom when shorter, and to have better foliage. In hot dry weather they must be well watered three times a-week. A sheltered situation should be selected.

CUCUMBERS AND VEGETABLE MARROWS (Idem).—None of the large Cucumbers would succeed as you propose to grow them, and they would do little good trained to stakes or a trellis to the open ground; but if you have a wooden fence you may train the shoots to that, the situation being open and with a southern exposure. The same remarks apply to Vegetable Marrows; they will do well trained to a wooden fence or trellis, having a sheltered, warm, open situation. Stockwood Ridge Cucumber and Long White Vegetable Marrow will suit you.

DIOSCOREA BATAVAS CULTURE (H. H.).—By leaving the rhizomes in the ground you will have them larger at the end of two years than at the end of twelvemonths. Except in very favourable soils and situations, two seasons' growth are required to secure them fine.

TREE CARNATIONS FOR WINTER BLOOMING (W. B., jun.).—Perfection, white ground, bizarre flakes of purple and crimson; Queen of Whites, white; Jean Bart, salmon scarlet; Virgile, yellow ground, flamed and tipped with cherry; Victor Emmanuel, yellow, rosy crimson flake; Nelson, straw-flaked pink; Beauty, white, rosy pink narrow stripes; Le Géant, blue red; Oriflamme, red, and orange yellow; Magenta, purple lilac; Garibaldi, purple violet; and Victorie, scarlet and crimson flake.

VINES INFESTED WITH MEALY BUG (Try).—The rods should have all the loose bark removed, scraping the angles and probing well the holes; but be careful not to scrape or cut them into the quick or live parts of the stems, rod, or spurs. This done, wash them thoroughly with a solution of Clarke's Insect-destroying Compound, 3 ozs. to the gallon, adding a dozen drops of spirits of turpentine to every gallon of solution, and employing a stiff brush, so as to reach every hole and crevice, taking care not to rub off the eyes. The woodwork should be thoroughly cleaned, and, if possible, painted, and the walls lime-washed, using the solution above named for mixing the lime. The washing of the Vines should be done twice, and it would be well to go over them again when the eyes are beginning to swell, as the insects, from the warmth, are then coming from their hiding places. Wash carefully, so as not to dislocate the eyes, and yet effectually, so as to dislodge the insects.

WIRE FOR PEACH TREES (Idem).—The best wire is galvanised iron, and No. 10 gauge is the most serviceable. The wires are best placed horizontally, about 4 inches apart, and half an inch from the wall, or from that to three quarters of an inch.

CLODBERRY—UMBRELLA PINE (Galloway).—It is difficult to account for the Clodberry not fruiting. Probably the soil is too rich and too moist, or not sufficiently drained. The Japanese Umbrella Pine will thrive almost anywhere, and we think yours do not from there being too much water in the subsoil; in a wet soil and situation it will not grow, though it may linger.

WATERING PELARGONIUMS AND FUCHSIAS (A. G.).—You do not state whether yours are young or old plants. If old, Fuchsias will not require any water from now up to March, if the pots are set on a floor, whence they will derive sufficient moisture to keep the wood from shrivelling. The soil in the pots ought to be dry to prevent growth, and yet the wood must not be allowed to shrivel. Old plants of Pelargoniums require similar treatment; they should be kept dry, and there may be cases where water will be needed, as when the pots are over a flue so that the soil becomes very dry, then a little water should be given to prevent the wood shrivelling. Young growing plants of both Fuchsias and Pelargoniums should be watered occasionally, and when necessary to keep the foliage from flagging, but none is to be given until the soil becomes dry, yet apply it before the leaves flag.

FRUIT TREES FOR WALLS AND GARDEN (E. L.).—The wall facing south will be suitable for Apricots, Peaches, and Nectarines; or, your wall space being limited, you may devote a part of the south wall to Plums and Pears. The north aspect will only suit the Morello Cherry and Currants, whilst on the east you may have Cherries, Plums, and Pears. In the open ground Pears on the Quince, and Apples on the English Paradise stock would succeed as pyramids and bn-bns, and so would Plums. Your soil being light, you must top-dress heavily with cool manure, such as cow dung, and water liberally during dry hot weather. The subsoil being clay, see that water does not lodge in it; if it do the ground must be properly drained by tile drains 3 or 4 feet deep, having a proper fall and outlet.

VINE FOR COOL HOUSE (Idem).—A suitable companion for the Black Hamburgh is Foster's White Seeding.

CLETHRA ARBOREA (Idem).—It is an evergreen shrub, a native of

Madeira, attaining a height of 8 feet, and requires a light peaty soil. It is rather pretty, having white flowers at the end of summer; but requiring, as it does, the protection of a house with a greenhouse temperature, we should be averse to having it in a limited collection.

OLEANDER INFESTED WITH SCALE (A Subscriber).—The leaves sent us were badly infested with the Oleander scale (*Aspidiotus nerii*). The leaves, if like those sent, will fall. We advise that every leaf, the stem, and shoots should be washed with a sponge in every part, and on the upper and under sides of the leaves, using a solution of Clarke's Insect-destroying Compound at the rate of 3 ozs. to the gallon, and as hot as the hand can bear.

AZALEA CULTURE (Subscriber).—From September to March, and until the flowering is over, Azaleas should be kept in a light and airy place in a house with a temperature of 40° to 45° from fire heat. After flowering an increase of temperature should be given, say 55° at night, and 65° by day, with a rise of 10° or 20° from sun heat. This temperature, with a moist atmosphere, ought to be maintained until the growth is complete and the buds set; then remove the plants to a cool airy house, affording plenty of room and light. They are propagated by cuttings, which should be put in when the young shoots attain their full length and have the base rather firm, or what is known as half ripe. They should be from 3 to 4 inches in length, cut transversely below a leaf, and have the leaves removed half way up the cuttings. Insert them round the sides of a pot placed in one of larger size, and so that the rims of both are on the same level. The cutting pot should be well drained and filled to within half an inch of the rim with sandy peat, and half an inch of silver sand on the surface. The space between the pots is to be filled with crocks to within an inch of the rims, and then finish off with silver sand. Insert the cuttings up to where the leaves are left, give a gentle watering, and when dry cover with a bell-glass, which will rest on the sand between the pots. Plunge the pot in a hotbed of from 70° to 75°, keeping close and shaded. The cuttings will be well rooted in six weeks; then remove the bell-glass, commencing to remove it by degrees about a fortnight previously, by tilting it on one side. When the young plants are well hardened off pot them singly in small pots, and keep them in a gentle heat until they are well established; then remove them to a cool house or greenhouse. Peat soil is necessary for the successful cultivation of Azaleas—two-thirds peat, one-third loam, and one-sixth each of old cow dung and silver sand will grow them well. Scale on the plants may be destroyed by placing them out of doors in summer, but that being injurious, unless they are carefully attended to with water, and not practicable now, syringe them with a solution of Clarke's Compound, 2 ozs. to the gallon, which will destroy the scale, the plants being thoroughly wetted in every part. When growing and flowering, Azaleas require to be plentifully supplied with water, and at other times the soil must be kept moist, but only apply water when the soil is becoming dry, and before the foliage flags, then give enough to show itself at the drainage. You may safely fumigate the house with tobacco. It will not injure the plants, but let the foliage be dry.

PLANTING VINES (T. J.).—We would not now plant the Vines, but keep them in the pots as they are until the end of February, and as cool as possible without exposing them to frost. The case or frame over the border outside will answer well for them, and the temperature may be cool, and yet not lower than 32°, nor more than 40° by allowing the pipes to become heated. In planting, the roots should have all the soil shaken away, and they should be disentangled and laid out straight, spreading them well out. Avoid deep planting. Cover the roots with 3 inches of fine loam—best from old turf, and give a gentle watering. By all means plant the Vines inside if you can, and do not on any account turn them out in winter. The Vines will not sustain any injury so long as the temperature from fire heat does not exceed 40°, and it will be all the better for the plants. The frame outside will answer for winter-bedding plants, and you may, whether there are plants in it or not, have a little heat in it in severe weather to keep out frost, but do not raise the temperature to more than 40° from fire heat.

FAILURE OF CHRYSANTHEMUMS (St. Bridgid).—There are no Chrysanthemums perfectly hardy. The large-flowering are quite as hardy as the Pompons, but both kinds require to be protected, or under glass, to be safe—the month of November is so uncertain, sometimes mild and at other times frosty. The Chrysanthemum will bear 3° or 4° of frost, but this year we have had 12° and 14°, and that is the reason of your failure.

ANALYSIS OF SOIL (Cultivator).—You will find a simple mode in Johnson's "Science and Practice of Gardening." You can have it free from our office if you enclose forty postage stamps with your address.

NAMES OF FRUITS (G. Ramsey).—The Pear is Bergamotte Cadette, and the Apple Baddow Pippin. (A. B., Bromley).—1, Broughton; 3, Ord's.

NAMES OF PLANTS (—).—*Canavalia ensifolia*. *Chrysanthemums*.—We have received a box of these without any name; but it is of no consequence, for, as we have often said, we cannot name the varieties of florists' flowers. They are in legions. (*Nemo*).—1, *Habrothamnus fauciculatus*; 2, *Phytoloma rotundifolia*; 3, *Selaginella Martensii*; 4, *S. Lindvicianum*. (*P. P.*)—*Magnolia glauca*. (*M. R. C. S.*)—Orchid bloom too much crushed to be identified.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending November 24th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 18	30.249	30.2 7	46	32	44	43	E.	.00	Hazy, fine; overcast, misty; fine, but very dark. Fine, hazy; clear and very fine; fine and clear at night. Sharp frost, fine; very fine, cold wind; fine at night. Fine but cloudy; boisterous with rain; fine, cloudy. Very boisterous, rain; overcast, rain; fine, damp air. Overcast and mild; cloudy; clear and fine. Fine, slightly overcast; fine, overcast clear and fine.
Thurs. 19	30.264	30.143	47	18	45	44	N.E.	.00	
Fri. .. 20	30.240	29.743	44	36	43	44	W.	.00	
Sat. .. 21	29.838	29.434	53	37	43	44	S.	.40	
Sun... 22	29.227	29.160	54	48	48	44	S.W.	.28	
Mon... 23	29.510	29.198	50	26	47	46	W.	.00	
Tues. . 24	29.746	29.734	46	34	46	46	N.W.	.00	
Mean	29.868	29.663	48.57	33.00	44.43	44.43	..	0.68	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

TRIMMING—MANAGEMENT OF SHOWS.

I cut the leaves of "our Journal" expecting to find a long list of opinions and dissertations on the very important issue raised by "NEMO"—viz., the trimming of fowls for exhibition, and can only account for their non-appearance by the all-absorbing elections. I write in the hope that this question will be taken up by our fanciers at large. My own opinion is, that so long as Judges grant the prizes, &c., to trimmed birds, and leave untrimmed ones out in the cold, trimming will be practised. No doubt, a judge's task is no easy one, and trimming is in many cases almost impossible to detect. Take, however, Brahmas. All breeders know that it is next to impossible to breed birds with very heavily-feathered legs and feet, without their being also heeled, and what I would ask of our judges is, not to pass over a bird shown in its natural state, and give the prizes to those birds whose feathers had been extracted, when the birds are in other respects equal.

If am not trespassing too much on your valuable space, I would like to say a word on the line "A CHESHIRE MAN" alludes to. The fact of the Secretary exhibiting cannot but have a very suspicious appearance in the eyes of other exhibitors, from his attendance on the birds, and knowledge of the judge, and most likely his presence during judging, and it is a practice which I hope will be discontinued.

Finally, I would like the managers of our leading shows to allow the entry list to remain open for a rather longer period, as it is difficult to know a month beforehand how birds may moult (especially chickens), and which will turn out best.—J. W. C.

BREEDING PILE AND DUCKWING GAME FOWLS.

I OMITTED the following in the last papers on Piles and Duckwings:—

The usual or favourite colour for the breasts of Pile Game hens at exhibitions and elsewhere, is the "dull chestnut" or "dull clay colour." I do not admire the clay-coloured breasts in Pile hens, and much more admire "white breasts thickly streaked or veined with bright red;" or else hens' breasts marked with the "horseshoe-shaped bright red marks on the white ground;" these horseshoe marks with the round side downwards always, they being the red margins of the rounded lower ends of the hen's breast feathers. Hens with breasts marked in the two ways here described, I think, are very handsome in their pencilling, far more so than any "clay-breasted" Pile hens are, and they also match the "red marble-breasted" Pile cocks much better than the dull clay-breasted hens do, and such Piles as I have described, I consider to be the best-marked Piles.

Our exhibition yellow and willow-legged Piles are all "made up," or cross-bred birds; mongrels, and not pure-bred Pile Game. The pure-bred Piles, bred from Piles with Piles, for some generations, are the old white-legged Red Piles with red eyes, which are the true Pile Game fowls, and not cross-bred birds, and are also our "gamest" Piles. These latter are, however, not quite such high-coloured birds, and, therefore, not so good in colour as our cross-bred exhibition Pile Game fowls.

In like manner our high-coloured yellow exhibition Duckwing Game are all "made-up" birds, and cross-bred birds or mongrels which would not retain their high colour, or transmit it if bred with pure Duckwings, as pure-bred Duckwings will always breed to Greys or Grey Duckwings if crossed with their own colour instead of with Reds, but the crossing with the Reds keeps up the high colour in Duckwing cocks' backs, which, though a sign of impurity of breed, seems to have been made the chief desideratum at our exhibitions. I do not, of course, mean to deny that our exhibition Piles and Duckwing cocks (not hens), are not the handsomest specimens of their colour.

There is also another but an inferior strain of pure-bred Pile Game fowls—the yellow-legged gravel-coloured Piles with yellow eyes, but they are not birds of spirit as compared to the white-legged Piles. Our handsome exhibition Piles are mostly white-tailed White-breasted Reds, scarcely Pied birds at all, as already mentioned.

The best Lemon Piles, yellow legs and eyes, were made from

the "Derby Reds," and from the "Mexborough Yellow Duckwings," crossed with the yellow-legged White Game hens; and at Burton Agnes Park, Boynton, near Bridlington, Yorkshire, Sir Henry Boynton, Bart., had some once-celebrated yellow-backed Blue Dun Game fowls, which also produced good Lemon Piles, but these breeds are now bred out or nearly so. The true Lemon Piles being yellow or daw-eyed, were never such game birds, I believe, as the white-legged, red-eyed Piles were, nor so game as any red-eyed Piles are, but the three above-mentioned strains of Lemon Piles were certainly the best of their colour.

In the twenty-sixth line from the bottom of the second column, page 390, the fourth word from the end of the line should be "in," and not "to."—NEWMARKET.

BRAHMA POOTRAS COMBS, &c.

WHAT is the correct comb for a Brahma cock? This is a question of general interest to all Brahma breeders at the present day, and I, for one, hope you can obtain and publish information on this point from some of our best judges in the Brahma classes. In the "Standard of Excellence," published by the Poultry Club, I see as follows:—"Comb, pea; small, low in front, and firm on the head without falling over to either side, distinctly divided, so as to have the appearance of three small combs joined together in the lower part and back, the largest in the middle, each part slightly and evenly serrated."

Now, of all classes of poultry, the pea-comb is a peculiar and marked character of the Brahma, and, with a little unity on the part of the judges, may undoubtedly be so maintained.

On visiting the Southampton Show, I was much surprised to see how very little regard had been paid to the combs in the class for Light Brahma chickens. Even the bird to which the cup and first prize were awarded had a very large comb, which grew very far back on the head. The second-prize bird's comb was not at all firm; it quite shook when the bird moved its head. Most of the other birds which were noticed had very large combs, and combs that almost formed a spike at the back; while three pens with combs most nearly answering to the description in the "Standard" were passed without any notice, and these were very good birds in other respects, and had all previously been prizetakers. One bird that was highly commended had a large comb, quite lopping over the side of its head. To the casual observer it would appear that the comb was a matter of very little moment, instead of being one of the leading features of the Brahma, and I much fear, if we cannot persuade our judges to give more attention to this point, we shall see ere long the neat head of a Brahma surmounted by a comb that would hardly disgrace a Hamburg.—PMLP CROWLEY.

[Either pea or single combs are correct in Brahma Pootras, but the former have always been preferred as a matter of fancy. We have never heard the "Standard of Excellence" considered an authority in poultry matters. We did not visit the Southampton Show, and can, therefore, say nothing about the Brahma judging. We consider the comb a great point in a pen of Brahmas. Whether single or pea, all should be alike, and perfect of their sort. Our idea is that if it were possible to find two pens so precisely alike, that they should differ in nothing but combs, and in that respect, save in shape, should be on an equality, we should allow the pea-comb to weigh in favour of its possessors; but if the pea-combed birds were inferior to the single-combed in other respects, we should not allow them to be the first on account of their combs.]

DUCKS' EGGS DISCOLOURED.

I HAVE been waiting for any explanation that might be given to account for the discoloration of Ducks' eggs, complained of by Captain Horne in your Journal of November 12th. I believe it is caused by their feeding on acorns, and I have heard it attributed to this cause. My Ducks will absent themselves from the yard for weeks while the acorns are abundant, but they soon return for their regular meals when the supply fails.—L. B.

ABERDEEN POULTRY SHOW.—This deserves encouragement from exhibitors. Seven silver cups and three silver medals are in the list of prizes, besides the usual money rewards.

The birds are to be shown in pairs or singly. We regret that Polands are ignored, and that Coloured Dorkings must be shown in a class that includes the White.

NORTHUMBERLAND ORNITHOLOGICAL SOCIETY'S SHOW.

THIS Exhibition, held on the 18th, 19th, and 20th of November, was very successful, there being upwards of 550 pens of Pigeons, also Canaries and other birds. The Committee offered £90 in prizes. The Corn Exchange, in which the Show was held, proved a most admirable building for a display of the kind, and, large as the number of entries was, no inconvenience was experienced in the arrangement. The attendance of visitors was good.

Among the Pigeons were many excellent birds; and the Canaries were very superior in quality. Mr. Bailey, of Sowerby, near Thirsk, and Mr. Frost, of Newcastle, exhibited some foreign birds which proved a great attraction.

Fanciers of both Canaries and Pigeons were not slow in showing their appreciation of the different classes as very many birds were claimed.

Annexed is a list of the awards:—

POUTERS (Yellow).—Cocks.—First, R. Fulton, Deptford. Second, A. Wright, Morningside, Edinburgh. **Hens.**—First, A. H. Stewart. Second, H. Brown, Walkley, Sheffield. Highly Commended, R. Fulton; G. McKenzie, Llanthead.

POUTERS (Black).—Cocks.—First, A. H. Stewart, Birmingham. Second, R. Fulton. **Hens.**—First and Second, R. Fulton. Very Highly Commended, A. H. Stewart.

POUTERS (Red).—Cocks.—First, S. Robson, Brotherton. Second and Commended, R. Fulton. Highly Commended, J. Bell, Newcastle; A. Wright; A. H. Stewart. **Hens.**—First and Second, R. Fulton. Highly Commended, A. H. Stewart.

POUTERS (Blue).—First, R. Fulton. Second, A. H. Stewart. Highly Commended, R. Fulton; J. Hawley, Bingley; H. Simpson, Shank House. Hens.—First, J. Hawley. Second, R. Fulton. Highly Commended, R. Fulton; H. Simpson; C. Vaux, Scuderland. Commended, J. Grant; M. Sanderson.

POUTERS (White).—Cocks.—First and Very Highly Commended, R. Fulton. Second and Highly Commended, J. Grant, Edinburgh. **Hens.**—First and Second, R. Fulton. Commended, J. Grant.

POUTERS (Any other colour).—Cocks.—First, R. Fulton. Second, M. Sanderson, Edinburgh (Mealy). Highly Commended, R. Fulton; A. H. Stewart (Mealy); F. Key, Beverley (Mealy). **Hens.**—First, M. Sanderson (Splash). Second, E. Brown, Sheffield. Highly Commended, W. Moon, Edinburgh (Chequer); M. Sanderson (Mealy). Commended, F. J. Leach; C. Vaux (White with Black tail).

CARRIERS (Black).—Cocks.—First and Second, R. Fulton. Highly Commended, R. Fulton; T. Colley, Sheffield; W. R. & H. O. Blenkinsop, Newcastle; F. J. Leach, Middlesbrough. **Hens.**—First, R. Fulton. Second, J. Thompson, Wide Open, Newcastle. Highly Commended, R. Fulton; F. J. Leach.

CARRIERS (Any other colour).—Cocks.—First and Second, R. Fulton. Highly Commended, T. Colley; J. C. Ord, London (White and Blue). **Hens.**—First and Second, R. Fulton. Highly Commended, W. R. & H. O. Blenkinsop.

TUMBLERS (Almond and Short-faced).—First, J. Fielding, jun. Second and Very Highly Commended, R. Fulton. Highly Commended, J. Hawley; H. Yardley, Birmingham; F. J. Leach; J. Pringle, Newcastle; C. Vaux. Commended, Baxter & Daniels, Newcastle.

TUMBLERS (Any other colour and Short-faced).—First, R. Fulton. Second, J. Fielding, jun., Rochdale. Highly Commended, W. H. C. Oates, Besthorpe, Newark (Blue Beard); C. Vaux (Yellow Mottles); Baxter and Daniels (Kites).

TUMBLERS (Almond and Short-faced).—First, R. Fulton. Highly Commended, F. Key; C. Vaux.

TUMBLERS (Almond and Common).—First, C. Harrison. Second, J. Kelso. Highly Commended, T. C. Taylor, Middlesbrough.

TUMBLERS (Mottles, Self-colours and Common).—First, J. Hawley. Second, R. Fulton. Highly Commended, W. Petre, Felling, Gateshead; J. Hawley.

TUMBLERS (Bearded and Common).—First, J. Fielding, jun. Second, J. Thompson, Bingley. Highly Commended, W. H. C. Oates; H. Morrow, Gateshead; T. Milne, Newcastle.

TUMBLERS (Bald-headed and Common).—First, J. Fielding, jun. Second, H. Morrow. Highly Commended, J. W. Edge; W. R. & H. O. Blenkinsop; F. J. Leach; J. Pringle; R. Fawdon, Gateshead; J. Fielding, jun. Commended, R. Fulton; J. Hawley.

BARBS (Black).—First, W. B. Van Haansbergen. Second, R. Fulton. Highly Commended, G. Charney, Preston; F. J. Leach; R. Fawdon. Commended, E. Brown.

BARBS (Any other colour).—First, J. Firth, jun., Dewabury. Second, E. Horner, Harewood, Leeds. Very Highly Commended, G. Fawdon, Gateshead. Highly Commended, G. Charney (Dun); Baxter & Daniels. Commended, F. J. Leach (Red).

JACOBINS (Red or Black).—First, J. Thompson. Second, J. B. Pinder, Harpurhey. Very Highly Commended, J. B. Pinder; W. B. Van Haansbergen, Newcastle; E. Horner. Highly Commended, E. E. M. Royds, Rochdale; R. Fulton; E. Brown; W. B. Van Haansbergen. Commended, J. W. Thompson, Hull; W. R. & H. O. Blenkinsop; H. Yardley, Birmingham; C. Vaux.

JACOBINS (Any other colour).—First, E. Horner. Second, F. Key (Yellow). Highly Commended, J. W. Edge; J. and W. Towerson, Egremont.

FANTAILS (White).—First, J. Smellie, Wishaw. Second, J. Hawley. Highly Commended, W. Petre; W. H. Tomlinson, Newark-on-Trent; W. R. Park, Melrose; T. Martin; F. J. Leach; W. B. Van Haansbergen; G. Fawdon.

FANTAILS (Any other colour).—First, J. W. Edge. Second, T. Martin, Edinburgh (Blue). Highly Commended, H. Yardley (Blue); J. Fielding, jun.

TRUMPETERS (Mottled).—First and Second, E. Horner. Highly Commended, W. H. C. Oates; J. Firth, jun.

TRUMPETERS (Any other colour).—First, W. H. C. Oates (White); Second, E. Horner. Highly Commended, J. Firth, jun.; E. Horner.

OWLS (Blue or Silver).—First, J. Fielding, jun. Second, W. R. & H. O. Blenkinsop. Highly Commended, N. Dunn; W. R. & H. O. Blenkinsop.

OWLS (Any other colour).—First and Second, J. Fielding, jun. Highly Commended, J. Thompson (White); Miss F. Easton (Blue-tailed White); W. B. Van Haansbergen (Black-tailed White). Commended, Miss F. Easton, Hull (Black-tailed White).

NUNS (Any colour).—First, W. Croft, Killinghall. Second, A. R. Bailey, Shooters Hill, Langton. Highly Commended, J. Thompson; H. Beldon, Goltstock; J. Bell, Newcastle; F. J. Leach (Black); E. Horner; T. Bailey, Sowerby.

PUNTS (Any colour).—First, S. Robson. Second, H. Yardley. Highly Commended, W. B. Van Haansbergen.

DRACOONS (Any colour).—First, R. Wilson (Blue). Second, —Challoner, jun. Very Highly Commended, J. W. Edge; F. Sale, Derby (White). Highly Commended, H. Morrow (Blue); P. Stephenson, Gateshead (Silver); F. J. Leach. Commended, Capt. C. B. Fisher, Aberdeen.

MAGPIES (Any colour).—First, E. Horner. Second, P. Stephenson (Black). Highly Commended, T. Martin (Yellow); F. J. Leach (Blue and Black); J. Sharp, Johnstone, N.B.

TURBITS (Crested or Shell-crowned).—First, F. Sale (Red). Second, H. Yardley. Highly Commended, J. W. Edge; J. & W. Towerson (Red); W. B. Van Haansbergen (Red and Yellow); R. Siddall, Sheffield; J. Thompson. Commended, E. Horner.

TURBITS (Point-headed, or Peaked).—First, E. Horner. Second, R. Fawdon. Very Highly Commended, F. J. Leach (Yellow); E. Horner; J. Fielding, jun. Highly Commended, J. Thompson; Pickering & Marshall Driffield (Red). Commended, A. B. Bailey (Blue); T. Bailey (Blue); T. Martin (Red); F. J. Leach (Red); W. Longmore, South Shields (Blue); R. Fawdon.

TURBITS (Plain-headed).—Prize, J. Thompson.

PIGEONS (Any other variety).—First, E. Norman, Northampton. Second, E. Horner. Highly Commended, H. Beldon (German); A. H. Stewart (Japanese Terns); J. Hawley; W. R. Park; H. Yardley. Commended, J. T. Stott, jun., Alnwick (Antwerp).

SELLING CLASS FOR PIGEONS.—First, A. H. Stewart. Second, J. Hawley. Highly Commended, H. Beldon; T. Bailey; W. Moon; J. Hawley; G. Charney, Preston; H. Yardley; C. N. Lytha, Cottingham, near Hull; R. Siddall, Sheffield. Commended, E. Brown; W. Moon; C. N. Lytha; T. Bailey.

CANARIES.

BELGIAN (Clear Yellow).—First, J. Miller, Newcastle. Second, T. Bennett, Newcastle. Very Highly Commended, J. Baxter, Newcastle.

BELGIAN (Clear Buff).—First, J. Baxter. Second, J. Howe, Bertley, Durham. Very Highly Commended, R. Hawman, Middlesbrough. Highly Commended, J. Baxson, Derby. Commended, T. Bailey.

BELGIAN (Variegated or Marked Yellow).—First, J. Bexson. Second, Very Highly Commended, and Commended, J. Baxter. Highly Commended, W. Petre.

BELGIAN (Variegated or Marked Buff).—First, J. Bexson, Hexham. Second, J. Baxter. Very Highly Commended, W. H. Phillips. Highly Commended, R. Hawman.

DON (Clear Yellow Glasgow).—First, J. Soulsby, Newcastle. Second and Very Highly Commended, G. Nicholson, Newcastle.

DON (Clear Buff Glasgow).—First, J. Soulsby. Second, G. Nicholson.

NORWICH (Clear Yellow).—First, J. Bexson. Second, J. Wynn, Northampton. Very Highly Commended, G. Moore, Northampton. Commended, T. & J. Irons, Northampton.

NORWICH (Clear Buff).—First, G. Moore. Second and Very Highly Commended, T. & J. Irons. Highly Commended, J. Bexson.

NORWICH (Variegated or Marked Yellow).—First, G. Moore. Second, J. Wynn. Very Highly Commended, J. Stuart, Newcastle. Highly Commended, R. Hawman. Commended, F. Johnson.

NORWICH (Variegated or Marked Buff).—First, J. Wynn. Second, R. Hawman.

LIZARD (Golden-spangled).—First and Second, J. Taylor. Very Highly Commended, F. J. Leach. Highly Commended, R. Hawman. Commended, A. Utton, Wishaw, N.B.

LIZARD (Silver-spangled).—First and Commended, R. Hawman. Second, J. Taylor. Very Highly Commended, J. N. Harrison, Belper. Highly Commended, F. J. Leach.

DUN (Yellow Cinnamon).—First, T. & J. Irons. Second, S. Tomes, Northampton. Very Highly Commended, J. Wynn, Northampton. Highly Commended, R. Hawman. Commended, G. Moore.

DUN (Buff Cinnamon).—First, G. Moore. Second, J. Wynn. Very Highly Commended, S. Tomes. Highly Commended and Commended, T. Dobson, Newcastle.

DUN (Variegated or Marked Yellow).—First, J. Wynn. Second, G. Moore. Very Highly Commended and Highly Commended, S. Tomes, Northampton.

DUN (Variegated or Marked Buff).—First, Second, and Commended, J. Baxter. Very Highly Commended, S. Tomes. Highly Commended, G. Atkinson, Gateshead.

CLEAR GREEN.—First, J. Smart. Second, L. Billcliff. Very Highly Commended, T. Dobson. Highly Commended, S. Atkinson. Commended, J. Baxter.

COMMON (Buff Four-Marked).—First, J. Baxter. Second, R. Hawman. Very Highly Commended, J. Stephens, Middlesbrough. Highly Commended, R. Heel. Commended, G. Atkinson.

MULES.

GOLDFINCH MULE (Buff).—First, R. Heel. Second, G. Atkinson. Very Highly Commended, L. Billcliff.

GOLDFINCH MULE (Dark).—First, J. Robson. Second and Very Highly Commended, F. J. Leach. Highly Commended, T. Dobson.

ANY OTHER MULE.—First, S. Tomes. Second, J. Baxter. Very Highly Commended, J. Bexson.

MISCELLANEOUS.

GOLDFINCH.—First, R. Heel. Second, J. Miller. Highly Commended, L. Billcliff.

LENNET.—First, W. Petre. Second, A. Hogg, Newcastle.

The Judges were T. J. Charlton, Esq., of Bradford, for Pigeons, and Mr. T. Clark, of Sunderland, for Canaries, &c.

FEEDING BEES IN WINTER.

BEES may be kept alive and well in winter by scooping the pith out of pieces of elder, leaving the ends closed, and filling one or two for each stock with either honey or moistened sugar. It would not, perhaps, do where beea are kept on a large scale, but it is very simple, and the food should be supplied daily. They will take it readily.—L. B.

LARGE HIVES.

NOTWITHSTANDING the very able manner in which Mr. Pettigrew has advocated the use and efficiency of his large hives, in page 333, and the emphatic manner in which he condemns other hives as being almost utterly inadequate for the accommodation of a swarm of bees and their honey, in spite of the abundant harvests that have been obtained from what we may call improved hives, but which appear to be in his eyes quite the reverse, I think his letter may bear a little criticism, and would submit to your readers a comparison of the different hives.

I shall first take into consideration the circumstances under which a hive is most likely to prosper in the spring, and as the management of wooden hives has already been described, and they have been proved to be in no way inferior to straw ones, I will pass over Mr. Pettigrew's remarks condemnatory of wooden hives, and will confine myself to the subject of their size, showing the advantages and disadvantages of large hives, or the disadvantage of large and advantage of small ones. Even in the case of the largest and strongest hives which I ever possessed (and I have had them equal to 250 lbs. in the season), I have found that two Stewarton body boxes, or one stock box of a frame hive, held the whole of the bees of these monster hives at the end or in the fall of the year. Now it is evident that by the spring the bees will again have dwindled considerably; and if they are at this time in a large hive they must labour under a very great disadvantage, from occupying only a small part of the hive in comparison with its size. The bees, not being able to keep up a proper degree of warmth, are restricted to breeding in a very much less space than if they were in a smaller hive which is capable of being enlarged at will and as need requires. This is the advantage of the Stewarton hive not being over-wide. The bees are able to spread themselves from side to side, and then a proper heat is engendered, and breeding goes on much more rapidly than in a hive that is of a larger diameter than the bees can cover. A Stewarton hive of two boxes each, 6 inches deep, or a Woodbury frame hive, contains cells enough for a queen to lay 2000 eggs daily, with a little space for honey and pollen. Now, as queens do not lay that number of eggs until April or May, I cannot see any advantage in having large hives before that time, but would then give a nadir, which will render the hive capable of containing some honey and pollen, as well as cells enough for hatching 3000 eggs daily; and what more can be required? as until we put on supers nothing more can be done. Thus much for our small hives, whereas large stock hives require a long time ere supers can be put on; and as honey, pollen, and brood lie quite contiguous to each other, no proper separation of them can be effected without a lamentable sacrifice of empty combs, pollen, and brood with the honey; besides which, many more eggs are wasted in a hive that is too large than in one of smaller dimensions.

When Mr. Pettigrew speaks of the Ayrshire or Stewarton hives being too small, he evidently knows but little about them. The fact is, they are practically without limit, and what more would he have? He then says that if these hives were "properly managed much more honey would be obtained." We shall all hail the lesson with delight when Mr. Pettigrew teaches us how to manage them properly; but I would state emphatically that the world has not yet produced in quantity and quality honey equal to that obtained from the Stewarton hive; and I am certain if Mr. Pettigrew, as well as the Carluke people, would but adopt the Ayrshire hives, and only half manage them, they would find them much more profitable, and would then be able to send first-class honeycomb to the market, whilst the inferior run honey which they now produce would gradually disappear.

I need scarcely notice the statement Mr. Pettigrew has made as to the superiority of his hives, since I need do no more than refer to the one described by "A RENFREWSHIRE BEE-KEEPER" in page 293, and to many more on the same principle that have attained weights far exceeding those described by Mr. Petti-

grew. By all means give bees free communication with their supers, but I see no use in giving bees so much room to pass as he describes. Any communication equal in size to the doorway of the hive is large enough. Anything beyond that tends to the production of brood and pollen, with blackened comb, in the supers.

I hope your readers will observe, that although I detect the use of large stock hives, I also condemn all small hives not capable of being enlarged. I recommend small stock hives with adequate means for enlarging, instead of large stock hives, as being on the progressive system; whilst Mr. Pettigrew is certainly retrograding, as I have hives similar to those described by him laid aside very many years since, and neighbouring bee-keepers have in their possession large hives, with dates nearly half a century back, describing their weight at that time as being so heavy that it took two men to lift them. Notwithstanding all this, large stock hives ought to be regarded as things of the past—at least they will be so by—A LANARSHIRE BEE-KEEPER.

OUR LETTER BOX.

HOUDANS AND HAMBURGS AS LAYERS (M. C.).—We believe Hamburgs will lay more eggs than Houdans, but the Houdans' eggs are larger. We once knew a hen that laid 240 eggs in a year. She never laid again, and died soon afterwards. This is the only instance we have known in many years, and we do not believe in birds laying such numbers. It is against nature, and we hold it to be quite impossible. Crève-Cœur are great layers, and lay very large eggs. We quite agree with you that it would be better if people would count their eggs instead of guessing at the numbers.

MATCHED BIRDS IN A PEN (An Exhibitor).—It is essential to success that fowls match well. We should consider perfection of shape more important than absolute similarity in every feather, and should also look for size and weight, as they are points in Brahmas. Given that there are no glaring faults of feather, we should place shape and weight before colour. Recollect that small Brahmas show at a great disadvantage. Eschew vulture hocks.

CRUSHED OATS (G. V. C. O.).—These are as good for fowls as ground oats.

SILVER-SPANGLED HAMBURGS (E. A.).—We should prefer No. 1. The tail-coverts are not so important as the sickle, which seem to be equally good in both. No. 2 seems to be deficient in respect to size and comb. The laced feathers do not disqualify. It is a serious defect in a pullet to have a light hackle. Choose the clear tails with moony tips, dark hackles, and well regularly mooned bodies. Avoid patches either of white or black. The deaf-ears must be white.

PARTRIDGE OR GROUSE COCHIN-CHINAS (F. C.).—White marks in the ear-lobe of a Grouse Cochin cock will not disqualify. Yellow ones are very common. If your cockerel at seven months weighs 9½ lbs., he is rather above than under the mark, and is an excellent bird so far as weight is concerned. They should be perfect at twelve months, and in their prime. The second cockerel you mention is unfit for competition. He is disqualified by the brown feathers, and an indifferent comb is a grave fault.

KEEPING DUCKS (C. Jackson).—You may keep Ducks in any place where they can have an outlet, either into a yard, or to garden ground or grass land. They require but little water, and are by no means dainty. It is not necessary to keep a drake, unless you intend to set the eggs. You will find instructions for their management in the "Poultry Book for the Many," which you can have free by post from our office for seven postage stamps.

FRAUDS AT POULTRY SHOWS (A Suffolk Man).—We shall be obliged by your stating your name and address, as well as the name of the person who acted so fraudulently. We shall make use of neither without your permission, but to publish such a statement, merely pointing to "the eastern counties," is casting suspicion on many.

CHESTER POULTRY SHOW.—Mr. Jas. Smith writes to us that he took the second prize for Spanish, and not Mr. Walker.

LOST PIGEONS (T. Newell).—We do not think that you could recover the value of the lost Pigeons from the Committee of the Skipton Show. In the first place, you acknowledged that you must admit to the loss by offering a reward for the recovery of the birds; but even if you had not done so, we think committees neither are, nor ought to be, liable for lost birds, unless gross carelessness can be proved, for exhibitions are not for the benefit of the committees, but for the benefit of the exhibitors.

BELGIAN RABBITS (D. of H.).—These are the same as the so-called Hare-Kabbits. The Andalusian is the largest breed. It is much cultivated about Paris under the name of the Ram Rabbit. Any variety can be bred next spring. We cannot name either dealers or prices.

POULTRY MARKET.—NOVEMBER 25.

THE demand for everything is deplorable, and sales can hardly be effected for any but the choicest goods. We have seldom or never seen such continued stagnation.

	s.	d.	s.	d.		s.	d.	s.	d.		
Large Fowls.....	2	6	to	3	0	Pheasants	2	0	to	2	6
Smaller do.....	2	0	to	2	6	Partridges	1	9	to	2	0
Chickens	1	6	to	1	9	Hares.....	2	0	to	2	6
Geese	5	0	to	7	0	Rabbits.....	1	4	to	1	5
Ducks	2	0	to	2	6	Wild do.....	0	8	to	0	10
Pigeons	0	8	to	0	9	Grouse	2	6	to	3	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	DECEMBER 3-9, 1868.	Average Temperature near London.			Rain in last 41 years.		Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year			
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	m. h.	m. h.	Days.	m. a.							
3	TH	Meeting of Linnean Society, 8 P.M.	47.1	35.3	41.2	28	48	af	7	51	af	8	46	af	7	49	10	10	9	48	338
4	F		48.0	36.1	42.0	18	59	7	50	8	1	9	25	11	20	9	24	339			
5	S		48.8	34.9	41.9	24	52	7	50	8	16	10	after.	21	8	59	340				
6	SUN	2 SUNDAY IN ADVENT.	48.2	36.7	42.4	20	53	7	50	8	33	11	31	0	7	8	33	341			
7	M	Meeting of Royal Microscopical Society, (3 P.M.)	48.5	35.8	42.7	20	54	7	50	8	morn.	59	0	28	8	7	342				
8	TU		47.0	33.9	40.4	18	55	7	49	8	49	0	24	1	24	7	41	343			
9	W		46.8	35.3	41.0	17	56	7	49	8	6	2	50	1	25	7	14	344			

From observations taken near London during the last forty-one years, the average day temperature of the week is 47.8°; and its night temperature 35.6°. The greatest heat was 69°, on the 7th, 1861; and the lowest cold 14°, on the 5th and 6th, 1841. The greatest fall of rain was 1.02 inch.

OUT-OF-DOORS GRAPES.



AUDGING by the many fine old Vines that are to be met with on walls and houses throughout the country, it would seem that Grapes have been much more cultivated in the open air in times gone by than they are at the present day. The practice of growing Grapes in the open air seems to have gone out of fashion of late years. It is very seldom indeed that we see or hear of vineyards or the planting of Vines at the present day

anywhere excepting under glass. Why is this?

That certain kinds of Grapes can and may be cultivated in the open air in this country with a fair amount of success, if proper attention be paid to them, is tolerably certain. In a few spots, indeed, they are still largely cultivated, as at Mr. Darkin's vineyard, Bury St. Edmunds, and the Rectory, Woodstock (by Mr. Fenn), both for use as dessert fruit and for making wine; but these are exceptions. Grapes, it is true, are more abundantly cultivated, and enjoyed in far greater quantities, than they ever have been, but that is owing to cheap glass, ground vineries, orchard houses, &c. It is to be regretted, however, that the open-air cultivation of the Vine should be neglected, as, however cheap glass and glass structures may be, and plentiful and good as the supply of Grapes is, they are not within the means of every one. I am sorry to note the disappearance of the familiar Vine from the walls of our gardens and houses, especially from those of the dwellings of the humbler classes. I like to see cottages with Vines trained against them, and loaded with the clusters of the tempting-looking fruit; and how much more pleasant it is to eat the Grapes of one's own growing, although they may not be quite so fine as those that may be purchased. In ordinary seasons really excellent Grapes can be cultivated on the open wall with very little attention, which, however, is rarely, very rarely, bestowed on them. I have tasted Royal Muscadine Grapes, both this season and last, equal to, yea, better than, those that are ordinarily supplied for dessert at the restaurants in Paris. If our summer be unusually cold and wet, as it sometimes unfortunately is, and the Grapes may not become sweet enough for table, then wine, good, wholesome, sparkling Champagne, can be made from them, such as was enjoyed by the Fruit Committee from Mr. Lovegrove, of Maidenhead, and such as I have tasted with Mr. Frost of Dropmore.

The Rev. George Kemp did good service in furthering the cultivation of the Vine in the open air, by offering special prizes for the fruit so produced at the meeting of the Royal Horticultural Society's Fruit Committee on October 20th. It was a happy idea of Mr. Kemp, and a more favourable season for such an exhibition could not possibly have been, it having been almost tropical in its character, and particularly well suited for Grapes. The exhibition at South Kensington, however, although the examples and exhibitors were numerous enough, was not a very successful one. I have seen better Grapes in many parts of the country, and I believe if this exhibition were

repeated better Grapes would be submitted. Some of the examples were handsome enough in appearance, and others were excellent in flavour, but taken as a whole, they were below par. Few of them, I daresay, had had much attention bestowed upon their cultivation, but being by chance presentable, were in due course exhibited. Now, I should like to do away with this chance-work, and have a little attention bestowed on them, so as to produce a desired result the same as with Grapes under glass. Of those exhibited at South Kensington, the collection which displayed the greatest cultural skill and care was that of Mr. Lynn, of Hedsor Gardens, which was awarded the second prize; they were Black Hamburgs remarkably well grown, clean, and good. They were, however, inferior in flavour to the Royal Muscadine exhibited by Mr. Foster and Mr. Earley, which obtained the first prize; Mr. Kemp's object in offering the prizes not being so much the calling forth of cultural skill in the production of any variety, as to discover which of the many varieties is the Grape most suited to open air-cultivation.

Royal Muscadine.—This has been approved as the best out-door Grape. Judging of its value by flavour as a dessert fruit, combined with constitution and appearance, it is, in my opinion, the most useful variety, and that which I always recommend for planting in the open air. It is of a very hardy constitution, and fruits very freely, the bunches being of good size, and the fruit generally ripening pretty well. This is the same Grape as is cultivated so largely in France, and sold in the streets under the name of Chasselas de Fontainebleau; it is also the most common white variety in this country in open-air cultivation. Sometimes it is called White Chasselas, but more frequently confounded with the White Sweetwater. When grown in the open air, the sides of the berries next the sun are generally much covered with a cinnamon russet. Indeed, Monsieur will not purchase or enjoy his Grapes unless they are thus discoloured; to him it is a mark of excellence, in which I believe he is right, to us a blemish.

Having stated these opinions on the open-air cultivation of the Vine, and named the one best adapted for the purpose, as far as my knowledge goes, I shall now pass in review some other varieties which have come under my own observation, and which are frequently recommended for out-door duty.

Dutch Sweetwater.—This variety ripens its fruit well; the berries are large, and they are of very good flavour, and sweet. Its great fault is its setting badly. If it could but be made to set its fruit thoroughly, instead of a straggling berry here and there, it would prove the most valuable of all. As it is, it cannot be depended on.

Black Hamburg.—In warm seasons this is an excellent variety, producing an enormous crop, but it seldom colours well. Last season being warm, it was in many places first-class. Recommended for making wine.

Black Prince.—This is a very taking Grape, producing bunches of large size, which always colour well, and look very handsome. It will colour quite black, although not half-ripe, the berries frequently being quite acid and sour. Even when ripe and in its best character, it is not pleasant

to eat, being very leathery and thick-skinned. Useful for producing quantity, but quite third-rate in quality. Cambridge Botanic Garden is the same as Black Prince, having succeeded well in that garden, hence its name.

Espiran, or *Esperione* as it is commonly but erroneously called, is a much-vaunted hardy Grape, yet I have never tasted a berry of it from a plant in the open air that was much better than a sloe. It colours well, and has the appearance of being good, yet it is not so. When grown in heat under the best conditions, this Grape is not worth eating. It has received much praise as an excellent hardy Grape, to which it can lay no claim whatever. It was, I believe, the late Mr. Donald Beaton who first gave it this false character; he, with his usual fire, extolling it to the very skies, not knowing at the time that the subject of all his praise was not the *Esperione* at all, but simply a fine example of the true Black Hamburg. Although not at all suited for dessert, it is an excellent wine-making variety.

Miller's Burgundy.—This is a very hardy and free-fruited variety. The bunches are rather small, but very numerous, and the berries small, and very closely packed together.

Black Cluster, *Port Wine* or *Claret*, and *Black July*, are all very similar to the preceding, and of about equal merit, the last somewhat earlier, and perhaps not quite so sweetly flavoured. In ordinary seasons these ripen well, and are very good in flavour; the berries just a little too small, and so crowded together that it is difficult to make a commencement on a bunch. All of them are excellent for making wine, and deserving of cultivation.

White Frontignan, *Black Frontignan*.—I have found both of these do exceedingly well against a wall. Their flavour is naturally rich and piquant. Even when only half ripe they are considerably so, and are very pleasant to eat; just the reverse of Black Prince and *Espiran* in that respect.

In addition to these there are the following, which, I believe, would prove valuable, and well suited for open-air culture, all of them being early; but I have as yet had but little opportunity of proving them myself—viz., 1, Early Saumur Frontignan; 2, Early White Malvasia; 3, Pitmaston White Cluster; 4, Chasselas Hâtif de Tonnein. The second is the same as the Grove-End Sweetwater, an excellent flavoured sort; the fourth, a few days earlier than it—indeed, the earliest white Grape I am acquainted with, small in berry, but sweet. There are scores of other varieties of the small French Chasselas and Muscata that are, perhaps, equally well adapted for the purpose, but as Grapes attaining their full perfection in the open air in this country, there would be little distinction in point of flavour from those in the same classes which I have already enumerated, which are those in most general cultivation throughout northern France and Germany.

All Vines are hardy; some are of more succulent growth than others, and the wood requires a greater degree and a longer duration of heat to become ripened thoroughly—that is constitution. But the tenderness or otherwise of the Vine lies not there so much as in the fruit itself; in short, in its early or late-ripening properties. A Grape, when said to be hardy, simply receives the character of ripening its fruit earlier, and with a less amount of heat than another. There are some which will not set their fruit freely, excepting in a high temperature, such as the common Muscets; but with few exceptions, the most of our Vines will just produce as many Grapes in the open air as in the warmest vinery. Our summers, however, being usually so low in temperature and so short, there are but few varieties of Grapes that ripen sufficiently to become eatable. They are, however, suitable for a certain kind of wine, unless the summer be unusually cold, when some sorts refuse even to swell their berries. The Muscat of Alexandria itself has produced here on the open wall almost every year a good crop of fruit, fine large bunches and berries; yet the fruit is never eatable, always acid and sour. Only once have I detected any traces of the true Muscat flavour in it.

In advocating the cultivation of the Vine in the open air, let it not be imagined that I recommend it in any case where glass structures can be secured. Our English climate is usually too cold for any great amount of success or satisfaction ever being attendant on such a method. Where glass can be used, whether in the form of our common vineries, orchard houses, or ground vineries, I say, Adopt them, and not be dependant on securing a single bunch of Grapes from Vines planted in the open air; yet there are hundreds of places throughout the country where no assistance from glass can be obtained, but

where there may still be a little space to spare on a wall, or the end of the dwelling-house, as in our smaller villa gardens and in those of the working classes. In such cases a Vine or Vines may be planted, and by a little ordinary attention a tolerably decent lot of Grapes may be grown. Independently of the fruit, the Vine is a very ornamental plant in itself for the covering of bare walls, &c. See how well Vines grow, and how noble they look in the Royal Horticultural Society's Gardens, South Kensington, where they have been planted to hide the beautiful and costly brick arcades! These Vines have been planted but a few years, and they are annually loaded with beautiful fruit.

To secure success in the cultivation of Vines in the open air, it is just as necessary for them to be planted in a well-prepared border as in any other case, and that the same attention should be given to their pruning and training as is ordinarily practised in the best-managed vineries—matters which are very seldom thought of, the Vines being just planted in any sort of soil, and allowed to ramble as they will. The great enemy to the Vine in the open air is mildew, which is sometimes very difficult to subdue, yet by continued applications of sulphur it can be kept in check out of doors as well as under glass.

I have been induced to offer these few remarks on this subject through having been applied to for information—1st, As to whether Grapes sufficiently good for dessert can be cultivated with any success in the open air in this country? 2nd, If so, which is the best variety for that purpose? In answer to the first question I sum up my remarks, and say that certain varieties can; to the second, that the best Grape for open-air cultivation is the Royal Muscadine.—ARCHAMBAUD.

CORDONS, BUSHES, PYRAMIDS.

UNDER the above heading there is to be found in "our Journal" of the 12th of March last, page 198, an interesting and sensible letter, signed "C. C. E." To that letter on the 26th of March, page 231, Mr. Rivers wrote a reply, and "C. C. E." followed with a rejoinder on the 16th of April, page 291. At the close of the first letter referred to, "C. C. E." promised, if wished, to give at some future time further notes on his experience in fruit-growing. Will "C. C. E." now make good his offer? The fruit season may now be said to be fairly over, and an instalment will, I am sure, assist in fulfilling the objects of your Journal.

There is a remark in the second letter, suggesting that Mr. Rivers's plantation of Cox's Orange Pippin, with the trees 3 feet apart each way, is more curious than desirable, more of a mere horticultural feat than a system to be followed by the ordinary fruit-grower. I quite agree with the writer here, and I am, therefore, the more curious to know whether his additional experience has confirmed this view or not. Also, if he would state the area and aspect of his ground, and some further particulars of his watering arrangements, I think his communication would be the more practical.—CORNUBIA.

[In answer to the foregoing "C. C. E." writes as follows:—"I had intended, partly from lack of time, partly because the season of 1868 has been, as far as my experience goes, so disastrous to biennial removers of fruit trees, to remain silent on this subject for the present; but when so courteously challenged by 'CORNUBIA,' I gladly take pen in hand in answer to his inquiries and in fulfilment of my promise, asking him and all to remember that this is but my sixth year's practice, and that I am a learner and not a teacher in the school of Pomona.

"To begin in order, my eighteen cordon Pear trees on a boarded fence having been planted two years were lifted, and in order to make room for new leaders, reduced to twelve. This season two fruit of Williams's Bon Chrétien and six of Doyenné d'Été were the sole produce. Alas! how short of the (by some) expected crop of twelve, or even six fine fruit each.

"Next I turn to my plantation of 122 bushes on Paradise and Quince stocks, planted in 1865. Most of these were lifted last winter. Of the crop I cannot speak, there was none worthy the name. Fourteen bushes of Cox's Orange Pippin produced one fruit (6 ozs.), and an abortion; Kedleston Pippin and Normanton Wonder, a few sickly fruit, which seemed reproachfully to bewail their lost roots, and occasioned many reflections on Dame Nature and 'lifting.' Williams's Bon Chrétien and Beurré de Capiaumont stood the operation best, but looked far from healthy. A peck basket would have more than contained the whole produce of 122 bushes; but as most of these were

left for three years without any interference with their roots, this plantation cannot be considered as fairly representing the results of biennial lifting.

"In another plantation of 342 mixed fruit trees, nearly all were lifted last winter, having stood two years. They bloomed finely, and, book in hand, I daily noted their peculiarities—continuance in bloom, appearing of leaf; size, position of bloom, &c., and, in fact, counted the chickens which were never hatched. Frosts came and destroyed some sorts. That did not matter, there were others to bloom, and eventually there was every appearance of an abundant crop after the frost had departed; and as long as my water supply lasted the engine worked and defied the drought on the half of the plantation which it commanded; but when water failed us the trees had no strength to continue their efforts, and the crop dropped off, leaving only a few odd fruits here and there—for example, eight trees of Rivers's Early Prolific Plum ripened twenty-seven fruit, and twelve of Diamond fruit-wo two fruit. These were by far the most prolific of any; two medium-sized school-boys ate the whole produce of more than fifty trees without any apparent effort or inconvenience. Beurré gris d'Amhoise, a Pear whose leaves precede, and so protect its blossoms, bore a fair crop, whilst all the trees not lifted, seven Beurré de Capiaumont and forty-five Apples, had good fruit for their diminutive size.

"And now we pass to another mixed plantation of seventy-one trees, mostly on Pear and Crah stocks, two years old, and mostly lifted *à la Rivers* last winter. These are in a worse plight than those on the Quince and Paradise; many have been in *extremis*, some are not safe now. No tree that was lifted matured a fruit, but of the sixteen not lifted two did well. A Beurré Clairgeau produced sixteen fruit, weighing 9½ lbs. This tree is 4 feet 1 inch high (measuring to the last pruning), and on the Quince stock; the other, a Beurré de Capiaumont, 4 feet 3 inches high, on the Crab, produced sixty very handsome fruit, and is, in fact, the most perfect pyramid that I have ever had the pleasure of seeing.

"My garden of fruit trees is about two acres in extent, and faces south. If 'CORNUBIA' desires more particulars of my arrangements for watering than are to be found in page 291, to which he refers, I will gladly give him any information privately through the Editors. I refrain from saying more on that subject, because my method, though suited to my particular location, is not capable of general application.

"My 'additional experience' has fully confirmed my previous conclusion, that it is a mistake to dwarf trees so much as to confine them to one square yard. I regard it as an interesting horticultural feat, and if they were to prove productive even proportionately to their size, taking one year with another, I would term it a triumph; but when once the idea of substantial produce is contemplated, my experience teaches me that such dwarfing is an absurdity.

"And now may I be pardoned a few more general remarks. Since last my initials appeared in these pages I have had the great pleasure of making the personal acquaintance and receiving the known hospitality of Mr. Rivers, who, with the most friendly courtesy, showed me over his extensive gardens and nurseries. I confess my first 'point' was his plantation of eight-year-old Cox's Orange Pippins, which I viewed with curiosity and a satisfaction free from envy; but I could not help remembering the remark of a rustic, when a few weeks previously we witnessed in a circus the extraordinary performances of a child some eight or ten years old, 'Zur,' he said, 'that's a strange bairn, that be, for a young un, but he went never grow up worth nowt.' Next, having read of Mr. Rivers's recent triumph, I went with much interest to his Cherry orchard house, and had I travelled from Lincolnshire for that express purpose, I should have felt amply repaid by the sight; nor did my satisfaction end here, for having fully satisfied the most capacious fruit appetite, I could perceive no sensible diminution in the crop. I shall not attempt to describe the many things of interest to be seen at Sawbridgeworth, but cannot help noticing the endless acres of beautiful clean-grown young fruit trees, enough to provoke any one to embark in their cultivation, but will conclude with a remark or two which this last season's experience suggests.

"I consider that every bush or pyramid requires lifting in the second year after planting, that its roots may be set in order once for all; the long straggling roots without rootlets save at the extremities, which I find are produced in all soils, no matter how rich, being cut back quite home. After this I would never lift again, but check over-luxuriant growth by root-

pruning, first on one side, and then on the other. This does not give the tree so great a check as to endanger the succeeding crop. The earlier this is done in the autumn after the leaves begin to drop the better. My present method of planting is to place the trees 6 feet apart each way in quincunx order, to dig a trench between the rows from left to right one year, and from right to left the next; thus two sides of each tree are accessible, and the roots cut if necessary every season; and the trench being filled in and well manured a good crop of Lettuces or other vegetable is obtained, and no ground wasted. Meanwhile the trees are encouraged to grow as much as they will, consistently with the production of short-jointed wood, and fruit spurs. In time they will entirely occupy the ground, leaving, of course, no room for rows of vegetables, and thus I have every confidence in the success of bush fruit-tree culture. I now again remind my readers that I am a learner and not a teacher; I simply state the results of my experience and the conclusions they have led me to, and until I have learnt something very different from what I now believe, there will be no more biennial removals perpetrated by—C. C. E."]

BARBAREA VULGARIS VARIEGATA.

SOME of the readers of the Journal who are in the habit of furnishing their flower beds in winter with evergreen plants and other odds and ends, may not be aware of the highly ornamental appearance of this old herbaceous plant during that season.

It is the single yellow Rocket in a variegated form, the leaves being beautifully blotched and marbled with white. It presents one of the most notable instances with which I am acquainted of the unvarying reproduction of variegation by seed. In a large bed of it, which I sowed last spring, not a single green-leaved plant could be found.

To have it fit for planting in October, seed should be sown about the end of March, somewhat thinly, as every one will vegetate, and, if necessary, the plants should afterwards be thinned out to 6 inches apart. When transferred to the flower garden good balls should be taken with them, otherwise the leaves are apt to assume for some time a rather brownish hue. Two-year-old plants are, however, better than these. After they have flowered and the stems have been cut away, they throw up a profusion of nearly white leaves in autumn, which, under any circumstances, except looking up among the snow, have a very attractive appearance.

It seeds as freely as any other Cress, so freely, indeed, that if not cut over in time it becomes rather a nuisance, the little piebald seedlings coming up everywhere, even on the hard gravel walks. When and where it originated I have never learned, but it is an old plant, and common enough in many cottage gardens, although very seldom met with elsewhere; nor do I ever recollect seeing it mentioned in any seedsman's catalogue.—AYRSHIRE GARDENER.

TRENTHAM BLACK GRAPE.

SEEING your remarks in page 389 with regard to the keeping qualities of this Grape not being equal to those of the Black Hamburgh, and as my experience is somewhat different, I will state it. I have four rods of it full of fruit at the present time. Four years ago I found this Vine, as well as others, not in a very flourishing state, the roots being confined to the inside of the house, owing to the arches having been built up. As soon as I could I had the arches cleared out, and commenced making a new border, so as to encourage the Vine roots outside. The result is, at the present time the Vines are in splendid health, and bearing fine crops of Muscat of Alexandria, Muscat Hamburgh, and Trentham Black Grapes.

Now to return to the Vines four years ago, when confined to the inside of the house. In the following summer, being desirous of housing as good Grapes as possible under the circumstances, the inside border received copious supplies of liquid manure from the cow yard, and the Vines improved very much, the Grapes swelling as well as could be desired, the Trentham Black being fine. To make sure of a good "finish," more strong water was given just as the Grapes began to colour; the result was that the Trentham Black went as you have described. Bought experience, however, is generally useful; therefore in the following season the Vines were treated the same as in the previous year up to the time of storing, when water was completely withheld from the Trentham Black, and

only given once or twice to the Muscats. The result was that not a cracked berry was to be seen; but the means of heating the houses was being altered from the old flues to hot water, and, as usual in all such undertakings, the alterations were a month or six weeks after the stated time before they were finished, so that the Trentham Black Grapes did not keep longer than a short time after Christmas. In the present season, however, the Grapes in this house, as I stated before, are all that can be desired, for the roots have gone the whole length of the new border; and at the time I write the Trentham Black Grapes are as black as sloes, and fine both in bunch and berry. I shall be very much mistaken if they do not hang good till the beginning or middle of February; indeed, in such high esteem is Trentham Black held here, that in every viney that is fresh planted it must have a place.—JAMES STEWART, *Nuneham Park.*

MUSHROOM CULTURE.

I TAKE the present opportunity to thank you for the advice you gave me on the growing of Mushrooms. I made my first bed with the material I named in my note—chiefly the long litter from the stable—which I had thrown into a heap to ferment itself dry, with a coating of 1½ or 2 inches of droppings on the surface. I spawned the bed when at about 74°, and earthed it at the same time with about 2 inches of light turfy soil. The result is that I have now, in about seven weeks after spawning, as fine a bed of Mushrooms as any one could wish to see. I have since made two more beds entirely of droppings, with a little of the short litter; the one has been spawned about three weeks, and the other has had the last coat of droppings put on to-day; but if these turn out as well as the first I shall be quite satisfied.

I write this for the encouragement of a correspondent who, a few weeks back, was asking for information on this subject, and stated that "he had read all that had been written in 'our Journal,' and had tried several times, but never had any Mushrooms." I may state that I am quite a novice in the affair myself, never having made a Mushroom bed in my life before, neither had I ever seen one made; but I worked as nearly as possible according to the directions you gave me, and by what I had read from time to time in "our Journal;" and I think if your correspondent will do similarly he will soon have plenty of Mushrooms.—AGARICUS.

COMPARISON OF THE SUMMERS OF 1865 AND 1868.

Now that the growing part of the year 1868 may be regarded as at an end, a retrospect of its advantages and disadvantages, may not be out of place, especially at a time when so many are either disposed to disparage it too much, or run into the opposite extreme of giving it too glowing a character. As its favourable points may be best made apparent by comparing it with another season, I have selected 1865 as being within easy memory, and as being usually considered a good year. In the following comparison of figures, it will be perceived that in one of the main features the two more nearly approximate to each other than might be expected, and that feature is heat, in which it is supposed by some that the past summer has been hitherto unapproached. A brief attention to figures, however, shows that the average day temperature in the shade for the five summer months of 1865, presents an absolutely greater amount of heat than the average of the same months during the past summer. It is true the difference is but small, about one-tenth of a degree, but the fact is sufficient to reverse what idea we might have formed of the extraordinary heat of July. This difference of day temperature is, however, more than compensated by the warmth of the nights, as compared with 1865, the average being fully 1° to the advantage of the present year. Many people would suppose the summer of 1868 ought to have presented a much greater difference, and so it would had the average been taken at the end of August, instead of a month later, for it will be remembered, as well as shown by the accompanying figures, that September, 1865, was an extraordinarily warm month, much more so, taking the advanced period of the year into consideration, than the past July, notwithstanding its tropical heat. Now, this being the case, and last September not being in any way remarkable, the average for the two summers has been almost equalised, not but that a considerable difference must have resulted from the heat occurring this year in July, instead of in September, and the

advantages of the one summer as compared with the other offer a subject for consideration, which may be advantageously entered upon, after duly examining the accompanying tables.

The first table simply shows the mean maximum and minimum temperature, as taken daily at this place for the five months from May to September, in each year; and the second table simply gives the rainfall during the same months in each year.

TEMPERATURE.

1865.		
	Mean max.	Mean min.
May	79.93	46.23
June	76.73	48.46
July	77.10	51.51
August	78.30	50.50
September	78.08	53.13
Average for 1865	75.218	49.966

1868.		
	Mean max.	Mean min.
May	70.49	45.61
June	74.17	49.00
July	81.38	55.45
August	74.71	53.74
September	74.83	51.13
Average for 1868	75.116	50.986

RAINFALL.

	1865.	Inches.	1868.	Inches.
May	2.89	1.92		
June	1.17	0.51		
July	3.48	0.63		
August	5.26	2.80		
September	0.08	2.70		
Total five months	12.88	8.06		

Having already described the difference in the average temperatures of the above periods in 1865 and 1868 as being very small, the same certainly cannot be said of the rainfall of these years, and as this is as important an element for the welfare of vegetation as heat, it is tolerably evident there must have been considerable difference in the character of the two years. 1865 was here (Linton Park) the wettest year I have on record, more rain falling by an inch and half than in 1860, but it was much better distributed, and the summer being hotter it seemed that no more fell than was wanted.

Now, the question is, Have we had as much rain during the past summer as we thought was needful for vegetation? I fear the many prayers and anxious wishes put forth, proved that in our opinion at least, more rain during the hot months of June and July would have been acceptable, but as it was not so, we must compare the two seasons as they were, the one, 1865, a moist, warm, growing summer; the other, 1868, a hot, dry summer, ripening and perfecting well everything that had arrived at sufficient maturity before the effects of the dry weather were felt. It is not unlikely that our ideas of the merits of the respective seasons will be guided by the comparative importance we may attach to the crop that was growing and the one that was ripening. In 1865, two good crops of hay were obtained where only one indifferent one was produced in 1868, and the same observation holds good as to other crops: On the other hand, the ripening of tender subjects out of doors during the past summer, has, perhaps, never been exceeded before, that is, where such arrived at maturity before the atmosphere began to cool—by the middle of September. Since then the temperature has not differed from that of ordinary seasons, but the earth being warmer than usual from the great heat of July, tropical or subtropical vegetation continued to thrive from the accumulated heat in the ground, until, that being expended, farther advance in growth was not to be expected.

Even in the progress of tender plants there has been a marked difference in the respective characters of different plants; some that evidently enjoy the dry tropical heat of countries where rain seldom falls at certain periods have done well, and others which seem to require moisture as well as warmth, have failed accordingly. Of the latter class of plants, the best example I can point out is the large-foliaged *Wigandia caracasana*, which, in 1865, produced leaves at least 3 feet long, but those made this summer have not attained more than half that size, although the plants are upwards of 6 feet high and proportionably bushy. The Castor Oil plants, on the contrary, have reached a greater height, have flowered and seeded, and some of the seed seems almost ripe, but the plants were, perhaps, more ornamental in 1865, the joints between

the leaves being shorter. However, nothing need be said against this plant's growth during the past summer.

The foregoing examples will be sufficient to show that even as regards tropical vegetation, heat alone is not always sufficient to insure success, but that the combined action of heat and moisture are required to perfect certain things. The past summer has been as remarkable for some failures where moisture has been deficient, as for successes arising from the high temperature that prevailed. The blooming of one of our most popular autumn-flowering plants has this year, strange to say, been in our neighbourhood somewhat later than usual, the Chrysanthemum being really not fairly out in flower in the open air so early as in the majority of years, notwithstanding the forwardness of most other flowers that presented themselves early in the year—perhaps this may be attributed to the sudden change that followed the 12th of September—but the coarser and more robust vegetables of the kitchen garden, whose progress was arrested by the heat of midsummer, have grown rapidly enough when moisture in sufficient quantity was afforded them. The autumn of 1868 has, nevertheless, been less satisfactory than might have been expected, the rains not being so abundant as desirable, and frost setting in much earlier than usual.

In thus making a comparison between 1865 and 1868, it would not be fair to omit taking into consideration the prospects there may be for another year, and in this respect I am in hopes that the present one has certainly bequeathed to its successor tillage fields and garden soils highly improved by the scorching sun of July, and fruit and other trees matured in growth to such a degree as to insure, unless the spring be unfavourable, another fruitful year in 1869. Some other advantages, doubtless, will result from so unusual a season, and, on the other hand, perhaps some errors may be committed by expecting a succeeding one quite as hot, as occurred in 1869. The previous two warm summers then led many to surmise that tropical vegetation would prosper in our northern latitudes, and Chinese Sugar Grass and other crops were tried, but the year was dull, wet, and cold, the absence of sunshine being a more serious drawback than the amount of rain.

In respect to the abundance and quality of many of the most important products of the soil, 1865 may be said to stand superior to 1868, but at the same time the advantages which the latter has conferred on its successor make up for the inequality, as it is seldom that stiff heavy ground works so well as it has done this autumn, and the destruction of weeds and insects make us hope these pests will be less numerous next year than they often have been.

It is, however, more to the small difference in average temperature between the past and a former summer that I would call the attention of the curious in such matters, so that when it is necessary hereafter to speak of the great heats of 1868, it ought also to be mentioned that they were not of long duration; and that time, that leveller and smoother-down of all irregularities, natural and artificial, also confirmed the fact, that after all the whole summer of 1868 was but a mere fraction warmer than that which occurred three years previously, notwithstanding its tropical heats and the almost fabulous reports of its effects at the time. The effort would seem to have almost been too much even for Nature, the issue showing that she retired, as if exhausted, before the summer was over; but I leave the further reasoning on this to others, my purpose being merely to show the state of the two summers in plain figures.—J. ROBINSON.

CELOSIA AUREA PYRAMIDALIS.

Those who know the "golden glories" of this stove annual will agree that no one who has much late autumn and winter demand for sitting-room and dinner-table decoration, as well as cut flowers, should be without it. There are many spurious and unsightly varieties of this vended and cultivated, and the true variety is comparatively scarce. On this account it would be well, when the true variety turns up, to destroy, as soon as they appear, all spurious sorts, and carefully save seed from the good and true; and when this practice is followed, the right variety can be constantly reproduced. I have grown golden pyramids of this 3 feet high in 10 and 11-inch pots, which resembled, in all but colour, a tower of ostrich feathers.

Its cultivation is very simple: sown in March in stove heat, and pot singly when 2 inches high, and shift as required into pots varying from 8 to 12 inches according to the sized plant desired, using a compost of equal parts loam and leaf

mould, with a little sand added. This, and a stove temperature in a light place, with frequent syringings on fine afternoons till it begins to bloom, is all that is of importance in its culture; and when in bloom it stands conservatory temperature, and lasts in bloom a long time. When the seed ripens it should be carefully looked after, or it drops out of the husk and is lost. This, and its crimson varieties, are of great service for autumn and winter display; and they bloom just at a time after most autumn things are over, and before late winter things come in.—(The Gardener.)

CHRYSANTHEMUMS IN THE ORCHARD HOUSE.

I would strongly recommend the possessors of orchard houses not to neglect to brighten them up during dark November by the liberal use of these invaluable flowers. They are cheap to buy, easy to cultivate, and, when grown under glass, present a striking contrast to their brethren in the open air soddened with rain and disfigured by frost. With the assistance of a mat in very severe weather they succeed almost as well in an orchard house as in a greenhouse. Crimson Velvet, Jardin des Plantes, and Virgin Queen might challenge all the stoves in England to produce three flowers which equal them in brilliancy and contrast of colour. Another good quality of the Chrysanthemum is its persistence, whether on the plant or when cut. I have now before me a vase filled with flowers gathered a week ago, and still fresh.—G. S.

NEW BOOKS.

L'Art de Greffer les Arbres, Arbrisseaux et Arbustes Fruitiers, Forestiers, ou d'Ornement, pour les multiplier, les former, ou les mettre à fruit. Par CHARLES BALTET. Paris: Victor Masson et fils.

This is just such a book as one would expect to emanate from the hand of so experienced a practitioner as Mr. Charles Baltet, who in himself constitutes one of those rare combinations of a successful cultivator and skilful writer on French horticulture. The subject on which this new work of Mr. Baltet treats is one which receives much more attention, and enters far more prominently into the horticultural practice of our neighbours than it does with us. With the exception of the ordinary whip-grafting, crown-grafting, inarching, and budding, there are no other varieties of this mode of propagating or of reconstructing trees practised among us; but with the French, for many years, the various modes of what we call grafting are so numerous, and attended with so much detail, that various works have been written on this subject alone.

The work before us consists of 320 pages, and is copiously illustrated with 113 well-executed woodcuts, representing the different operations, the instruments employed in executing them, and the results arrived at by the completion of the processes. To the English gardener there will be found in it much that is novel and instructive; and although our taste has not yet taken us in the direction of the fanciful shapes which the French have of late years given to their fruit trees, those who are interested in the subject will here find some examples of these, and the modes of forming them.

The following extract will supply information new to many of our readers:—

"The expense occasioned by the purchase of wool and cotton in nurseries (for grafting) has caused a search for ligatures of a more economical description. After having tried the leaves of Sedge (*Carex*), and Bullrush (*Scirpus lacustris*), one is attracted by two aquatic plants which grow abundantly on the borders of rivers and ditches, in ponds and marshes—the Cat's-tail (*Typha latifolia*), and the Bur-reed (*Sparganium ramosum*). These are equally useful as a ligature. These two species belong to the family Typhaceæ. The plant is gathered when fully grown, either in the end of the summer for grafting in the year following, or in the spring, to be used in the course of the same year. The leaves, which are attached together at the base, are separated, and placed to dry in the shade or in a barn, by hanging them up in bundles tied together by their tops. When the time of using them arrives, they are cut into the required length, averaging 15 to 20 inches in length. A little before grafting the bundles are steeped in water for a few hours, and then drained by pressing them with the hand or by wringing them. Frequently it is sufficient to place them in a cellar to keep them fresh, and in grounds where there is no water they are put into the earth.

"This vegetable ligature requires a proper medium of dryness and humidity. Too dry, the leaf lacks resistance and breaks; too damp, it causes the decay of the graft and breaks also. The leaf is generally broad enough to be split up throughout its length. It bends better

when it is applied edgeways and not flat, and when it is slightly twisted. With the exception of grafts that require the wood of the stock to be cleft, and for which the leaves of the Cat's-tail and Bur-reed have not sufficient tensity, we recommend this ligature for the majority of the processes of grafting."

We highly commend this work. It is thoroughly practical, and written by a gentleman of ability, who is completely master of the subject on which he treats.

Mouvement Horticole de 1867: Revue des progrès accomplis dans toutes les branches de l'Horticulture, avec Travaux mensuels pour 1868. Par Ed. ANDRÉ, Jardinier principal de la Ville de Paris. Paris: Goin.

THIS "Mouvement Horticole" is what may be called in English a Horticultural Year-Book, or record of progress, and has been carried out by M. André in a way which renders the work one of great utility. It is written in the form of essays or treatises on all the new discoveries in the various branches of horticulture, embracing not only the new plants, flowers, and fruits, but also new modes of culture and new principles. We have also notices of all the new books on botany and gardening that have appeared throughout the year, and a very lengthened report of the various series of the Great Exhibition of Horticulture at Paris in 1867.

This is an exceedingly useful book, furnishing a readable and entertaining record of all the great movements that have taken place in the world of horticulture during the past year; and we sincerely hope we may have a continuance of it annually.

LIVERPOOL WINTER FLOWER AND FRUIT SHOW.

On the 24th and 25th of November this exhibition was held in St. George's Hall, and it was certainly the finest horticultural show ever held in Liverpool. The Chrysanthemums were the finest and best-grown specimens ever seen at any previous exhibition either in London or any other place. I was very much pleased to see such a marked improvement in the growth of the plants, the colour and size of their flowers, and more especially in their arrangement on the exhibition stages. The Liverpool gardeners had evidently profited by a few hints given them last year. The plants exhibited by Mr. Fleming, gardener to R. Houghton, Esq., were remarkably fine. The nine plants which took the first prize in Class 2, for the best nine large-flowered varieties, were the best lot of Chrysanthemums ever set up. In this opinion I am borne out by the venerable Chrysanthemum King, Mr. Broome, of the Temple Gardens. The flowers and foliage on all of the plants exhibited by Mr. Fleming were perfectly fresh and healthy, and the number of flowers on each of the nine plants exhibited in Class 2 would average 150. Mr. Wilson was also a very successful exhibitor, as were Mr. W. Lowndes, Mr. Dunbar, Mr. Airey, and Mr. Wood. There was a very marked improvement in the cut flowers, and the bouquets were a very great improvement upon those of last year. There was a large number of exhibitors in the classes set apart for these, and amongst so many really handsome and tastefully arranged bouquets it must have been extremely difficult for the judges to decide which really was the best, but I thought they were quite right in awarding the prizes as they did, for there was a greater degree of gracefulness about those exhibited by Mr. R. J. Smith and Mr. Freeman in the gardeners' class, and those of Mr. Rylance and Mr. Delamere in the nurserymen's or market gardeners' class, than in those which came from the other exhibitors. The flowers they contained were very choice and good. Many of the competitors still crowded their bouquets too much, a fault I pointed out to them in the report of last year's show.

The Hall was very tastefully decorated with Palms, Ferns, and fine-foliaged and flowering plants, which were arranged in the centre of the tables, and gave a good finish to the whole, and also very much improved the appearance of the fruit, which was arranged on each side of them on two of the tables, the other being set apart for the Chrysanthemum blooms. Primulas, Ericas, and the Chrysanthemum plants were arranged at the sides and ends of the Hall. A very large company assembled to witness this grand display of flowers and fruit, the weather being very favourable.

The fruit was of first-rate quality, and a large quantity was exhibited. The dish of Coe's Late Red Plum, exhibited by Mr. Freeman, gardener to the Earl of Derby, was in splendid condition. The Grapes exhibited by Messrs. Meredith, Hill, Smith, Sorley, Freeman, Wilson, and others were very fine, as were also the Pears and Apples which came from Mr. Sorley, Mr. Rylance, and several other exhibitors. Those shown by Mr. Sorley, gardener to Mrs. Zwilchenbart, were remarkably good both in size and quality.

There were some bunches of the true Tynningham Muscat, exhibited by Mr. Lees, of Tynningham. These, however, were not for competition. Mr. Lees told me this variety was very much superior to any other Muscat, as it set so freely. The berries were

certainly very regular, the bunches of good size, but a little past their best, a few of the berries being a little shrivelled. Mr. Pilkington, of Eccleston Hall, exhibited four splendid Montserrat Pines, very handsome, and weighing about 4 lbs. each; and the fruit of Smooth-leaved Cayenne Pine, for which Mr. R. Smith, of Calderstone, was awarded the first prize in Class 41, was very fine, weighing upward of 7 lbs., and being very handsome. I had afterwards an opportunity of seeing the house from which Mr. Smith cut this fine Pine. It is certainly one of the best houses of Pines I have seen for some time. There is a long row of Smooth-leaved Cayennes in this house, all having fruit in various stages, which will average about the same weight. These and some other matters at this neat and well kept place, I shall take another occasion of referring to. I also had an opportunity of seeing the fruit-room of Mr. Sorley, of Aighburth, and was much surprised by the magnificent collection of Pears. Mr. Sorley's name will be familiar to some of the readers of this Journal, he having frequently contributed interesting articles. The Grapes, evergreens, and general neatness of the place were very creditable.

I also visited several other places, and found them in very neat trim, all of them having fine displays of flowers, fruit, and vegetables. The Liverpool gardeners are, as a body, proverbial for neatness, industry, and respectability. They are also a very intelligent body, as was plainly visible at the meeting which was held on the Wednesday evening in one of the large rooms in St. George's Hall, where the Committee of the Liverpool Horticultural Society had prepared a very handsome collation for the exhibitors, which was served in a very substantial way, the drinking portion being tea and coffee. Afterwards some very interesting papers were read, and several good speeches made. A scheme was also proposed for the development of a society for the moral and intellectual improvement of the Liverpool gardeners. The room was crowded, and the attention of the whole body of gardeners present was riveted on the speakers for upwards of three hours; and, if I may judge from the friendly buzz of conversation which was heard at intervals, all were highly pleased, and appeared highly delighted that so good an opportunity had been provided by the Committee for them to converse, and socially to impart to each other their various successes and reverses. This is, without doubt, a step in the right direction, and one calculated to do a vast amount of good; and if horticultural societies generally would only adopt a similar means of bringing their exhibitors together, and meeting them in such a friendly and social way, it would promote a very genial reciprocity of feeling between them, which must be attended with the very best results.

In the course of the evening a very handsome gold-mounted walking-stick was presented to Mr. Broome, of the Temple Gardens, by the Committee, in recognition of the services he had rendered to the Society. They felt that they were indebted to Mr. Broome for a large amount of the success which their Society had attained, in consequence of his having, a few years ago, taken down to Liverpool two or three well-grown specimens of his favourite flower, and explained his mode of cultivation in a way so interesting and straightforward that the Liverpool gardeners at once set to work, and have now produced a show of these valuable autumnal flowers, such as has never before been witnessed, and which Mr. Broome, their veteran teacher, told them had never been surpassed nor, indeed, equalled. In acknowledging the handsome presentation (which was totally unexpected by Mr. Broome), he reviewed the whole history of his journey, through a period of upwards of forty years, in company with the Chrysanthemum, and the amount of information conveyed to all present cannot fail to be productive of much good to many, if not to all, of his hearers, and he was listened to with the utmost attention.

I may mention, in conclusion, that the Liverpool Horticultural Society is self-supporting, and that it does not depend upon any capricious donations or subscriptions from anyone. The prize schedule is formed, the date is appointed on which the exhibition is to take place, the various subjects are arranged in the noble Hall on the day appointed, and, as soon as the judges have performed their duty, the doors are thrown open to the public, who abundantly show by their attendance how much they can appreciate, and how willing they are to support, a society which, by the skill of a large body of intelligent gardeners, is able to produce such a grand display. If such a fine result as this can be produced in Liverpool, and be made self-supporting, why is it not done in London?—J. WILLS, F.R.H.S.

The following is a list of the prizes awarded:—

LARGE-FLOWERED CHRYSANTHEMUMS.—*Nine:* First, Mr. Fleming, gardener to Mr. R. Houghton. Second, Mr. Wilson, gardener to Mr. J. E. Reynolds. Third, Mr. Myers, gardener to Mr. R. Higgin. *Six:* First, Mr. Fleming. Second, Mr. Newman, gardener to Mrs. Holt. Third, Mr. Wilson. *Three:* Second, Mr. Lowndes, gardener to Mr. S. S. Parker. *One:* First, Mr. Wilson. Second, Mr. Fleming. Third, Mr. Dunbar, gardener to Mr. F. C. Braun. Extra, Mr. Airey, gardener to Mr. J. McArdle.

POMPON CHRYSANTHEMUMS.—*Nine:* First, Mr. Fleming. Second, Mr. Wilson. Third, Mr. Wood, gardener to Lieut.-Col. Wilson. Extra, Mr. Wilson. *Third:* Mr. Wood. *Six:* First, Mr. Airey. Second, Mr. Orr. Third, Mr. Wood. Extra, Mr. Shaw, gardener to Mr. P. M. Hannay. *Three:* First, Mr. Wilson. Second, Mr. Lowndes, gardener to Mr. S. S. Parker. Equal, Mr. Myers and Mr. Woollam, gardener to Major Blundell. Third, Mr. Airey. Equal, Mr. Dunbar & Mr. Orr. *One:* First, Mr. Fleming. Equal, Mr. Myers. Second, Mr. Wilson. Third, Mr. Orr. Equal, Mr. Lowndes and Mr. Woollam.

ONE STANDARD CHRYSANTHEMUM.—First, Mr. Airey. Second, Mr. Wilson. Third, Mr. Dunbar. Extra, Mr. Airey.

ONE PYRAMID CHRYSANTHEMUM.—First, Mr. Wood. Second, Mr. Wilson. Third and Extra, Mr. Dunbar.

ANEMONE FLOWERED CHRYSANTHEMUMS.—Three: Second, Mr. Shaw. One: First, Mr. Wilson. Second, Mr. Shaw.

CUT BLOOMS, LARGE-FLOWERED CHRYSANTHEMUMS.—Eighteen: First, Mr. Hobbs, Bristol. Second, Mr. Foster, gardener to Mr. S. H. Thompson. Third, Mr. Tiller, gardener to Mr. J. Crossfield. *Twelve*: First, Mr. Hobbs. Second, Mr. Foster. Equal, Mr. Dunbar. Third, Mr. Tiller. *Size*: First, Mr. Hobbs. Second, Mr. Phillips, gardener to Mr. J. G. Bateman. Equal, Mr. Dunbar. Third, Mr. Foster.

SIX FRANGED PRIMULAS.—First, Mr. Shaw. Second, Mr. Airey. Third, Mr. Myers.

FOUR DOUBLE PRIMULAS.—First, Mr. Sorley, gardener to Mrs. Zwilchenhirt. Second, Mr. Airey.

STOVE AND GREENHOUSE FERNA.—*Size*: First, Mr. Armstrong, gardener to Mrs. Hadwen. Second, Mr. Sinclair, gardener to Mr. R. Alison. Third, Mr. Tharm, gardener to Mr. Joseph Mayor. *Three*: First, Mr. Armstrong. Second, Mr. Sinclair. Third, Mr. Wilson. *One*: First, Mr. Sinclair. Second, Mr. Armstrong. Third, Mr. Wooliam.

TREE FERN.—Prize, Mr. Freeman, gardener to the Earl of Derby.

STANDARD MIGNONETTE.—First, Mr. Lamb, gardener to Mr. P. S. Boutt. Second, Mr. Lowndes. Third, Mr. Wilson.

MIGNONETTE.—First, Mr. Lowndes. Second, Mr. Lamb.

BOUTQUET FOR THE HAND (Gardeners).—First, Mr. Fleming, gardener to Mr. R. Houghton. Second, Mr. Freeman. Third, Mr. Eaves. (Nurserymen and Market Gardeners).—First, Mr. Rylande. Second, Mr. Delamere. Third, Mr. Ashcroft.

POINSETTIA PULCHERRIMA.—Three: First, Mr. Dunbar. Second, Mr. Titherington, gardener to Col. Thompson. Third, Mr. Everett, gardener to Mr. John Campbell.

ROMAN HYACINTHS.—Three Pans: First, Mr. Dunbar. Second, Mr. Newman, gardener to Mrs. Holt.

EUPHORBIA JACQUINIFLORA (Three Pots).—First, Mr. Freeman, gardener to the Earl of Derby. Second, Mr. Everett, gardener to Mr. John Campbell. Third, Mr. Porteous, gardener to Colonel Clay.

THREE ORNAMENTAL FRUITED PLANTS.—First, Mr. Shaw. Second, Mr. Freeman. Third, Mr. Foster.

THREE ORNAMENTAL-FOLIAGED PLANTS.—First, Mr. Sinclair, gardener to Mr. R. Alison. Second, Mr. Newman. Equal, Mr. R. H. Smith, gardener to Mr. H. Walker. Third, Mr. Everett, gardener to Mr. John Campbell. Equal, Mr. Wooliam.

HRATHS.—Three: First, Mr. Shaw. Second, Mr. Freeman.

PALM.—First, Mr. Freeman, gardener to the Earl of Derby. Second, Mr. Tharm, gardener to Mr. Jos. Mayer. Third, Mr. Wood. Extra, Mr. Tharm.

FRUIT.

TWELVE DISHES OF HARDY FRUIT (Nurserymen).—First, Mr. O. Rylande, Town Green. Second, Mr. R. Ashcroft, West Derby. (Gardeners).—First, Mr. Sorley. Second, Mr. Woolley, gardener to Mr. Jackson, M.P. Third, Mr. Smith, gardener to Mr. H. Littledale.

SIX DISHES OF FRUIT.—First, Mr. Freeman. Second, Mr. Bill, gardener to Mr. R. Sneyd. Third, Mr. Sorley.

PINE APPLES.—Three: First, Mr. Wallis, gardener to Mr. J. Dixon. Second, Mr. Porteous, gardener to Col. Clay. *One*: First, Mr. R. H. Smith, gardener to Mr. H. Walker. Second, Mr. Wallis. Third, Mr. Freeman.

GRAPE (Black Hamburgh).—First, Mr. Wilson. Second, Mr. Smith. Third, Mr. Woolley.

GRAPE (Black).—First, Mr. Ellis, Houlgrave, Seaforth. Second, Mr. Smith, gardener to Mr. Littledale. Third, Mr. R. H. Smith.

GRAPE (White Muscat).—First, Mr. Hill, gardener to Mr. R. Sneyd. Second, Mr. Forbes, gardener to Mr. J. A. Timmie. Third, Mr. R. H. Smith.

GRAPE (White).—First, Mr. Smith. Second, Mr. Williamson, gardener to Mr. T. C. Clarke. Third, Mr. Freeman.

PEARS (Desert).—Eight Varieties.—First, Mr. Ancherlonie, gardener to Mrs. Harvey. Second, Mr. Sorley. Third, Mr. Orr. *Four Varieties*: First, Mr. Lowndes, gardener to Mr. S. S. Parker. Second, Mr. Sorley. *Best Dish*.—First, Mr. Turner, gardener to Mr. Edward Bates. Second, Mr. Foster. Third, Mr. R. H. Smith.

APPLES (Desert).—Four Varieties: First, Mr. Smith. Second, Mr. Turner. Equal, Mr. Lowndes. Third, Mr. Barnett, gardener to Rev. W. B. Bolfield, Shiffnall. *Best Dish*: First, Mr. Lowndes. Second, Mr. Turner. Third, Mr. Foster.

APPLES (Culinary).—Eight Varieties: First, Mr. Turner. Second, Mr. Ancherlonie. Third, Mr. Freeman. *Four Varieties*: First, Mr. Wooliam, gardener to Major Blundell. Second, Mr. Titherington. Third, Mr. Orr. *Best Dish*: First, Mr. Wooliam. Second, Mr. Thompson, gardener to Mr. R. L. Bolton. Third, Mr. Orr.

EXTRAS.

BASKET PLANTS.—One: Prize, Mr. Newman, gardener to Mrs. Holt.

COLLECTION OF FRUITS.—Prize, Mr. Charles Rylande.

RUSTIC STAND OF FLOWERS.—First, Mr. Wade, gardener to Mr. R. Duke. Second, Mr. Lowndes.

COLLECTION OF GOURDS.—Prize, Mr. Jones, gardener to Mr. H. Duckworth.

TYNNINGHAM MUSCAT GRAPE.—Prize, Mr. Lees, Tynningham.

THE ROYAL ASCOT GRAPE.

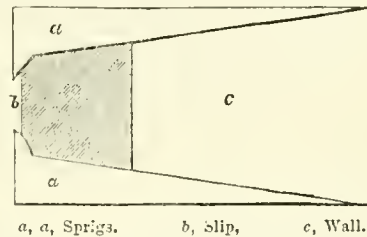
Is the Royal Ascot a late-keeping Grape? Does it set its fruit as freely and bring it to perfection in the same medium temperature that the Black Alicante and Lady Downe's do? And is it equal in size of bunch and berry to the above popular varieties? Some say it possesses every quality that a good late Grape ought to have, while others deny that this is the case. Now, I am about to plant twenty-six Vines of late-keeping sorts, and should like to include the Royal Ascot, but in the absence of more substantial information than mere opinion, I hesitate to do so. Actual proof is wanting, and if any correspondent who possesses the required information will

have the kindness to impart it through the medium of this Journal, he will oblige many others as well as—THOMAS RECORD.

TRAINING WALL TREES.

I OFFER a suggestion to my brother learners respecting the training of Peach and other wall trees. It is one resulting from a seven-years trial, with such comfort and success as lead me to hope it may prove acceptable to those for whom I write.

One wall in my garden, with a S.W. aspect, is unfortunately built with limestone, presenting an uneven surface, with stones of impracticable size. Zinc wires strained horizontally, which was my first remedy, fretted the bark, old and young, so much, that I had it removed as soon as circumstances would permit. After other ineffectual attempts I tried slips of white deal timber, half an inch by three-quarters inch, the latter being laid against the wall at intervals of 6 inches, and secured (but not nailed), to it in the following way. I ordered some "sprigs," from my nailer, to be made with longer "spuds" than they usually have—spuds are projections on one side of the head of this kind of nail—which I had made about half an inch long, the nails being 2½ inches long and a little stronger than common sprigs of that length. Five of these were sufficient to secure each slip of timber—viz., three below and two above in quincunx order. The slips are 8 feet in length, and two of them in a continuous line from the centre of the tree form the extent, 16 feet, which I can afford to each tree. It will be understood that the sprigs are not driven through the timber, which only rests on the lower ones, and is secured by the projecting spuds above and below, as shown in the accom-



panying engraving, by which means there is a spring in the timber, which greatly facilitates the tying with Cuba matting, no shreds of cloth or other material being needed or admissible, for when saturated with moisture that becomes suddenly frozen they are destruction to the bark of the young shoots, and injurious even to the matured wood.

I had occasion lately to move one of my trees trained in this way, and having removed the two upper nails over each slip, and perfectly freed the roots, the whole framework readily moved upwards, without disturbing a single tie, shoot, or branch; and my man Friday and I carried it (as he said), "body and bones" to its new site against a brick wall, and secured it as before. The angles of the timber being planed off, as appears on the very rough sketch which I have given above, the slips moved freely from the nails, and the young spray had still a bearing of nearly half an inch on the smooth, flat surface of the slip or lath, which had been previously painted, tacking a dozen or more together at the ends to other slips, so that the paint brush could just act between them, the lot being turned over to paint the backs when the fronts were finished. The cost is trifling compared even to wire, and the timber as sound after seven years' use as when put up. Should woodlice or earwigs, &c., hide between the slips and walls, pressure here and there on the slips soon settles their fate.—O. R. O.

ORANGE CULTURE IN FLORIDA.

MILLIONS of acres of the best land in Florida are covered with groves of the wild Orange. How these groves originated is a mooted question. Some suppose that the tree is indigenous on the peninsula; but as no mention is made of it by the narrators of the early Spanish exploring expeditions, and as it is a matter of history that the Orange was introduced by the first colonists nearly three hundred years ago, it seems probable that it is of foreign origin, especially as the fruit is known to deteriorate very rapidly and to return readily to its natural wildness, seedlings of the best varieties generally proving worthless. Be their origin what it may, the present existence of

these groves has an important bearing upon the prosperity of the State, as we shall see.

The wild Orange of Florida is of two kinds—the sour and the bitter sweet. Neither of them is palatable. The tree is very beautiful—far more beautiful than the cultivated varieties—and exceedingly productive. A grove loaded with its golden fruit is a sight one may afford to travel hundreds of miles to see.

The Sweet Orange has been cultivated in Florida almost from the first settlement of the country by the Spaniards, in the sixteenth century, but has not till lately become a prominent interest. The earliest groves were at St. Augustine—our “Ancient City”—and constituted for a long time almost the only source of income possessed by the inhabitants. In February, 1835, the “great frost,” as it is called, killed every tree to the roots; and not only every Orange tree but every fruit tree of all kinds in East Florida north of the twenty-ninth parallel of latitude.

Groves subsequently planted at St. Augustine and elsewhere were attacked by the scale insect (*Coccus heaperidum*), and most of them rendered worthless.

Within the last ten years there has been a revival of the interest in the Orange culture. The scale insect seemed to have ceased its ravages. The groves planted since 1858 have, where any tolerable degree of attention in the way of cultivation has been given them, flourished finely. In fact, some of them are now bearing heavily under almost total neglect.

It is not true, as some have asserted, that the scale insect has disappeared. It is still present in many if not in all groves, but it seems no longer to be capable of its former destructiveness. At any rate, trees planted in suitable soil and properly cultivated do not now suffer in any appreciable degree from its presence, and some of the old groves formerly ravaged by it and rendered unproductive, are now again in bearing.

The cost of planting an Orange orchard must vary greatly in different localities, depending partly upon the original condition of the land and partly upon the expense of getting the trees from the wild grove. Formerly the wild trees were considered as free to everybody, and people wishing a few to plant dug wherever they pleased; but now they are beginning to have a market value. It is not in all cases convenient or possible for a person to buy land with wild groves on it. A certain sum, then, must be allowed for stocks.

One gentleman with whom I am acquainted, and who has already planted several acres, estimates the cost in his case as only 25 dollars per acre. He does not, however, include the cost of clearing the land. I estimate as follows for ten acres of fresh hammock land with its natural forest growth upon it:—

	Dollars.
Cost of ten acres at 10 dollars per acre	100
Clearing and preparing	250
Inclosing with rail fence	200
1000 trees at 25 cents each	250
Planting and budding	100
Incidental	100

Dollars 1000

The use of the ground for other crops will fully pay for all the cultivation the grove will require for the first three years, after which there will be an income from the grove itself.

With regard to the productiveness of the Orange tree, it is impossible at present to arrive at any very satisfactory conclusion. This is partly because there has been no systematic mode of culture pursued, and the real production has varied greatly in different groves; but mainly because people in Florida never weigh, measure, or count anything, and really have no idea how many Oranges one of their trees produces. Some of the old trees at St. Augustine are said to have produced annually at least 8000 Oranges each. Mr. C. F. Reed, of Mandarin, on the St. John's River, gathered 12,000 from three trees last year, one tree bearing 3200, another 3300, and the third 5500. I have been told that thrifty trees sometimes bear as many as 1000 Oranges the third year from the bud, but such productiveness I think must be rare. The conclusion I have arrived at, from personal observation, is that a well-planted and properly cultivated grove at ten years of age will average 2000 Oranges per tree. Taking one half of this, however, as a basis of calculation, ten acres will produce 1,000,000, which, at 25 dollars per thousand, the lowest price of the last season in Jacksonville, amounts to 25,000 dollars. The crop of the present season has in some cases been bargained for in advance for 25 dollars per thousand at the grove.

Florida Oranges are the best in the world, and will always

command the highest price in all markets. Some of the best were sold in Jacksonville during the last winter as high as 50 dollars per thousand.

It should be observed here, that north of the twenty-eighth parallel of latitude, crops are occasionally cut off by frost; but a total failure from this or any other cause is rare.—D. H. JACQUES (*The American Horticulturist*.)

WORK FOR THE WEEK.

KITCHEN GARDEN.

DRAINING, trenching, and digging, should now be carried on with vigour, and the ground, if naturally heavy, should be thrown up in ridges, when a greater surface will be exposed to the anchoring and pulverising influences of frosts and thaws. Compost heaps should be frequently turned over during frosts. The planting of vegetable crops should now merely be confined to a few sorts of *Cabbages*, *Coleworts*, and late *Celery* for soups. *Cauliflower* and *Lettuce* plants in frames and under handlights, to be protected with mats, or long litter, in frosty weather. The hoe may be used occasionally in dry weather to destroy weeds between the rows of vegetables, and to draw earth to the stems of late *Broccoli*, *Cabbages*, &c.

FRUIT GARDEN.

Although November is the preferable month for planting and pruning fruit trees, if, owing to any of the many causes for delay, these operations were not carried into execution, I would strongly advise commencing such work as soon as possible, in order to finish it while this open weather lasts. In cases where several branches of a tree have become so luxuriant as to prevent a fair distribution of sap, or where the growth has been so rampant as to prevent the formation of blossom buds, the cutting of the stronger roots, so as to check the too luxuriant branches, or the general pruning of the roots in cases of too vigorous, though uniform growth, will be attended with advantage, inasmuch as vigorous growth and fruitfulness are severally promoted by means directly the opposite of each other. Though root-pruning is now frequently referred to as something new, it is nearly thirty years since I saw it resorted to, and then it was not thought anything remarkable for novelty. The practice, frequently recommended, of cutting the roots every year or so, and then surrounding them with a trenchful of rich manure, though, no doubt, attended with good results, possesses this anomalous feature, that the system owes the whole of its success to a perpetual doing and undoing, producing fertility by rendering the tree deficient in nourishment at one time, and supplying it with too much at another. When trees are deficient in fertility from over-luxuriance, I should prefer the raising of the roots nearer the surface, giving no manure but as mulching, and attending to early and judicious summer pruning, rather than a yearly mutilation of the roots, unless in circumstances where it was desirable to have as many fruit-bearing trees upon as small a space of ground as possible. Where the roots of Apples, Pears, &c., are within from 9 to 18 inches of the surface, the trees may soon be deprived of extra luxuriance by judicious summer-pruning, merely preserving as many leaves on the shoots as will insure a healthy action between the roots and the branches, and not so many as will shade those buds at the bases of the shoots, and on small spurs, that can only be rendered fruitful by a free exposure to light and air. In extreme cases, as in fine old Pear trees that have become barren in the centre, the raising of the roots, and supplying the tree with young wood, would, doubtless, be attended with good results; but with trees of moderate age and equality of growth, it will seldom be necessary, unless in the case of trees of peculiar habit.

FLOWER GARDEN.

This being about the best time for procuring a few Roses for the flower garden, those who are desirous of collecting a small group of good sorts, should obtain the following, which are mostly Perpetuals, or which flower from June until late in the autumn, when frost puts an end to their beauty—viz., *Acidalie*, *Bouquet de Flore*; **Duchess of Sutherland*, **Madame Laffay*, *Auberson*, **Fulgera*, *Duc d'Aumale*, *Bernard*, *Crimeon Perpetual*, *Prince Charles*, *Bongère*, *Goubault*, *Elise Sauvage*, *Comte de Paris*, *Triomphe du Luxembourg*, *Sylvain*, **Lady Fordwick*, **Lamarque*, and **Jaune Desprez*. The above are good, and not expensive to buy. Those marked with an asterisk (*) are well adapted for covering walls, or for training up pillars, &c. If planted in a bed they had better be placed in the centre,

or wherever it is wished that the bed should be highest. China, Tea, and Noisette Roses, should be kept in pots till the spring. Other kinds may be planted with advantage about this season, when the weather is dry and not frosty. The florist may now take breath. His Tulips are all safely in the ground, and in a growing state, and, comparatively speaking, out of harm's way. The Carnation grower's chief care must now be to prepare his compost for next season. His turf must be turned often, very often, during the next three months, carefully picking out of it the florist's plague, the wireworm. His leaf soil also must be shaken up and sweetened, and a proper quantity of thoroughly decomposed stable manure must be made sure of, whatever other crop go without.

GREENHOUSE AND CONSERVATORY.

The only attention required now for greenhouse plants is to keep them free from damp, by having the house well aired, and all dead leaves removed. Stir the soil in the pots occasionally, and use as little water as possible. *Euphorbia jacquiniiflora* is an excellent conservatory plant while it is in blossom, but at other times it must have stove treatment. Last season about this time some large plants of it were pruned, to see if by a little forcing in spring they could be induced to flower early this winter, but the experiment failed in some measure; as soon as the plants began growing in spring, they also flowered on the young growth, but not satisfactorily, and now they are not more forward than others that flowered last Christmas, and that were pruned in January.

STOVE.

The highest night temperature in the stove for this month should not exceed 60°, which may be maintained as long as the weather keeps open; should the weather, however, suddenly change to hard frost, do not strive to keep up this temperature by strong fires; 50° will be high enough in very severe weather, and strong fires will not be needed, even to keep up that heat, so that in many cases water must be sprinkled over the paths, pipes, &c., to prevent the highly dried air from injuring the plants. Strong stove climbers that do not blossom freely should now be root-pruned, by cutting off some of their largest roots near the surface, or if they are to be taken up next spring and tried in boxes, this is a good time to begin to prepare them, not, however, by cutting their roots, but by tracing one half of them to their extremities, and then placing them near the surface, with some light compost thrown in amongst them. By the end of January these roots will have formed a fresh set of young fibres, and then the other half of the roots may be served after the same manner, but leaving the plant in the same place till later in the spring. This is a safe mode of treating plants that are to be removed from the borders of any of the houses, or for checking their luxuriance.

PITS.

Such a season as this proves how useful temporary structures are for protecting greenhouse plants late in the autumn; the general plan is to cram all the pits and houses on the first appearance of frost in October, whereas almost all the plants of this kind might yet be partially in the open air, and be much benefited by the treatment. For some families of plants, *Pelargoniums*, for instance, that are worked much out of season, pits and structures of the sort are particularly useful. To have fine specimens of *Pelargoniums* in blossom from August and September, October is the best time to cut down the plants, and from that time till after Christmas they should be as much exposed to the open air as rain and frost will permit; then they will only be coming into leaf again, and after two months' protection in the greenhouse, &c., they may be again turned out into temporary pits to keep them back, and as the warm weather comes, they may be placed under a north wall.—
W. KEANE.

DOINGS OF THE LAST WEEK.

TIMELY HINTS.

Management of Fires and Flues.—We are told we ought to have been more explicit on this subject a few weeks ago, as many new readers have not back volumes to refer to, and since the humorous account given by "A. R. L.," at pages 354 and 355, telling how a flue that would not draw was made to burn well at last, we have had numerous questions about it, the most of which might at once have been put to the test of experiment, and the only one that needs an answer, is that referring to the remedy that is to be applied when there are no soot doors to open in order to light a fire.

Now, when a boiler is set over a furnace, and there is only a short flue to the chimney, there is generally no want of a good draught. Unless well managed, the draught would be strong enough to take three parts of the heat up the chimney, and send it out to heat the general atmosphere, a matter of importance to the person who has the fuel to pay for.

When a furnace has to heat a flue, whether the furnace is also to heat a boiler or not, it is a matter of first importance that the furnace grating or fire-bars should be from 24 to 36 inches below the bottom of the flue. If this matter is looked to, there will rarely be any difficulty as to quick draught, except where the flue is very long, has several turnings, or is damp inside, either from moisture percolating, or long disuse. A flue connected with a furnace that heats a boiler before the heated air goes into the flue, is more likely, if long, to draw slowly, because a good portion of the heat is absorbed by the boiler before it enters the flue. When heating by hot water, and the most is to be made of the fuel, it is well to have a flue in addition, instead of sending so much heat up the chimney. When a large boiler is used, a flue taken from it might thus heat a separate house. We have in our eye a conservatory heated in this way; a boiler and pipes, and a flue from the furnace, with three turns in the back wall, so that before the heated air reached the chimney it was tolerably cool. In this case, dreading the sour smoke that was sure to fill the stoke-hole at the first lighting, we generally chose a dry bright day for putting on the first fire in the autumn, and if that did not do, we just adopted the engineer's remedy, and put a fire in the flue, by taking out an iron smoke plate; excellent assistants in all flues, as thus the flue may be easily cleaned without breaking or knocking it to pieces.

In many other instances, where the flues were not very long, where there were no soot doors, and yet from not having a fire for many months, the flue was apt to be back smoke in the stoke-hole, we found a draught was at once secured by going to the chimney top, and lighting dry straw or shavings in it a few feet from the top; a few handfuls generally did all that was necessary, as the air thus rarified drew the heavier air to supply the comparative vacuum, and the draught in the furnace was at once secured. As already stated, however, unless the flue has many turns, or is very long, the sinking of the furnace low enough will generally insure draught. We have known cases where chimneys were raised a couple of yards to get free draught, when the sinking of the furnace-bars 12 inches would have been more effectual. The only drawback to this, especially when the flues go beneath the floor of a greenhouse, is, that the stoke-hole must go all that lower, a matter of no great importance, except when water comes in the way, as then means must be taken by cement or otherwise to keep the place dry.

As regards the management of fires, we are not surprised to find, by these pages, that there are so many complaints about the quantity of fuel consumed in heating boilers, &c., because, in the first place, we have never yet worked a boiler that did not require more fuel to keep up a continuous heat than the purchaser was given to understand it would do. "Only see," says the vendor, "what a small supply of fuel will heat the water sufficiently," and so it may, but little or nothing will not keep it hot. We can well recollect in one case, how chaldron after chaldron of coke used to be grumbled at. There was never anything like the consumption of fuel before, no, never; but there was another no-never, never mentioned, that instead of being satisfied with Grapes in August, they must be had in the beginning of May. But not knowing all about this, we actually had all the huge clinkers broken up and pitched into the furnace a second time, until they came out like as much iron, and, determined to have something to burn, we used up lots of half decomposed caky dung fast approaching the peaty state, and obtained heat from it too; but the wind one night took the smoke and fumes to the windows, and after that there was no more talk about the waste of coke. But for that fortunate wind, we would soon have settled some waggon loads of the manure, of which there was no scarcity; but it was not the most pleasant thing to work among, and we were glad to let it alone. It made us do our stoking, however, with such care and circumspection that we could be satisfied no one who knew the facts of the case could say there was waste.

We have no doubt that complaints are often just, because there is waste either from ignorance or inattention, so much so, that in all places where there are many furnaces a good stoker is just another word for a good eaving, and especially in districts where coal is yet dear, or has to be far driven. So much is this the case, that for heating small houses, where a person

interested can see the work done, or do it, all our experiments prove that the best and dearest coal is also the cheapest; but an inferior coal will often be the most suitable, just because when an extra quantity is burned carelessly there will not be the same value lost as if it had been the best coal. Thus, also, as far as fuel is concerned, the heating a number of houses by one boiler will be the most economical, because there is only one chimney instead of many to take away the heat from the furnace.

In lighting a furnace fire, a little dry wood, straw, and shavings are as good as anything; and when burning, a little coal, such as nuts from the size of beans to walnuts, without dust, will generally take at once, and when fairly lighted other fuel may be added; but cinders, half-burnt coal, and coke do not ignite so quickly as these little bits of coal, which also should be rather dry. We are presuming that before lighting, the furnace is well cleaned out, and that if the ashpit is not cleaned out entirely that there should be sufficient space between the bars and the ashes to allow the air to have as much access as is desirable. Not so long ago we were asked our advice as to a furnace that would not draw a bit unless the furnace door stood open. The ashpit was as compactly crammed as if the cramming had been one of the essentials of management. In lighting, shut the furnace door and leave the ashpit door open, so that plenty of air may pass through the furnace bars to the lighted fuel. As soon as the boiler or flue is becoming heated, partly shut the ashpit door, and when hot enough shut it altogether, leaving only a small opening to allow as much air to enter as will keep up a slow, regular combustion of fuel.

For heating by flue alone we would have no damper in the flue, as it is liable to cause injury, but regulate draught entirely by the ashpit door, and if this is done by allowing only a small slit for air, the flue will be pretty warm and the chimney almost cold. When a furnace is used for heating a boiler only, and it is merely a few feet from the upright chimney, there should be the same attention to the ashpit door, but that will not be enough; a damper near the base of the chimney will also be required, to be drawn nearly out when lighting the fire, and until the heat is up, and put nearly in when the fire has become bright and the water hot enough. Sometimes a mistake is made by sending the damper right home; but any injury from this cause is easily prevented by having a hole, say 1 inch in diameter, in the centre of the damper. Whenever the heat is well up, and there is fuel getting into an incandescent state, it is always a true sign of bad management to see the damper out and the ashpit or furnace doors open. In the first case the heat escapes freely up the chimney instead of being sent back to, or more confined round, the boiler. In the second case a rapid consumption of fuel takes place by the free admission of air, and the open furnace door lets the heat freely out for the benefit of the neighbourhood. Of course when there is too much heat the opening of the furnace door and the shutting of the ashpit door will lessen draught, and what is desired takes place—the heat is gradually lessened, at the expense of wasting the fuel. Such things will happen in sudden changes of weather with the best stokers; but when these little matters are attended to in a sort of haphazard way, it is impossible that the most can be made of the fuel for heating.

In applying fresh fuel it is best to keep the incandescent fuel next the flue, and the fresh nearer to the furnace door. Much of the smoke is thus consumed, and the moisture in the new fuel is, if the fire is strong, also decomposed, and adds to the heat. Ashes and small dusty coal are best used after the fire is strong, and placed in the position indicated; and if such small dusty fuel be well watered before using, it will burn all the better, because it cakes as the heat takes the moisture from it. In practice we find that a small hole near the top of the furnace door for flues, and either there or in a soot plate not far from the boiler when hot water is used, tends to the lessening of the smoke, and so far to its consumption. A small stream of air, such as would have entrance from a hole from one-eighth to one-quarter of an inch in diameter, acts very differently from opening the furnace door. With the exception of small coal for lighting, we would if we could prefer coke for fuel, for besides being more under the control of the ashpit door and the damper, the outside appearance of the houses is less injured by smoke. Ere long in all large places the smoke will be carried to a distance. Much of it becomes a great eyecore in small places. We know of some scores of nice little glass houses that are unheated on account of the smoke, and as gas is not to be had; but even where it is so, if

not used carefully, it would be as injurious to plants as the frost.

We find that, so as to suit beginners, we have said nothing about banking up fires the last thing at night. A few ashes will generally be sufficient; but if the ashpit and furnace doors are properly attended to, there is little necessity for one getting his throat full of dry ashes. In greenhouses, unless in continued frosts, continued fires are seldom necessary. In many cases a brisk fire is all that would be needed. A great deal will yet be done with just one brisk fire, and the fire allowed to go out before lighting again. But in the case where a continuous regular heat is wanted by night as well as by day, the only true mode of management is to get the heat up by bedtime, and allow it to fall a little at night by a slow combustion. We have managed this regular heat very well in this way without dust or ashes: Instead of raking the bars as at lighting time, heat the fuel down on them, add the fresh which experience deems necessary, beat that gently, and shut furnace and ashpit doors, leaving only a small opening in the latter; a slit, 1 inch long and less than a quarter of an inch wide, will give enough air to play on the fuel thus pressed down. In the morning, when it is generally coldest in winter, a stout poker or crowbar run through such fuel, and the opening of the ashpit door, will soon give a bright fire.

Next in importance at present, is a very simple matter.

Watering.—Much of future success depends on the waterer. We have still a great portion of our hedging stuff in cold frames, and these old and none of the best. In such dull weather it requires a little management to keep plants from damping. Some things will become dry to their injury, moist and foggy though the weather be, and a careless waterer would do infinite mischief. Each pot should be carefully watered gently by the spout. In fact, the best plan is to lift the plants out, water them, let them drain, and then replace them. In greenhouses, similar care should be used. Calceolarias and Cinerarias need a considerable quantity of water, unless in the duldest weather; but both delight to stand on damp moss, and, therefore, may have their wants attended to without deluging other plants. Chrysanthemums will not do to be dry, but they are frequently kept too close and damp, and Camellias should be damp rather than dry. Everything will want water according to its growth, and the temperature and sunlight; but in all greenhouses now, no water should be spilled or splashed about, as in every change of weather that water is apt to rise as vapour, and in a frosty night be condensed against the glass, and in many cases come all over the plants as an ugly shower. Even in plant stoves, there is danger of too much water being spilt in such foggy weather, and where no means are used to prevent drip, as continuous planes of glass, fluted bars, or double roofs, the drip often does much injury. Where there are few incentives to dry soil in pots, where evaporation by foliage is pretty well met by absorption, water should be used with care, and none allowed to run to waste. In all such mild, dripping, foggy weather as we have lately had, there is more danger of plants being too wet than too dry.

Air-giving.—When cold and frosty, if we gave a little air, we should keep at that little, rather than give more, and as a consequence give more fire heat. In such mild, foggy weather, we should give a little fire heat where we could, so as to afford a little air top and bottom, to promote a free circulation. In frames and pits, where no artificial heat could be given, the sashes were tilted back and front, to admit air without much moisture. We find we must give more air than we have done to the pit of Calceolaria cuttings, as against our will they are striking root—these first put in—and we would rather they had been a few weeks later, as they will be more sensitive to frost, and especially as standing so thickly, and, therefore, we must keep them as robust as possible, so that they may not grow much. We like best when these bedding Calceolarias do not root much until after the shortest day is past; the mild weather has brought them on sooner than wanted, but they look very well now, with not a break in the thick lines.

Washing Glass.—Nothing will make up in such days for the want of clean glass. That over the Calceolarias, and much besides, was anything but clean. We have had a rather heavy job in washing lights inside and out, and especially inside. Smearred, clouded, dirty glass, is as unwholesome to a plant, as a dirt-encrusted window is to the dweller in the room, to which the window belongs. Like ourselves, plants rejoice in the light, and in such close, damp weather all that we can give them under glass will be little enough, especially to all our favourites that come from brighter skies than ours. It is well to treat a

plant so as to deserve its thanks, for, like a child, it has not learned deception, but will look bright or gloomy just as it is considerably and intelligently used.—R. F.

COVENT GARDEN MARKET.—DECEMBER 2.

A VERY FINE supply of English Fine Apples is coming in now, also some very good ones from St. Michael's, chiefly of the Smooth Cayenne variety. Vegetables are also plentiful and of good quality, the Broccoli especially; but we have a very indifferent report to make of Potatoes generally.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples..... ½ sieve	1	6 to 2	Melons..... each	2	0 to 5
Apricots..... doz.	0	0 0	Nectarines..... doz.	0	0 0
Cherries..... lb.	0	0 0	Oranges..... 100	4	0 8
Chestnuts..... bush.	10	0 18	Peaches..... doz.	0	0 0
Currants..... ½ sieve	0	0 0	Pears (dessert) .. doz.	2	0 6
Black..... doz.	0	0 0	Pine Apples..... lb.	3	0 5
Figs..... doz.	0	0 0	Plums..... ½ sieve	6	0 0
Filberts..... lb.	0	9 1	Quinces..... doz.	0	9 1
Cobs..... lb.	0	9 1	Raspberries..... lb.	0	0 0
Gooseberries .. quart	0	0 0	Strawberries.. per lb.	0	0 0
Grapes, Hothouse.. lb.	3	0 6	Walnuts..... bush.	10	0 15
Lemons..... 100	4	0 8	do..... per 100	1	0 2

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes..... doz.	3	0 to 6	Leeks..... bunch	0	4 to 6
Asparagus..... 100	0	0 0	Lettuce..... per score	2	0 4
Beans, Kidney ½ sieve	3	0 4	Mushrooms..... pottle	2	0 3
Beet, Red..... doz.	2	0 3	Must.& Cress, punnet	0	2 5
Broccoli..... bundle	1	0 2	Onions..... per bushel	5	0 7
Brus. Sprouts ½ sieve	2	0 0	Parsley..... per sieve	3	0 4
Cabbage..... doz.	1	9 2	Parsnips..... doz.	0	9 1
Capsicums..... 100	0	0 0	Peas..... per quart	0	0 0
Carrots..... bunch	0	4 0	Potatoes..... bushel	4	6 0
Cauliflower..... doz.	3	0 6	Kidney..... ds.	4	0 7
Celery..... bundle	1	6 2	Radishes doz. bunches	1	6 0
Cucumbers..... each	0	4 1	Rhubarb..... bundle	0	0 0
Endive..... doz.	2	0 0	Sea-kale..... basket	8	6 0
Fennel..... bunch	0	3 0	Shallots..... lb.	0	8 0
Garlic..... lb.	0	8 0	Spinach..... bushel	2	0 3
Herbs..... bunch	0	8 0	Tomatoes..... per doz.	1	0 2
Horseradish .. bundle	3	0 5	Turnips..... bunch	0	6 0

TO CORRESPONDENTS.

. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Books (*Harry*).—"The Modern Peach-Pruner," by Brühart, 3s. 6d.; "Heating," by R. Fish, 6d.; "The Cottage Gardeners' Dictionary," 6s. 6d.; and Johnson's "Science and Practice of Gardening," 3s. You can have them free by post from this office if you send in stamps, with your address, for the first, 3s. 8d.; for the second, 7d.; for the third, 7s. 2d.; and for the fourth, 3s. 4d. (*A.R.*).—London's "Hortus Britannicus" states the Latin names of plants. The "Cottage Gardeners' Dictionary" states the names of all worth cultivating.

GREEN GAOE NEAR A TOWN (*J.A.*).—It is this variety, and not Plums generally, that is spoken of in the passage you mention.

MAHALÉ CHERRY STOCK (*A Reader*).—The Mahaleh stock is a species of Cherry (*Cerasus Mahaleb*), and is raised from suckers, layers, and by sowing the stones. It is used as a stock for the Cherry because it dwarfs the trees, and on that account is very desirable, as the trees, as bushes and pyramids, can be grown in a small space, and they come into bearing much earlier than those on the wild Cherry stock.

FORMING PYRAMID CHERRY TREES (*Idem*).—Commencing with a maiden plant, the head should be taken off at 13 inches above the point of union of the graft and stock. This will cause the production of side shoots, the uppermost of which is to be trained as a leader, and all the others should have their points taken out as soon as they have made six leaves, commencing with the strongest and ending with the weakest; when the shoots push again, take out their points at the third leaf. The leader may be stopped when it has grown 12 inches, and it will push one or more shoots. One is to be trained as a leader, and the others should have their points taken out at the third leaf. In winter the leader should be cut back to within about 15 inches of the last stopping, and any of the side shoots that are irregularly may be shortened so as to have the tree widest at bottom and gradually tapering upwards. As respects the leader the treatment is the same in the following year, and afterwards, until the desired height of tree is attained, and the side shoots are allowed to make shoots with six leaves; then take out their points, keeping them closely pinched-in afterwards to one or two leaves. Care

must be taken to stop so as to form a perfect cone or pyramid, encouraging the shoots in the hollow places, and not stopping them until they are of equal length with the others, and when they are too prominent pinch more closely. Pyramids on the Mahaleh stock may be planted 4 feet apart, so that 2722 will be required to plant an acre. At that distance biennial lifting is not necessary, but it will answer very well. We plant ours 6 feet apart, and only move them when they become too vigorous, which is about every third year. At 6 feet apart 1210 trees are required for planting an acre.

CLIMBERS FOR FERNERY (*Subscriber*).—If you are erecting a fernery at the back of a wall which will give the fernery a north aspect, few climbers will succeed in such a house, as it will not receive much sun. We can, however, recommend *Lapageria rosea* for the roof, and the back wall we would have made to hold plants, and plant some of the *Davallia*, as *D. dissecta*, *D. canariensis*; *Drynaria pustulata*, *Acrophorus hispidus*, *Nephrolepis toberosa*, *Niphobolus rupestris*, *Platyterium alcearum*, which will grow if properly supplied with moisture; and their rhizomes grow over the wall, being very pretty if intermingled with *Selaginella denticulata*. *Lygodium scandens* is a handsome climbing Fern, and will succeed in a greenhouse temperature, and so will those named. You could not introduce flowering plants into such a house advantageously.

SOWING SEEDS FROM AUSTRALIA (*A.M.T.*).—The seeds should be sown at the end of February or beginning of March, in sandy peat two parts, and one part light turfy loam, covering them with soil equal in thickness to the thickness of the seeds. Place them in a hotbed, plunge the pots to the rim, and maintain a temperature at bottom of about 75° or 80°, and a top heat of from 65° to 70°, with a rise from sun heat. They should be kept close and moist, but without making the soil very wet, until the plants appear, then give air and keep them near the glass. When large enough to handle pot singly in small pots, and forward them in the frame until established, then harden them off and remove them to a light airy situation in the greenhouse, where they will succeed admirably.

GRAPES NOT COLOURING (*Idem*).—The cause of your Grapes not colouring well is probably the abundant crop. Overcropping is generally the cause of want of colour in Grapes, and in your case we think the sole cause.

TRENTHAM BLACK GRAPE (*Reader*).—There is no discrepancy in the opinions; it does keep well under favourable circumstances, in some places and seasons better than the Black Hamburgh, but in others not so well. Lady Downe's and White Tokay will succeed well in a cool viney if left be given at the time of their blooming and of the Grapes stoning.

PRUNING VINES (*Idem*).—Your young Vines newly planted ought to be pruned now to the height you require them to be in order to extend through the wall, and up the front lights to within about 15 inches of the roof. The shorter you prune them the more vigorously they will start next year, but the canes ought to reach as high as the bottom of the front lights. For planting out we prefer Vines one, and not more than two years old from the eye, good strong canes that have not fruited, the younger the better; but we see no objection to yours, they will, no doubt, do very well unless they have been fruited in pots for two or three years, and then they do not answer so well as plants of one year's growth.

MELONS AND PEACHES FOR JUNE (*W.F.C.*).—The seeds of the Melons should be sown early in February (first week), and grown on in a good hot not too strong heat. Peaches should be started at the same time, but the house ought to have been kept at about 49° for a fortnight previously.

JASMINE GRANDIFLORUM FLOWERS FALLING (*Dilemma*).—We think the flowers fall prematurely from the plant not having enough water at the root, and from the house being kept too close and moist. Give more air, and keep the plant well supplied with water. The flowers at best are not of long continuance individually, though they quickly succeed each other, and the plants in that way continue a long time in bloom.

PREPARING GROUND FOR ROSES (*A Copley Cottage Gardener*).—We would advise you to trench the ground at once 2 feet deep, bringing some of the lighter soil to the top, and mixing it with the surface soil, which you say is very stiff. Digging now cannot make it more adhesive, but exposure to frost will pulverise it, and you may make it more friable by adding sand. In trenching throw it in ridges, and as roughly as possible so as to expose it to frost. If you cannot obtain sand, ashes will answer the purpose of making it more open. The manure you name will not be suitable, but you may mix it with soil, and let it lie for twelve months, turning it over once or twice during the summer, and in the autumn or winter it will be a good manure for Roses, and excellent for top-dressing Strawberries. Of course, the ground will be made more close and mud-like by digging it in wet weather. Chose dry weather, or dry for the season.

SELECT ROSES FOR POTS (*Dilemma*).—*Hybrid Perpetual*: Madame Vidot, Charles Lefebvre, Senateur Valsco, Caroline de Sansal, Jules Margottin, Madame Boutin, Lord Macanlay, Baronne Prevost, John Hepper, and Duc de Rohan. *Tea-scented*: Devoniensis and Gloire de Dijon.

PEAR BRANCH SPLIT (*Inquirer*).—Bind up the split part with bast matting shreds, and cover the whole of the binding with clay, as in last log. If a stake be driven firmly into the ground so that the whole tree and especially that branch can be kept from being wind-shaken, the healing will be promoted. If you enclose five postage stamps with your address, and order "Fruit Gardening for the Many," it will be sent to you free by post from this office.

GOLDEN QUEEN MELON.—We are sorry to hear from Mr. O. Taylor, that he has been inundated with applications for seeds of this Melon in consequence of his offering a few to one correspondent. *He has none left.*

REPOTTING CAMPELLIAS AND AZALEAS (*R.S.*).—When Camellias and Azaleas are well established, they will do very well without potting for several years, nicely fresh-surfacing them. We prefer that to too frequent potting. Potting every year will not hurt them if done judiciously.

WATERING A VINERY BORDER (*A.R.*).—We would water the inside Vine border with water at 85 before beginning to force. The quantity of water must depend on the dryness of the soil, and the time for a repetition on the character of the season.

VINES OVER-FORCED (*G.H.G.*).—The Vines that have been forced so hard and made weak, would be the better of being forced less, pruned more, and of stronger growth being encouraged. The roots that have come so liberally from the Vine stems, show either that the house was kept moist and the border rather dry, or that there was something the

matter with the roots, and the Vines inside consequently put forth roots in self-defence. Probably the border wants some fresh material or drainage.

VINE IN OUTSIDE BORDER (R. S.).—If you can obtain as much of your small young Vine shoot as will leave you a bud or two tolerably well ripened inside the house, we would prune to the one or two buds, and carefully remove all other buds and spray. If not, and the Vine, as you say, is so weak, we would carefully take it up, and grow it in a pot inside until midsummer.

TOP-DRESSING A VINE BORDER (R. S.).—A little lime rubbish on the surface of a border for Vines would do no harm, but the propriety of a heavy dressing would depend on the state of the border, and in no case would we add much to the surface at one time. The dressing of dung over the lime rubbish would be beneficial. Cowdung would not be so good as horse dung, unless it were half-decayed and rather dry. For want of better, fresh cow dung may be used and broken up when dry, the chief objection to using it wet and fresh is, that if the border is wet before applying the dung little air will pass through the close surface.

HYACINTHS IN POTS (An Amateur).—If your Hyacinth bulbs are in the open air under ashes, they will not probably want any water until you take them out to grow them for bloom. The moving them for this purpose ought not to take place until the pots are getting full of roots, and the top of the bulb is moving. If your bulbs are under cover they may become too dry, but it will be better to water all round the pots instead of making them too wet. We should think that being potted a month, many of the pots may now be removed into the light. Try a few and see how the roots are.

HEATING A CONSERVATORY (E. A.).—The fireplace you have in the conservatory would keep out frost, more especially if furnished with a regulator to cause a small draught at night. We do not know the terra cotta stove to which you allude, but we think a fair-sized iron stove would do for the conservatory and the gallery in connection with it, if the stove stood a few feet from the fireplace, free all round, and a metal pipe went from the stove into the chimney. In such a case the fireplace should be boarded or banked-up. The stove will give out three or four times the heat of the fireplace. A flat-topped one would be best, as you could place a vessel of water on it.

FIO AND ROSE TREES IN POTS (Agaricus).—If you wish to have a good crop of Figs from the plants in pots, do not shorten the shoots now or at all, but thin out the weakest so as to give more room. Do not let the soil in the pots become dust dry, but dryish rather than wet. Remove some of the surface soil with a pointed stick, and replace with rich compost. Do not repot either now or in the spring. When you wish to repot, do it immediately you gather the fruit. If the plants are much shaded in ainery they will not fruit well. On the same principles as those on which we give the above advice we would say, force those fine Roses in pots as you have received them, so full of roots. Do not attempt to repot them until you have obtained flowers from them.

SUCCESSION AND HEIGHTS OF PEAS (An Amateur).—Of the three Peas named, Bishop's Longpod is about 1½ feet in height; Advancer from 2 to 2½ feet; Yorkshires Hero, 2½ to 3 feet in height. Of these none is very early. For a dwarf early Pea the best is Little Gem, 1 foot in height. It comes in a little before Advancer, and then the other kinds would follow. As a succession and higher, and fine Peas, we would recommend Harrison's Perfection, 2½ to 3½ feet; Vetch's Perfection, 2½ to 3½ feet; Mammoth Dwarf Marrow, 2½ to 3½ feet. These three are first-rate in quality and generally bear well. In some places Vetch's Perfection does not corn so well as in others. A smaller Pea always bears well—Knight's Green Marrow, from 3 to 4 feet in height.

FRUIT GARDEN ARRANGING (T. T.).—We should prefer planting in December, instead of February; but you may safely plant during mild weather until March. The meaning of "double worked," is that the plant is twice grafted; this does not interfere with the training at all. The Marie Louise Pear is one that does not succeed well on the Quince, but by working the Quince with a variety that succeeds on it, and then working that with the Marie Louise, the latter is rendered healthy and prolific. You write of cordons with single stems 2 feet apart. They will certainly only have a single stem, and one shoot to begin with, but another shoot will be originated in the year following the planting, and you will have shoots 1 foot apart, or the wall or space will be covered with branches or cordons 1 foot apart. You certainly expressed a desire for vertical cordons. We think you are acting wisely to have all the trees against the walls oblique-trained, but those in the open ground vertical-trained. Vertical cordons will succeed admirably, 4 feet being allowed between the rows of trees.

BOILED versus UNBOILED BONES (A Lady in Cheshire).—Bones in a ground state are in general boiled, to free them of the oily matter, or rather it is extracted for making cart grease, and other purposes. In this state they are best applied to Vines for surface dressing, but for border making they are best naboled, but kept so as to be dry or old. When used fresh, and with a quantity of fatty matter adhering to them, we have known them injure the roots of the Vines coming in contact with them. When used unboiled the bones should not be placed in immediate proximity to the Vines, but at the lower part of the border, covering for 6 inches or so of the border with turf only; or if bones are used let them be old and dry, or boiled crushed bones.

OLEANDER NOT FLOWERING (Idem).—Your plant 3 feet high does not flower because it is not old enough. We advise you to pot it next spring, when it begins to grow, in a rather small pot for the size of the plant, draining well, and using a compost of two thirds turfy loam, and one part leaf mould or sandy peat, adding one-sixth of silver sand. Encourage growth by affording a moist atmosphere, syringing twice daily, and giving a good supply of water at the roots; indeed, when growing it should have abundance of water. It should have the warmest situation in the greenhouse, and when it has ceased growing, give it the lightest and most airy situation, diminishing the supply of water, and it will, no doubt, form bloom buds and flower another year. In winter keep it dry, giving no water except to keep the foliage from flagging.

PRUNING LAGERBERGIA ROSEA (W. H. M.).—It is desirable to have the shoots thinned when they become too thick. It would not injure the plant if the thinning be carefully done. Remove the oldest shoots, and especially those which have flowered. It may be done in January or February, but best when the plant is beginning to grow, or a little before it does so.

MOSS ON GOOSEBERRY AND CURRANT BUSHES (G. P.).—It would be desirable to remove the moss, and we would do so at once, and, after scraping off all you can, take off the soil round each bush as low as the roots, but without injuring them, replace it with about four good spadeful of manure, and then cover the manure with the soil removed, or part of it, not burying the stem too deeply. You may then wait until the first rain, and whilst the bushes are wet dust them thoroughly in every part with fresh-slaked lime. It will destroy the moss, and be less tedious of application than washing them with lime and soot. The limedusting may be repeated early in spring before the buds open.

BETROOT STORING (Idem).—You may store Beet the same as Potatoes and cover with soil as you propose. It keeps well. To name fruit we must have good specimens. There is more than one kind of Pear called "The Pound."

PEACH TREE TRAINING AND PRUNING (O. R. O.).—Your case is not a solitary one. We see in almost every nursery trees that have from three to five or more branches or shoots, the lowest side shoots in most cases not one-third so strong as the upper side shoots and leader. In gardens we see trees everywhere with side shoots or branches not so long, nor nearly so strong, as the central part, and, unfortunately, little can be done to transfer the vigour of the upper shoots to the lower ones, for the subjects are in many cases too confirmed in their vices for any immediate improvement to be effected, and yet much may be done. In your case we would at once cut out the leader, if you have one, and reserve an equal number of side branches on each side of the stem. The tree will certainly look rather odd without a leader or shoots trained erect, or nearly so. Never mind that, the lower part of the wall must be covered first. Having cut away the leader and such of the side shoots as are not required, no further pruning will be needed unless there are shoots training in for bearing; then these must be shortened as already treated of (see page 404). The upper side shoots being stronger than the lowest side shoots, the former must be depressed, bringing them with a curve downward, their points towards the ground or stem of the tree. Let the shoots be bent gently and with a graceful easy curve, and with care, so as not to break or otherwise damage them. Perhaps there are three shoots on each side. The strongest must be bent the most, the weakest least; or they may need vigour, then elevate them, or let their ends curve upwards, and to a degree corresponding to their weakness. The weakest should be curved upwards the most—indeed, the lower shoots can hardly be trained too erect. When they begin to grow, or push new shoots in spring, the battle will begin—namely, subduing the strong, and encouraging the weak. The strong shoots will push strongly. They have few if any fruit buds, leave all; but from the weak remove every blossom bud, and if any fruit set upon the strong shoots leave it, for a time at least, without thinning, and, having secured the needful shoots for extension and bearing shoots, take out the points of all the other shoots at the first leaf. Permit the weak shoots to push at will, and do not stop any shoots upon them until they are some length; but to encourage the shoots required for extension and bearing, take out the points of those not required at the third leaf, and keep them closely stopped, for the other shoots will now be prepared to receive and appropriate the sap. Let these grow without stopping—that is, those on the lower branches; but the shoots on the upper branches will be growing too strong and long, therefore stop them—the bearing shoots—at from 10 inches to 1 foot, and the leader of those branches to 14 inches, keeping them closely stopped to one leaf afterwards, and the sap will be diverted from the strong to the weak shoots, which, being trained erect and not stopped, will acquire a vigour equal, if not superior, to the upper branches and shoots. It will be understood from the preceding remarks that the lower branches are to have vigour imparted to them by raising them, encouraging growth, depressing the strong branches, stopping the shoots of the latter, and allowing these to carry more fruit than if they were not much more vigorous than the other part. All this being carefully attended to, the lower shoots may be made even stronger than the upper ones. The maintenance of an equality of vigour does not only apply to height, but to the side branches, for those on one side may be weak, those on the other strong; therefore there must be a greater depression of the strong shoots and a greater elevation of the weak, for it is necessary the branches on each side of the tree should correspond in vigour. If one side be weaker than the other, the branches of the weaker side must be elevated more than those on the stronger side, whilst the others may need to be depressed. The shoots on the latter ought to be kept more closely pinched, whilst those on the weak shoots should be encouraged. The amount of foliage on the strong branches will be less than on the others, and the weak ones should be trained at full length, and the shoot at the extremity left unshortened, for the lowest side shoots cannot be had too long. By proceeding as above you will overcome in time the vigour of the upper branches, and secure for the lower what is necessary for their extension; and having covered the lower part of the wall, covering the upper part is very easily accomplished. You cannot obtain the form of trees shown in figs. 4 and 8, but you may originate principal branches from the two uppermost, as described for them, and you will only have two side shoots below them. If your trees are not too old, or there are shoots on the lowest two branches at their base, you may remove all but the lowest two branches, and obtain from the shoots at their base the branches required, and you will have the form of fig. 4 or 8, pages 267 and 303. It will be an advantage that the side shoots are some length to begin with, and you will not lose much if anything by heading the trees to the lowest two branches, but they must have shoots of this year near to the stem, or buds from which to originate the principal branches.

STRIPPING BARK OFF VINES (Bubble and Squeak).—No one but the most ignorant could have advised the bark to be stripped off the Vines, to have them then painted with a linseed oil compound, and then turned out of theinery; and all this bad culture merely to destroy thrips. The fumigation with tobacco and the clay paint you have adopted are correct. The brown spots on the Vine shoots are a fungus, and will probably be destroyed by the clay and sulphur painting.

FRUIT TREES FOR NEAR MANCHESTER (E. L.).—Apples: Devonshire Quarrenden, Downton Pippin, Ribston Pippin, Cockle Pippin, Margil, Pitmarion Nonpareil, and Sturmer Pippin. Pears: Jargonelle, Beurré d'Amanlis, and Marie Louise. Plums: Jefferson and Green Gage. Cherry: Early Purple Gage. For South Wall: Bellegarde Peach and Violette Hâtive Nectarine.

ERRATA—JERSEY FOR WINTER.—Page 384, first column, line twenty-five, for "south-west" read "north-west." Same page, same column, line

sixty-four, for "British Bree's Boarding-house," read "British Hotel, Bree's Boarding-house, &c."

NAME OF FRUITS (*M. D. M.*).—4, Lemon Pippin; 22, 55, and 62, King of the Pippins; 86 and 47, Golden Russet; 51, Pearn's Pippin; 57, Adams'

Pearmain; 59, Golden Noble; 60, Lamb Abbey Pearmain; 61, Dutch Mignonne; 69, Caraway Russet; 77, Court of Wick.

NAME OF PLANT (*L. M.*).—Your Orchid appears to be *Epidendrum phalaenopsis*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending December 1st.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed.. 25	29.544	29.537	46	39	45	45	S. E.	.08	Hazy, fine; overcast, fine; rain at night.
Thurs. 26	29.797	29.687	49	32	46	45	N. E.	.09	Foggy, slight rain; fine, cloudy; clear and fine.
Fri. .. 27	29.892	29.872	44	37	47	45	N. E.	.00	Overcast but fine; densely overcast; fine, overcast.
Sat. .. 28	29.899	29.851	42	23	46	45	N. E.	.00	Sharp frost; heavy fog; overcast; fine; clear and fine.
Sun. .. 29	29.927	29.862	45	37	44	46	S. E.	.00	Overcast; fine; overcast, cloudy; fine frosty air.
Mon. .. 30	29.727	29.692	44	39	46	45	S. E.	.09	Gusty and densely overcast; fine, overcast; fine.
Tues. . 1	29.732	29.655	46	41	46	45	S. E.	.01	Overcast, fine; overcast, very dull; foggy with rain.
Mean	29.795	29.718	45.14	35.28	45.85	45.14	..	0.09	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

THE BIRMINGHAM POULTRY SHOW.

This is indeed become an accomplished fact. Things are altered since the time when there was any one interested in poultry who was not familiar with Bingley Hall—who could not, when the name was mentioned, immediately figure to himself the long rows of pens, the crowds of eager eyes looking at the numbers, and trying to see them and the prize list at the same time, the varied faces showing every feeling from great joy to the most intense disappointment, and the growing crowd augmented by the arrival of each train during the day, till at last progress becomes almost impossible, and motion is often confined to surging and swaying, which are easily seen from either end of the row. It is well that, with few exceptions, all have a common object in view, and are there on holiday footing, in company with those who have congenial tastes. Anything like a difference of opinion in two sections of a crowd confined to one of these narrow passages would be terrible. Retreat or advance would be impossible, and a sawpit for a duel would give elbow-room compared with it. The excellent management of this Show, and the favour it meets with at the hands of the public, have caused the entries to increase yearly, until there is not sufficient accommodation for competitors. Already means have been taken to lessen the numbers of entries, and the space allotted to them has been enlarged, but the cry is still "they come," and at this meeting three parties would be justified in asking for a change; they would be the birds, the public, and the exhibitors. Some want more light, others more space. There was not room for the public between the rows of pens. The Council and managers of this great Show are not only anxious to please the public, but during their triple apprenticeship of twenty-one years they have gained so much experience in doing so, that we have no doubt they will adopt such measures as will meet all objectors.

We must leave some details for next week. The time at which we go to press compels us to close our report after the first day of the Show. It was thronged to excess throughout. In our next number we shall be able to give the statistics of the meeting, the sales, and many other particulars. We must for the present confine ourselves to the remarks called for by the different classes.

There were 305 pens of *Dorkings*. Mr. Statter, the Duchess of Newcastle, Mrs. Arkwright, the Hon. H. Fitzwilliam, Admiral Hornby, Messrs. Lingwood, Patten, and Newton all deserved the laurels they gained. It would have been gratifying to the Judges had they been able to give prizes to all the highly commended birds. They deserved them. These names refer to the cocks only, but the same, with few exceptions, figure among the prizetakers for hens and pullets. The Duchess of Newcastle showed beautiful hens, and very heavy. The Hon. H. Fitzwilliam took three prizes. Admiral Hornby carried off the piece of plate for the best pullets, with two perfect birds weighing 17 lbs.

Eight prizes were awarded without difficulty to Silver-Greys. No lack of birds of faultless size, symmetry, and feather. Mr. Smalley's bird was unusually good. Ladies Dartmouth and Bagot deserve the same mention. Messrs. Bunn, Lengland, and Holt were deservedly successful, and there was less difference in weight between the Silver-Greys and others than we have ever before noted. Mr. John Robinson is always at home among the White Derkings, but Mrs. Hartwell and Mr. Choyce distanced him in cocks.

312 pens of *Cockins*. They were good classes. They have nearly arrived at their limit, apparently, and exhibitors must be content to "rest and be thankful." The first prize for cocks went to Messrs. Taylor and Dawes; for hens and pullets, to the former gentleman. Mr. Howard Mapplebeck was the largest prizetaker in these classes. His name figures seven times in the prize list. Messrs. Julius Sichel, Beasley, Taylor, Fell, and Hale showed excellent specimens. Brown and Partridge afforded another triumph to Mr. Tudman, who carried off a piece of plate given for the best bird. The cocks in these classes were more than meritorious. Many of the pullets were also good, but others were too yellow.

Stimulated by a piece of plate as an extra prize, the White showed in their best form. We have seldom seen so many birds that required close judging. The principal honours belong to Mr. Smalley, divided with Mrs. Williamson and Messrs. Swindell, Taylor, and Lamb.

232 pens of *Brahmas*. We cannot help thinking of the time when it was doubtful whether these birds would ever make a class. There were doubts whether they were a pure breed, but they have outlived their traducers, and now form one of the largest classes. Beautiful specimens were plentiful. Mrs. Hurt and the Hon. Miss D. Pennant were among the most successful. The Duke of Newcastle exhibited a beautiful bird, that deservedly took a first prize. Messrs. Sabin, Leech, Jopp, Wright, Colenel Bagot Lane, and Mr. Boyle distinguished themselves worthily. Some of the hens and pullets showed a brown shade on the feathers that is objectionable. The Light birds have now made a second and large class. A piece of plate was offered for the first prize, and gained by Mr. Maynard, of the Isle of Wight. Mr. Crook, who gave the plate, took first prize for hens, also the second. Mr. Dowsett showed well, taking two prizes. We thought highly of Mr. Crowley's birds. It is impossible to name all that deserve mention, but we speak well of the class, merely warning exhibitors against vulture hocks.

Malays fall off; only seven pens that call for no particular mention.

The introduction of new breeds that a short time since only showed in the "varieties" brings us to the *Crève-Cœurs*. They were really good, large, and handsome birds. Seventeen pens figured in the prize list. Mr. Zurhorst took first and a piece of plate. Mr. Blinkhorn was very successful. The hens and pullets were hardly so good as the cocks. *Houdans* again have held their own. Sixteen pens were distinguished by the Judges, and here the hens and pullets were better than the cocks; but we must except Mr. Wood's, of which we thought highly. Mr. Heald had the greatest success, and deservedly. *La Flèche* showed poorly in numbers and merit, and we do not believe they will hold their own.

The beautiful *Spanish* were the same as ever, and many of the birds were of the pure type; smooth, good, white faces, without the cauliflower ridges that amount to a defect. The Hon. Miss Pennant and Mr. Rodbard took the prizes for cocks with beautiful birds. Misses Hyde and Beldon, and Mr. Teebay merit the mention they obtained.

Another new class—of *Black Hamburgs*. Fourteen mentions. Most of the prizes went to Mr. Kilvert. These birds are very beautiful. We can speak most highly of all the Hamburgs. The pencilling of the Golden variety was perfect, every feather, to the tip of the tail, was accurately marked. The list must speak for us, or we shall exceed our limits. Mr. Pickles deserved his prize and piece of plate, and many of the commended were worthy of higher honours. Messrs. Hyde and Beldon each took first and cups. Messrs. Pickles, Brierley, Leeming, and Pitts were all deservedly distinguished. Miss Wakeman showed two beautiful birds in the hen and pullet class.

Polish fowls in every class were above the average. The Black with white crests were perfect, and Mr. Shaw's birds deserve every praise. The Golden were more numerous and almost as good. Mr. Harvey did here as Mr. Shaw did before him. Mr. Williams showed well. Silver were more numerous than they have been for many years, and were a long triumph for Mr. Adkins.

There are not prizes enough for the "Variety Class." Lady

Aylesford, Mrs. Wilkin, and Mr. Fowler took the prizes, and many were commended.

A new show begins when we have to speak of the *Game*. It is impossible to do justice to the many classes within the limits of a report. The Duke of Newcastle most fully deserved the prize and silver cup be took in Class 58. Messrs. Gardner and Wood deserved to rank in the same category. Mr. Wood was the most successful exhibitor. We were struck with the beauty of the Duckwings; we do not think we have ever seen them so good and so true. The Black Reds were better, in our opinion, than the Brown Reds, but all classes were beautiful.

Bantams were very good, but among the Golden-laced there was a tendency to sickle feathers. The Black were more numerous and better than the Whites. The first prize in Varieties was given to rumpless birds. The Game Bantams are like the Game fowls, so numerous were the entries, and the quality so good. Messrs. Eaton and Parsons showed beautiful birds. 42 pens were in the prize list.

The *Rouen Ducks* again beat the Aylesburys in weight and numbers. We cannot speak too highly of them. The Black East Indians were perfect. The first prize birds were faultless in size and colour. What shall we say for *Geese*? They were giants. Mr. Fowler showed a pair of birds, a gander weighing 37½ lbs., and a goose 21 lbs.

We may return to these subjects, but in the necessity that exists for a hurried report, we cannot give the extended account we should wish.

The *Turkeys* were very good. We would particularly remark one or two of the American cocks, that were really birds of beautiful plumage.

The arrangements were, as usual, perfect, and the gentlemen who have been the originators and managers of this great Show were at their posts, effective, urbane, and anxious as usual for the comfort of all who were visitors to their great undertaking.

DORRING (Coloured, except Silver-Grey).—*Cocks*.—First and Cup, T. Statter, Whitefield, Manchester. Second, Duke of Newcastle, Clumber, Third, Admiral Hornby, Knowsley Cottage, Prescot. Highly Commended, Lieut.-Col. H. B. Lane, Bracknell; J. White, Warley; W. J. Drewry, Drakelow, Burton-on-Trent; J. Longland, Grendon, Northamptonshire; A. Potts, Chester; Admiral Hornby.

DORRING (Coloured, except Silver-Grey).—*Cockerels*.—First, Mrs. Arkwright, Etwal Hall, Derby. Second, The Hon. H. W. Fitzwilliam, Wentworth Woodhouse, Rotherham. Third, H. Lingwood, Barking, Needham Market. Fourth, L. Patton, Hillmore, near Taunton. Fifth and Sixth, Mrs. Newton, Kirby-in-Cleveland. Highly Commended, Duchess of Newcastle; Mrs. Seamons, Hartwell, Aylesbury; W. H. Denison, Woburn Sands, Beds; J. F. Liebert, Wellesbourne Hall, near Warwick; L. Patton, Hillmore; J. Anderson, Meigle, N.B.; Gunson & Jefferson, Whitehaven; A. Potts, Hole Hall, Chester; Countess of Chesterfield, Bretby Hall, Burton-on-Trent; O. E. Cresswell, Hanworth Rectory, Hounslow; Admiral W. Hornby, Commended, Rev. A. K. Cornwall, Bencombe, Dursley; J. D. Hewson, M.D., Coton Hill, Stafford; E. Shaw, Plas Wynnot, Oswestry; J. H. Wilson, St. Bees, Whitehaven; J. Fox, St. Bees.

DORRING (Coloured, except Silver-Grey).—*Hens*.—First, J. Fox. Second, Duchess of Newcastle. Third, Hon. H. W. Fitzwilliam. Fourth, J. Anderson. Fifth, Mrs. Arkwright. Highly Commended, Duchess of Newcastle; Hon. H. W. Fitzwilliam; L. Patton; E. Shaw; A. Potts. Commended, A. Potts; J. Faulkner, Bretby Farm, Burton-on-Trent; Mrs. Seamons.

DORRING (Coloured, except Silver-Grey).—*Pullets*.—First, Admiral W. Hornby. Second and Third, Hon. H. W. Fitzwilliam. Fourth, Mrs. Arkwright. Fifth, Mrs. Hurt, Aldersley, Derby. Sixth, H. Lingwood. Highly Commended, J. White, Warley; Duchess of Newcastle; L. Patton; Mrs. Arkwright. Commended, Mrs. Seamons; Lieut.-Col. H. B. Lane; T. Haines, Bridge Haugh, Stirling; H. S. Stephenson, Lymsham Rectory, Weston-super-Mare; Rev. G. Hustler, Stillingfleet Vicarage, York; F. Parlett, Great Baddow, Chelmsford; D. Gellatly, Meigle.

DORRING (Silver-Grey).—*Cocks*.—First, R. Smalley, Lancaster. Second, S. Barn, Whiby. Third, Lady Bagot, Blithfield Hall, Rugby. Fourth, R. D. Holt, Orrest Head, Windermere. Fifth, Rev. J. F. Newton, Kirby-in-Cleveland. Highly Commended, Lady Bagot. Commended, Lieut.-Col. H. B. Lane; Lord Bagot.

DORRING (Silver-Grey).—*Hens or Pullets*.—First, J. Longland. Second, R. D. Holt. Third, Countess of Dartmouth, Patshull. Highly Commended, D. Hardie, Sorbie, Langholm, N.B.; O. E. Cresswell; Rev. J. F. Newton; Countess of Dartmouth.

DORRING (White).—*Cocks*.—First, J. Choyce, Pinwall Grange, Athelstow. Second, Mrs. Hartwell, Bridgewater. Third, J. Robinson, Garstang. Highly Commended, H. Lingwood; Lord Sudley, Toddington; Mrs. Hartwell.

DORRING (White).—*Hens or Pullets*.—First, J. Robinson. Second, Mrs. T. M. Syson, Empingham. Third, H. Lingwood. Highly Commended, Mrs. Hartwell; Lord Sudley; Mrs. T. M. Syson. Commended, J. Robinson.

COCHIN-CHINA (Cinnamon and Buff).—*Cocks*.—First, W. A. Taylor, Manchester. Second and Fourth, J. H. Dawes, Moseley Hall, Birmingham. Third, J. N. Beasley, Braampton, Northampton.

COCHIN-CHINA (Cinnamon and Buff).—*Cockerels*.—First, J. H. Dawes. Second, H. Mapplebeck, Woodfield, Moseley, near Birmingham. Third, J. Sichel, Timperley, Cheshire. Fourth, Messrs. Bowman & Fearon, Whitehaven. Fifth and Sixth, W. A. Taylor. Highly Commended, D. Young, Leamington; H. Mapplebeck. Commended, J. Cattell, Bristol Road, Birmingham; Mrs. R. White, Broomhall Park, Sheffield.

COCHIN-CHINA (Cinnamon and Buff).—*Hens*.—First, W. A. Taylor. Second, Third and Fourth, H. Mapplebeck. Fifth, J. Cattell. Highly Commended, J. H. Dawes; J. Cattell. Commended, H. Mapplebeck.

COCHIN-CHINA (Cinnamon and Buff).—*Pullets*.—First, W. A. Taylor. Second, H. Mapplebeck. Third, G. Fell, Warrington. Fourth, R. Hall, Great Barford, Deddington. Fifth, G. H. Proctor, Durham. Sixth, Rev. G. Gilbert, Claxton, Norwich. Highly Commended, J. H. Dawes.

COCHIN-CHINA (Brown and Partridge-feathered).—*Cocks*.—First and Silver Cup, E. Tudman, Whitechurch, Salop. Second, J. R. Rodbard, Wrington, near Bristol. Third, A. O. Worthington, Burton-on-Trent.

Highly Commended, Col. J. A. Ewart, Tatenhill, Burton-on-Trent; H. Crossley, Broomfield, Halifax. Commended, G. G. L. Macpherson, Ramslade, Bracknell.

COCHIN-CHINA (Brown and Partridge-feathered).—*Cockerels*.—First, H. Crossley. Second, R. Story, Lockington Hall, Derby. Third, E. Shaw. Highly Commended, Hon. Mrs. Sugden, Wells, Somerset; R. White. Commended, G. Lamb, Compton, near Wolverhampton.

COCHIN-CHINA (Brown and Partridge-feathered).—*Hens*.—First, W. A. Taylor. Second and Third, E. Tudman. Highly Commended, R. Teebay, Fulwood, near Preston.

COCHIN-CHINA (Brown and Partridge-feathered).—*Pullets*.—First, H. Vaughan, Wolverhampton. Second, R. B. Wood, Woodland Hall, Uttoxeter. Third, W. A. Taylor. Fourth, E. Tudman. Highly Commended, H. Crossley; W. Gamon, Chester. Commended, R. Story.

COCHIN-CHINA (White).—*Cocks*.—First and Silver Cup, R. Smalley, Lune Villa, Lancaster. Second, Mrs. Williamson, Queenborough Hall, Leicester. Highly Commended, R. Chase, Balsall Heath, Birmingham; L. Tyson, Halifax; G. Lamb. Commended, F. W. Zurborst, Dublin.

COCHIN-CHINA (White).—*Cockerels*.—First, A. J. E. Swindell, Old Swinford, Stourbridge. Second, Mrs. Williamson. Third, R. Chase. Fourth, R. Smalley. Highly Commended, Mrs. Williamson; R. Chase.

COCHIN-CHINA (White).—*Hens*.—First, R. Smalley. Second, Rev. F. Taylor, Kirkandrews Rectory, Longton. Third, G. Lamb. Highly Commended, Lady L. Charteris, Beeches Hall, Attleborough, Norfolk; R. Chase. Commended, A. O. Worthington; Capt. D. Lane, Great Barr, Birmingham; R. Chase.

COCHIN-CHINA (White).—*Pullets*.—First, R. Chase. Second and Third, R. Smalley. Highly Commended, Mrs. Ewart; Mrs. Williamson; R. Chase; A. J. E. Swindell.

BRAHMA POOTRA (Dark).—*Cocks*.—First, Mrs. Hurt. Second, R. White. Third, F. Sabin, Birmingham. Fourth, E. Leech, Grave House, Rochdale. Highly Commended, J. K. Fowler, Aylesbury; Mrs. Hargreaves, Reading; Hon. Miss D. Pennant, Penrhyn, Castles, Bangor, North Wales; L. Wright, Kingsdown, Bristol. Commended, B. Wharton, Tapton Hill, Sheffield.

BRAHMA POOTRA (Dark).—*Cockerels*.—First, Duke of Newcastle. Second, Rev. J. E. Newton. Third, Mrs. Hurt. Fourth, K. Jopp, Aberdeen. Fifth, L. Wright. Sixth, Mrs. Hurt. Highly Commended, Rev. J. F. Newton; Hon. Miss D. Pennant; Hon. Mrs. A. B. Hamilton, Woburn, Beds; Mrs. Hurt; Rev. J. Bowen, Langrose Vicarage, Talsgarth, Hereford; K. Jopp; J. Sichel; Rev. E. Alder, Etwal Vicarage, Derby; R. W. Boyle, Marino, Black Rock, Dublin; Mrs. Burrell, Stoke Park, Ipswich; Lieut.-Col. H. B. Lane. Commended, Duke of Newcastle; W. B. Etches, The Woodhouses, Whitechurch; W. S. Cooper, Linslade, Leighton Buzzard; R. B. Wood, Woodland Hall, Uttoxeter; J. Anderson, Meigle, N.B.; R. White; W. Hargreaves, Beaup.

BRAHMA POOTRA (Dark).—*Hens*.—First, Mrs. Hurt. Second, E. Leech. Third, R. W. Boyle. Highly Commended, Lieut.-Col. H. B. Lane; Mrs. Hurt. Commended, Mrs. Hargreaves; H. Yardley.

BRAHMA POOTRA (Dark).—*Pullets*.—Cup, J. Anderson. Second and Fourth, Mrs. Hurt. Third, H. Dowsett, Pleshey, Chelmsford. Fifth, K. Jopp, Aberdeen. Sixth, L. Wright, Bristol. Highly Commended, Mrs. Hurt; Rev. E. Alder; H. S. Stephenson, Lymsham Rectory, Weston-super-Mare; F. Powell, Knarsborough; H. Lingwood, Martlesham, Woodbridge; R. W. Boyle; Rev. J. Bowen, Langrose Vicarage, Talsgarth, Hereford; K. Jopp; T. Pamfret, Houghton Lane, near Preston. Commended, Hon. Miss D. Pennant; L. Wright.

BRAHMA POOTRA (Light).—*Cocks*.—First, H. Lacy, Hebdon Bridge. Second, H. Dowsett. Third, J. Pares, Postford House, Guildford. Highly Commended, A. O. Worthington; P. Crowley, Culverton House, Alton. *Cockerels*.—First and Cup, H. Maynard, Isle of Wight. Second, H. Lacy. Third, H. Dowsett. Highly Commended, F. Crook, Forest Hill; H. M. Maynard. *Hens*.—First and Second, F. Crook. Third, H. Dowsett. Highly Commended, J. Henpe, Birmingham; P. Crowley; H. Yardley; A. Herbert, Egham. *Pullets*.—First and Cup, M. Leno, Markyats Street, Dunstable. Second, P. Crowley. Third, H. Lacy. Highly Commended, Mrs. Astley, Chequers Court, Tring; F. Crook; H. M. Maynard; M. Leno. Commended, Rev. G. Hustler; H. Yardley; J. Pares; A. Herbert; M. Leno.

MALAY.—*Cocks*.—First, Rev. A. G. Brooke, Ruyton XI. Towns, Salop. Second, T. Hollis, Reading. Commended, J. Hinton, Hinton, near Bath. *Hens or Pullets*.—First, W. Lort, King's Norton, Birmingham. Second, T. Hollis. Highly Commended, T. Hollie; J. Hinton.

CRÈVE-CŒUR.—*Cocks*.—First and Cup, W. Zurborst. Second and Third, W. Blinckhorn. Highly Commended, Mrs. A. Wilkin, Bootle, Curcherland; Miss E. Beldon; Capt. Wetherall, Loddington; H. M. Maynard; J. K. Fowler; Col. H. Stuart Wortley, Grove End Road, London. Commended, J. Sichel; A. Dixon. *Hens or Pullets*.—First, Col. H. Stuart Wortley. Second, Mrs. A. Wilkin. Third, J. K. Fowler. Highly Commended, Capt. Wetherall; Col. H. Stuart Wortley; W. Blinckhorn.

HOUDANA.—*Cocks*.—First, R. B. Wood, Uttoxeter. Second, F. B. Heald, Whitenoor. Highly Commended, Mrs. A. Wilkin; H. M. Maynard; W. O. Quibell, Newark; F. B. Heald; H. Dean, Sontham.

HOUDANA.—*Hens or Pullets*.—First and Second, F. B. Heald. Highly Commended, Col. H. Stuart Wortley; J. K. Fowler; J. B. Masfield, The Priory, Ledbury; T. Fox, St. Catherine's, Lincoln; F. B. Heald; W. O. Quibell; H. M. Maynard.

LA FLÛCHE.—*Cocks*.—First, W. Tippler, Roxwell, Chelmsford. Second, J. K. Fowler. *Hens or Pullets*.—First, Col. H. Stuart Wortley. Second, Hon. C. W. Fitzwilliam, Wentworth Woodhouse, Rotherham.

SPANISH.—*Cocks*.—First, Hon. Miss D. Pennant. Second, W. A. Taylor. Third, J. Stephens, Walsall. Highly Commended, Rev. W. J. Mellor, Ryde, Isle of Wight; J. Thresh, Bradford; H. Lane, Bristol; J. Wilson.

SPANISH.—*Cockerels*.—First and Cup, J. R. Rodbard, Wrington, near Bristol. Second, P. H. Jones, Fulham, London. Third, and Fourth, R. Teebay. Fifth, H. Beldon, Goitcast, Bingley. Highly Commended, Miss Hyde, Bedminster; J. F. Dixon, Cotgrave, Nottingham; J. Stephens, Walsall; W. R. Bull, Newport Pagnell, Bucks; R. Teebay; W. Paterson; T. & E. Comber, Myddleton Hall, near Warrington. Commended, P. H. Jones.

SPANISH.—*Hens*.—First, Hon. Miss D. Pennant. Second, Miss E. Beldon. Third, J. R. Rodbard. Commended, W. A. Taylor; J. Stephens, Walsall.

SPANISH.—*Pullets*.—First, Miss Hyde, Bedminster. Second, J. Thresh, Bradford. Third, R. Teebay. Fourth, A. Heath, Calne. Highly Commended, T. & E. Comber; H. & S. Cooper, Walsall; H. Lane, Bristol; J. Walker, Wolverhampton.

HAMBURGERS (Black).—*Cocks*.—First and Third, J. M. Kilvert, Ludlow. Second, Rev. W. Serjeantson, Acton Burnell. Highly Commended, Rev. W. Serjeantson; C. Sidwick, Ryddlesden Hall, Kelghley; T. Bonlat, Hanford, Stoke-on-Trent; Mason & Walker, Denton, Manchester. Commended, Ashton & Booth, Broadbottom, Mottram; Rev. W. Serjeantson.

HAMBURGERS (Black).—*Hens or Pullets*.—First and Second, J. M. Kilvert. Third, Mason & Walker. Highly Commended, G. Liogard, jun., Birmingham; J. M. Kilvert; Turner & Isherwood, Radcliffe.

HAMBURGERS (Golden-pencilled).—*Cocks*.—First and Cup, H. Pickles, jun., Early, Skipton. Second, J. Leeming, Broughton, near Preston. Third and Fourth, T. Wrigley, jun., Tonge, Middleton, Manchester. Fifth, J. Walker, Haya Park, Knarborough. Highly Commended, Misses Cotes, Woodcote, Newport, Salop; W. Parr, Patricroft, Manchester; J. Fielding, Newchurch, Manchester. Commended, W. Parr.

HAMBURGERS (Golden-pencilled).—*Hens or Pullets*.—First, J. Walker, Knarborough. Second, W. R. Park, Abbots Meadow, Melrose. Third, T. Wrigley, jun., Fourth, W. Parr.

HAMBURGERS (Silver-pencilled).—*Cocks*.—First, Miss E. Beldon. Second, H. Pickles, jun., Early, Skipton, Yorkshire. Third, J. Leeming, Broughton, near Preston. Fourth, W. Pitts, Fearcliffe, Bingley. Highly Commended, J. Fielding, Newchurch, Manchester; J. Walker, Knarborough; H. Beldon; W. Pitts; F. Pitts, jun., Newport, Isle of Wight; T. Hanson, Keighley; T. Sharples. Commended, J. S. Senior, Dewsbury.

HAMBURGERS (Silver-pencilled).—*Hens or Pullets*.—First, J. Walker. Second, W. Kirkby, jun., Trentham. Third, H. Pickles, jun., Fourth, T. Sharples. Highly Commended, H. Beldon.

HAMBURGER (Golden-spangled).—*Cocks*.—First and Cup, W. A. Hyde, Hurst, Ashton-under-Lyne. Second and Third, E. Brierley, Heywood, Manchester. Fourth, J. Pickles, Slaithwaite, Huddersfield. Fifth, J. Adkins, jun., Walsall. Highly Commended, J. Munn, Stacksteads, Manchester; W. Hentley, Wem, Salop; H. Beldon; J. Chadderton, Hollinwood, near Manchester; W. Swire, Thwaite Bank, Keighley; J. Holland, Worcester; T. Walker, jun., Denton, Manchester. Commended, W. A. Hyde; J. Rollinson, Lindley, near Otley; J. Chadderton.

HAMBURGER (Golden-spangled).—*Hens or Pullets*.—First, J. Wild, Ashton. Second, W. A. Hyde. Third, J. Newton, Slisden, Leeds. Highly Commended, S. & R. Ashton, Mottram; E. Brierley; J. Walker; J. S. Senior, Dewsbury. Commended, I. Davies, Harborne, Birmingham; J. Rollinson, Lindley; J. W. Edge, Birmingham; T. Walker, jun., Denton.

HAMBURGER (Silver-spangled).—*Cocks*.—First and Cup, H. Beldon. Second and Sixth, J. Fielding, Newchurch, near Manchester. Third, H. Pickles, jun., Fourth, Ashton & Booth. Fifth, J. Smith, Allerton. Highly Commended, Miss E. Beldon; J. Smith. Commended, Miss Browne, Charleigh Green, Chard; T. Fawcett, Northgate, Baildon, Leeds; Rev. F. Tearle, Gazeley Vicarage, Newmarket; J. Fielding; H. Pickles, jun.; G. E. Hardman; T. Fawcett.

HAMBURGER (Silver-spangled).—*Hens or Pullets*.—First and Cup, Miss Wakeman, Coton Hall, Bridgnorth. Second, Ashton & Booth. Third, J. Fielding. Fourth, H. Pickles, jun., Fifth, J. Walker, Knarborough. Sixth, W. A. Taylor, Manchester. Highly Commended, Rev. F. Tearle; H. Beldon; T. Fawcett; J. Fielding. Commended, J. T. Morgan, Worcester; T. Hallam, Loxells, Birmingham.

POLISH (Black with White Crests).—*Cocks*.—First, S. Shaw, Stainland, Halifax. Second, T. Dean, Keighley. Highly Commended, P. Unsworth, Lorton, Newton-le-Willows; J. S. Senior.

POLISH (Black with White Crests).—*Hens or Pullets*.—First, S. Shaw. Second, P. Unsworth. Highly Commended, Mrs. Procter, Hull. Commended, T. P. Edwards, Lyndhurst.

POLISH (Golden).—First, W. Harvey, Sheffield. Second, R. P. Williams, Glossing, Clontarf, Dublin. Highly Commended, R. P. Williams; H. Beldon; J. S. Senior.

POLISH (Golden).—*Hens or Pullets*.—First, W. Harvey, Sheffield. Second, H. Beldon. Highly Commended, S. Shaw; J. S. Senior.

POLISH (Silver).—*Cocks*.—First, Cup, and Second, G. C. Adkins, Birmingham. Third, T. & E. Comber. Highly Commended, H. Beldon; G. C. Adkins; J. S. Senior. Commended, Mrs. Ely, Gregory's Bank, Worcester.

POLISH (Silver).—*Hens or Pullets*.—First, Second, and Third, G. C. Adkins. Highly Commended, T. & E. Comber; G. C. Adkins. Commended, J. S. Senior.

ANY OTHER VARIETY.—First, Countess of Aylesford, Packington Hall, Coventry. Second, Mrs. A. Wilkin, Bootle. Third, J. K. Fowler. Highly Commended, Countess of Aylesford; H. W. Howe, Acoc's Green, Yardley; J. C. Cooper; J. K. Fowler. Commended, H. Saville, Ratford Abbey, Ollerton; Lady L. Charteris; T. Walsley, Chester; J. Choyce, Atherstone.

GAME (Black-breasted Reds).—*Cocks*.—First and Cup, Duke of Newcastle. Second, C. Chaloner, Whitwell, near Chesterfield. Third, L. Biney, Manchester. Fourth and Fifth, J. Fletcher, Stoneclough, near Manchester. Highly Commended, W. Boyes, Beverley; S. Wilcox, Oswestry. Commended, Capt. Wetherall; J. Mason, Worcester; E. Aykroyd, Bradford, Yorkshire; J. H. Wilson, St. Bees; S. Wilcox.

GAME (Black-breasted Reds).—*Cockereels*.—First, S. Matthew, Stowmarket. Second, C. Chaloner. Third and Fifth, J. Stubbs, Stafford. Fourth, Duke of Newcastle. Sixth, J. Holland, Manchester. Highly Commended, W. J. Cope, Bamsley; S. Matthew; M. Billing, jun., Wood End, Erdington, Birmingham; Rev. T. O'Grady, Hoggaston Vicarage, Ashbourne. Commended, J. Heaton; R. Swift, Southwell.

GAME (Black-breasted Reds).—*Hens*.—First, W. Johnson, Stanley, Liverpool. Second, S. Wilcox. Third, E. Aykroyd. Fourth, H. C. and W. J. Mason, Drighlington. Highly Commended, T. Burn, Abram, near Wigan. Commended, J. H. Wilson, St. Bees; W. Johnson.

GAME (Black-breasted Reds).—*Pullets*.—First and Cup, J. P. Gardner, Rugeley. Second, R. Scrimminger, Pailton, Lutterworth. Third, D. Hardis, Sorbie, Langholm, N.B. Fourth, S. Matthew. Fifth and Sixth, W. J. Pepe, Biggleswade. Highly Commended, J. H. Wilson; H. C. and W. J. Mason. Commended, Rev. T. O'Grady; J. Stubbs, Weston Hall, Stafford; E. Toder, Little Carlton, Newark; J. Mitchell, Bank House, Moseley, Birmingham; M. Billing, jun.

GAME (Brown and other Reds, except Black-breasted).—*Cocks*.—First, Third, and Fourth, J. Wood, Wigan. Second, C. Chaloner. Fifth, R. Scrimminger. Highly Commended, F. Sales, Crowle, Doncaster; J. Anderson, Meikle.

GAME (Brown and other Reds, except Black-breasted).—*Cockereels*.—First, Cup, and Second, J. Wood. Third, F. Sales. Fourth, H. Mann,

Walfield, Stand, Pilkington. Fifth, J. Fletcher. Highly Commended, W. Kirkby, jun., Trentham, Stoke-on-Trent. Commended, J. Hodgson, Whittington, Burton, Westmorland; R. Swift.

GAME (Brown and other Reds, except Black-breasted).—*Hens*.—First, B. M. Clivo, Gravelly Hill, Birmingham. Second, S. Matthew. Third, W. Bourne, Heavily, Stockport. Fourth, J. Bowness, Newchurch, Manchester. Commended, J. Rollinson, Lindley, Otley; J. Smith, Allerton, near Bradford.

GAME (Brown and other Reds, except Black-breasted).—*Pullets*.—First and Third, J. Wood. Second, T. Dyson, Halifax. Fourth, J. Fletcher. Fifth, W. Bourne. Highly Commended, T. Statter. Commended, J. Hodgson, Whittington, Burton.

GAME (Duckwings and other Greys and Blues).—*Cocks*.—First, Duke of Newcastle. Second, Rev. F. Watson, Kelvedon. Third, W. Boyes. Highly Commended, J. Mason. Commended, Rev. T. O'Grady; J. Crutchlow, Oswestry; E. Aykroyd.

GAME (Duckwings and other Greys and Blues).—*Cockereels*.—First and Second, W. Dunning, Newport, Salop. Third, S. Matthew. Highly Commended, F. Sales; J. Halsall, Ince, near Wigan. Commended, Miss Hales, Canterbury; P. A. Beck, Guilsfield, Welshpool; G. E. Peach, Shifnal; Rev. W. J. Mellor, Ryde, Isle of Wight.

GAME (Duckwings and other Greys and Blues).—*Hens*.—First, W. Bradley, Worcester. Second, H. C. & W. J. Mason. *Pullets*.—First and Third, W. Bradley. Second, S. C. Matthew.

GAME (Blacks and Brassy-winged, except Greys).—First, Capt. W. G. Webb, Tamworth. Second and Cup, J. Pares.

GAME (Blacks and Brassy-winged, except Greys).—*Hens or Pullets*.—First and Second, R. Robins, The Hollies, Kenilworth. Third, Capt. W. G. Webb.

GAME (White and Piles).—*Cocks*.—First, T. West, Eccleston, St. Helens. Second, Rev. F. Watson. Third, S. Matthew. Commended, J. Halsall; R. Butcher, Cresswell, near Chesterfield; G. & C. Furness, Accrington. *Hens or Pullets*.—First, G. Lunt, Adderley, Market Drayton. Second, T. West. Third, Rev. F. Watson.

BANTAMS (Gold-laced).—First, U. Spary, Markyate Street, Dunstable. Second and Third, M. Leno. Highly Commended, T. C. Harrison, Hull; M. Leno.

BANTAMS (Silver-laced).—First, M. Leno. Second, H. Draycott, Hummerstone, near Leicester. Third, U. Spary. Highly Commended, M. Leno. Commended, U. Spary.

BANTAMS (White, Clean-legged).—First, W. A. Taylor. Second, Rev. F. Tearle. Third, W. McClellon, Glossop. Commended, Rev. F. Tearle.

BANTAMS (Black, Clean-legged).—First, R. B. Riley, Ovenden, Halifax. Second, H. Pickles, jun., Third, T. C. Harrison. Highly Commended, H. Maynard; E. Cambridge, Bristol; H. Draycott; J. W. Morris, Rochdale.

BANTAMS (Any other variety, except Game).—First, W. B. Tegetmeier, Finchley, London. Second, Mrs. Woodcock, Rearshy House, Leicester. Highly commended, Hon. D. Finch, Packington Hall, Coventry; H. Savile; H. Draycott; J. Beasley, Northampton; J. N. Beasley; W. R. Tegetmeier; H. Ashton, Manchester; W. J. Cope, Bamsley.

GAME BANTAMS (Black-breasted Reds).—Silver Cup, J. Eaton, Farnsfield, Notts. Second, J. W. Morris. Third, J. Halsall. Fourth, Miss E. A. Crawford, Farnfield, Southfield. Fifth, H. Ashton. Highly Commended, J. Anderson; R. Swift, Southwell. Commended, Rev. A. K. Cornwall, Bencome, Dursley; Hon. Mrs. Colville, Lullington, Burton-on-Trent; J. J. Cousins, Chapel Allerton, Leeds; Bowman & Fearon; J. Crusland, jun., Wakefield; H. Shumack, Southwell; J. Eaton.

GAME BANTAMS (Brown and other Reds, except Black-breasted).—First, Miss E. A. Crawford. Second, H. Shumack. Commended, T. Dyson; G. E. Meredith, Ightfield, Whitechurch.

GAME BANTAMS (Any other variety).—First, W. Parker, Clay Cross. Second, Mason & Charlesworth, Chesterfield. Third, H. Shumack. Commended, J. Crosland, jun.; E. Toder, Little Carlton, Newark.

GAME BANTAM COCKS (Black-breasted and other Reds).—First, C. Parsons, West Haddon, Rugby. Second, H. Lee, Appuldurcombe, Isle of Wight. Third, J. Crosland, jun., Fourth, M. Leno. Fifth, Miss E. A. Crawford. Commended, Rev. A. K. Cornwall; Rev. C. H. Cross, Cambridge; G. Smith, Ramshill House, Scarborough; J. Halsall; C. Parsons; R. Swift; G. & C. Furness; E. Toder.

GAME BANTAM COCKS (Any other variety).—First, Mason & Charlesworth. Second and Third, H. Shumack. Commended, T. Whitaker, Melton Mowbray.

DUCKS (White Aylesbury).—First and Silver Cup, Mrs. Seamous, Hartwell, Aylesbury. Second, J. Anderson. Third, J. K. Fowler. Highly Commended, J. K. Fowler; Mrs. Seamous; T. Wilson, Farnell Currie, Rildwick, Leeds. Commended, T. T. Lawden, Northfield, Birmingham; J. K. Fowler.

DUCKS (Rouen).—First, J. Anderson. Second, S. Shaw, Stainland, Halifax. Third, T. Statter. Fourth, J. F. Dixon, Cotgrave, Nottingham. Fifth, A. Dickinson, Westcroft, Whitehaven. Sixth, L. Falton. Highly Commended, E. Leech, Rochdale; J. Anderson; J. Wood; T. Statter; A. Dickinson; F. Parlett. Commended, Messrs. Gunson & Jefferson; F. Parlett; T. Buras, Abram, near Wigan.

DUCKS (Black East Indian).—First and Second, Rev. W. Serjeantson. Third, F. Pittis, jun., Commended, Mrs. Hayne, Fordington, Dorchester; J. M. Kilvert; S. Emin, Whithy; Major F. D. Lea Smith, The Grange, Halesowen.

DUCKS (Any other variety).—First, T. C. Harrison. Second, H. Mapplebeck. Highly Commended, S. & R. Ashton; Sir J. Morris, Elmsdale, near Wolverhampton; H. Mapplebeck; H. Savile; R. F. Williams.

GEESE (White).—First, Mrs. Seamous. Second, T. Statter. Highly Commended, E. Leech; C. Bamford, Impingford Hall, Cambridge. Commended, T. Statter.

GEESE (White).—*Goosings*.—First, Mrs. Seamous. Second, S. H. Stett, Quarry Hill, Rochdale. Highly Commended, F. W. Earle, Ednamurst, Prescott, Lancashire; W. Wykes, Wolvey, Hincley.

GEESE (Grey and Mottled).—First, J. K. Fowler. Second, Lord Wenlock, Escrick Park, Yorkshire. Highly Commended, W. Cox, Brailsford Hall, Derby.

GEESE (Grey and Mottled).—*Goosings*.—First, J. Lytcell. Second, Mrs. Seamous. Highly Commended, Sir R. Peal, Earl, M.P., Drayton Manor, Tamworth; J. K. Fowler; S. H. Stett; Lord Wenlock. Commended, Rev. G. Huxley; W. Cox; Lord Wenlock.

TURKEYS.—*Cocks*.—First, F. Lythall, Spittal Farm, Banbury. Second, J. Smith, Breder Hills, Sedgebrook, Grantham. Highly Commended,

J. N. Beasley, Bampton, Northampton; J. Fox; G. Lingard, jun.; L. Patton; T. Hollis. Commended, Lady E. Isham, Lamport Hall, Northampton.

TURKEYS.—Cockerels.—First, L. Patton. Second, F. Lythall. Highly Commended, Lady E. Isham; Hon. Mrs. Colville; Miss J. Milward, Newton St. Loe, Bristol; W. Sanday, Radcliffe-on-Trent; J. Lowe, Birmingham; Rev. T. L. Fellowes, Honingham, Norwich; W. Winterton, Minckley. Commended, Lord Chesham, Latimera, Chesham.

TURKEYS.—Hens.—First, J. Smith, Breder Hills, Grantham. Second, J. Fox, St. Bees. Highly Commended, Sir J. W. C. Hartopp, Bart., Sutton Coldfield.

TURKEYS.—Hens, 1868.—First, J. Smith. Second, Rev. T. L. Fellowes. Highly Commended, W. Sanday; W. Wykes, Wolvey; C. Bamford, Impington Hall, near Cambridge; S. H. Stoff.

PIGEONS.

TUMBLERS (Almond).—First, Second, and Third, R. Fultou, Deptford. Highly Commended, J. Fielding, jun., Rochdale. Commended, J. Ford; R. Fultou.

CARRIERS (Black).—Cocks.—First and Cup, Second, and Third, R. Fultou. Commended, E. Horner, Harewood, Leeds; F. Crossley, Elland, near Halifax. Hens.—First, R. Fultou. Second and Commended, F. Crossley.

CARRIERS (Dun).—Cocks.—First, E. Horner. Second, J. C. Ord, Plimlico. Third and Commended, R. Fultou. Highly Commended, G. Charley, Preston. Hens.—First and Commended, R. Fultou. Second, F. Crossley. Highly Commended, W. Harvey, Sheffield.

CARRIERS (Any other colour).—First, R. Fultou. Second, J. C. Ord.

POUTERS (Red).—Cocks.—First and Highly Commended, W. R. Rose, Cransley Hall, near Kettering. Second, C. Bulpin, Riverside, Bridge-water. Commended, A. H. Stewart, Birmingham. Hens.—First, W. R. Rose. Second, R. Fultou. Highly Commended, R. Fultou; A. H. Stewart.

POUTERS (Blue).—Cocks.—First and Medal, A. H. Stewart. Second, F. Crossley. Highly Commended, E. Horner; R. Fultou. Hens.—First and Highly Commended, F. Crossley. Second, S. Shaw, Staitland, Halifax. Commended, A. H. Stewart.

POUTERS (Black).—Cocks.—First, R. Fultou. Second, A. Heath, Calne. Hens.—First and Second, R. Fultou.

POUTERS (White).—Cocks.—First and Second, R. Fultou. Highly Commended, W. Harvey. Hens.—First, W. E. Tegetmeier, Finchley. Second, R. Fultou. Highly Commended, R. Fultou; A. Heath. Commended, W. R. Rose.

POUTERS (Any other colour).—Cocks.—First, Withheld. Second, R. Fultou. Hens.—First, A. H. Stewart. Second, R. Fultou. Highly Commended, W. R. Rose.

BALDS OR BEARDS.—First, J. Fielding, jun. Second, R. Fultou. Third, O. H. C. Oates, Besthorpe, Newark, Notts. Highly Commended, J. W. Edge, Birmingham.

TUMBLERS.—First, F. Crossley. Second, R. Fultou. Third, J. Ford. Highly Commended, J. Fielding, jun.; R. Fultou.

RUNTS.—First, Second, and Highly Commended, T. D. Green. Third, H. Yardley.

JACOBS (Yellow).—First, J. W. Edge. Second, E. Horner. Highly Commended, E. E. M. Roys, Greenhill, Rochdale. Commended, H. M. Maynard, Holmewood, Ryde, Isle of Wight.

JACOBS (Any other colour).—First, H. M. Maynard. Second, E. E. M. Roys. Highly Commended, S. Shaw. Commended, R. Fultou.

FANTAILS (White).—First and Silver Cup, J. W. Edge. Second, H. Yardley. Third, W. R. Park, Abbots Meadow, Melrose. Highly Commended, F. Horner; W. Choyce, Sisson, near Atherstone; T. C. & E. Newbit, Epworth; C. Bulpin, Riverside, Bridge-water; H. Yardley.

FANTAILS (Any other colour).—First, J. W. Edge. Second, H. Yardley. Highly Commended, W. Choyce.

TRUMPETERS (Mottled).—First, E. Horner. Second, J. Firth, jun., Webster Hill, Dewsbury. Commended, E. Horner.

TRUMPETERS (Any other colour).—First, W. H. C. Oates. Second, J. Firth, jun. Third, C. Bulpin. Highly Commended, E. Horner.

OWLS (Foreign).—First and Second, J. Fielding, jun.

OWLS (English).—First, C. Bulpin. Second, J. Watts, Hazelwell Hall, King's Heath, Birmingham. Highly Commended, C. Bulpin.

NUNS.—First, C. Bulpin. Second and Third, W. Banks, Weston House, Rancorn. Highly Commended, E. Horner; S. Shaw. Commended, C. Bulpin.

TURBITS (Red and Yellow).—First, E. Horner. Second, S. Shaw. Highly Commended, S. Shaw; J. Thompson, Bingley. Commended, J. Watts.

TURBITS (Any other colour).—First, C. Bulpin. Second, E. Horner. Highly Commended, S. Shaw.

BARBS (Black).—First, F. Crossley. Second, G. Charley, Preston. Third, Withheld.

BARBS (Any other colour).—First, G. Charley. Second, E. Horner. Highly Commended, G. Charley.

DRACOONS (Blue).—First, F. Crossley. Second, S. Shaw. Highly Commended, J. Percivall; J. W. Ludlow, Birmingham; E. Horner.

DRACOONS (Red or Yellow).—First, C. Bulpin. Second, J. W. Ludlow. Highly Commended, C. Bulpin.

DRACOONS (Any other colour).—First, J. Percivall. Second, E. Horner. MAOPES.—First, E. Horner. Second, J. Percivall. Third, E. Horner.

ANTWERPS.—First and Second, H. Yardley. Third, H. Allsop, Birmingham.

ARCHANGELS.—First, J. W. Edge. Second, C. Bulpin. Highly Commended, A. Heath.

SWALLOWS.—First, Second, and Third, F. H. Paget.

ANY OTHER NEW OR DISTINCT VARIETY.—First, H. Noyé, Birmingham. Equal First, H. Draycott. Second, F. H. Paget. Equal Second, H. Draycott. Third, W. Banks. Equal Third, E. Horner; H. Yardley. Highly Commended, C. Bulpin; F. H. Paget.

JUDGES.—Poultry: G. J. Andrews, Esq., Dorchester; Mr. John Bailly, Mount Street, Grosvenor Square, London; Mr. James Dixon, North Park, Clayton, Bradford; Mr. E. Hewitt, Spark Brook, Birmingham; Mr. R. Teebay, Fulwood, near Preston; J. H. Smith, Esq., Skelton Grange, York; Mr. R. Woods, Osberton, Worksop; Mr. Edward Lowe, Comberford, Tamworth.—**Pigeons:** Mr. Harrison Weir, 9, Lyndhurst Road, Peckham, London, S.; Mr. T. J. Cottle,

Poltney Villa, Cheltenham (Classes 96 to 111); Mr. F. Esquilant, 4, Effra Road, Brixton, London, S.; Mr. T. Ridpath, Poplar House, Rusholme, Manchester (Classes 112 to 135).

OAKHAM POULTRY SHOW.

THE Poultry Show in connection with the Ratland Agricultural Society's Exhibition was held at Oakham on the 25th and 26th of November in a spacious marquee. The collection of poultry and Pigeons consisted of 578 pens, not only good in number, but also in quality, which is surprising when we consider how close the date of the Show is to that of the Great Show at Birmingham.

There were no less than twenty-four coloured *Dorking* cocks, and in addition to those which took prizes, the Judges selected seven pens for commendation. Silver-Greys were numerous, but many good birds were passed over in consequence of being entered in the Coloured class. There were upwards of fifty pens of *Game*, but the best birds were disqualified, being entered in the Brahma and Hamburg classes. This was surprising, seeing that they belonged to great exhibitors of several years standing. *Turkeys* were particularly good. There were fifteen entries of single cocks. The *Game Bantams* were the largest class, there being sixty-one pens. Here some evil-disposed person abstracted both sickle feathers from the tail of the first-prize bird, which is the more to be regretted because the Stewards and Mr. Wellington, the Honorary Secretary, were unremitting in their attention to the specimens committed to their charge.

Pigeons were numerously represented; the class for new or distinct varieties contained upwards of thirty pens.

DORKINGS (Coloured).—Cock.—First, H. Warner, Loughborough. Second, G. H. Finch, M.P., Burley-on-the-Hill. Third, J. Horushy, Grantham. Commended, H. L. Bradshaw, Wakerley; Rev. C. H. Crosse, Cambridge; W. Fowler, Manton, Uppingham; D. C. Campbell, M.D., Brentwood; R. Wood, Clapton, near Thrapstone; G. Clarke, Long Sutton; T. Tatham, King's Thorpe. *Hens or Pullets.*—First, D. C. Campbell. Second, H. Lingwood, Barking, Needham Market. Third, R. Wood. Highly Commended, H. Bradshaw, Lee; Lady L. Charteris, Attleborough. Com. J. Horushy.

DORKINGS (Silver-Grey).—*Hens or Pullets.*—First, H. L. Bradshaw, Wakerley. Second, W. Fowler, Manton, Uppingham. Commended, J. Longland, Grendon, Northampton; Marchioness of Exeter, Burghley.

DORKINGS (White).—Cock.—First, D. C. Campbell, M.D. Second, H. Lingwood. Highly Commended, Mrs. Syson, Empingham. *Hens or Pullets.*—First, H. Lingwood. Second, Highly Commended, and Commended, Mrs. Syson.

SPANISH.—Cock.—First, E. Brown, Sheffield. Second, J. Clews, Walsall. Highly Commended, Hon. Miss Douglas Pennant, Penrhyn Castle, Bangor. Commended, H. Sushall, Gedyney. *Hens or Pullets.*—First, E. Brown. Second, Hon. Miss Douglas Pennant. Third, F. James Peckham Rye, Surrey. Highly Commended, H. Lingwood, Martlesham, Woodbridge, Suffolk.

COCHINS (Cinnamon, Buff, or Partridge).—Cock.—First, H. V. Storry, Lockington Hall, Derby. Second, J. Longland, Grendon. Third, Mrs. Woodcock, Leicester. Highly Commended, H. Lingwood, Martlesham, Woodbridge; H. Warner, Loughborough. *Hens or Pullets.*—First, H. Lingwood, Barking. Second, T. M. Derry, Gedyney. Third, Mrs. A. Woodcock. Highly Commended, W. A. Bursell, Southwell; J. M. Wellington, Oakham; Rev. G. Gilbert. Commended, Mrs. A. Woodcock; H. V. Storry.

COCHINS (White or Black).—Cock.—First and Third, Mrs. A. Williamson, Queenborough Hall, Leicester. Second, H. J. Godfrey, Hammer-smith, London. *Hens or Pullets.*—First and Second, Mrs. A. Williamson. Third, H. J. Godfrey.

BRAHMA POOTRA (Any colour).—Cock.—First, Mrs. Burrell, Ipswich. Second, Hon. Miss Douglas Pennant. *Hens or Pullets.*—First, H. Lingwood, Martlesham. Second, B. Jarvis, Mansfield.

HAMBURGS (Silver-spangled).—Cock.—First, Withheld. Second, J. Walker, Knaresborough. *Hens or Pullets.*—First, A. Houghton, Asfordby. Second, Miss Almey, Oakham. Commended, Mrs. Almey.

HAMBURGS (Silver-pencilled).—Cock.—First, J. Walker. Second and Commended, A. Houghton. *Hens or Pullets.*—First, J. Walker. Second, Mrs. Burrell. Commended, A. Houghton.

HAMBURGS (Gold-spangled).—Cock.—First, A. Houghton. Second, J. Pearson, Allerton, Bradford. Highly Commended, T. Blakeman, Tetten-hall; T. Walker, jun., Deuton. *Hens or Pullets.*—First, T. Blakeman. Second, Mrs. Burrell. Commended, S. & R. Ashton, Mottram.

HAMBURGS (Gold-pencilled).—Cock.—First and Highly Commended, W. K. Tiekner, Ipswich. Second, J. Pearson. *Hens or Pullets.*—First, W. K. Tiekner. Second, J. Walker.

GAME (Red and other Dark colours).—Cock.—First, R. Hall, Cambridge. Second, Mrs. Fludyer, Ayston Hall, Uppingham. Third, B. Jarvis. Commended, E. Aykroyd, Bradford; Tilton & Redman, Holnfield, Oxenden. *Hens or Pullets.*—First, T. Garton, Oakham. Second, H. Jennings, Allerton, Bradford. Third, H. Warner. Highly Commended, Capt. Wetherall, Leddington. Commended, J. Driver, Allerton.

GAME (White, Piles, and Light colours).—Cock.—First, B. Jarvis. Se. R. Swift, Southwell, Notts. Third, E. Winwood, Worcester. Highly Commended, W. Chadwick, Oxenden Cross, Halifax. *Hens and Pullets.*—First, S. Dragon, Oundle. Second, Rev. G. Blake, Britton. Third, H. Jennings, Allerton, Bradford. Highly Commended, B. Everard, Leicester. Commended, Mrs. Fludyer.

BANTAMS (White Clean-legs).—First, W. H. Tomlinson. Second, S. and R. Ashton. Highly Commended, H. L. Bradshaw. Commended, O. Cresswell, Hanworth Rectory.

BANTAMS (Black Clean-legs).—First, S. & R. Ashton. Second, S. S. Moasop, Long Sutton. Highly Commended, A. Storrar, Peterborough; T. C. Harrison, Hull.

BANTAMS (Gold-laced).—Prize, T. C. Harrison.

BANTAMS (Silver-laced).—Prize and Commended, G. H. Finch, M.P.

GAME BANTAMS (Any colour).—Cock.—First, W. Adams, Ipswich. Se-

cond, Rev. G. Raynor, Tonbridge. Third, H. Warner. Highly Com-
 mended, J. M. Otter, Newark-on-Trent; Rev. C. H. Cross; J. Parlett. Com-
 mended, J. Parlett, Huntingdon; E. Sheerman, Chelmsford. *Hens or*
Pullets.—First, Rev. G. Raynor. Second, Capt. Wetherall. Third, J. M.
 Wellington, Oakham. Highly Commended, J. Parlett. Commended, J.
 Parlett; E. Bemrose, Derby; M. Kew, Market Overton; H. Warner.

BANTAMS (Any other distinct variety).—Prize, Mrs. A. Woodcock.
 Commended, S. A. Wylie, East Moulsey.

POLANDS (Any colour).—Prize, G. Boothby, Louth. Commended, Lady
 L. Charteris.

ANY OTHER DISTINCT VARIETY.—First, Hon. C. W. W. Fitzwilliam,
 Wentworth Woodhouse (La Fleche). Second, Lady L. Charteris (Black
 Crève-Cœur). Highly Commended, W. Dring, Faversham (Crève-
 Cœur). Commended, Lady H. Hazlerigg, Tugby, Leicester.

CROSSBRED CHICKENS.—First, Mrs. Syson. Second, Third, and Fourth,
 M. Kew. Commended, J. Wellington; Rev. E. Alder, Etwahl Vicarage,
 Derby; C. Chapman, Exton, Oakham.

TURKEYS (Any colour).—Cock.—First, Mrs. E. Harris, Sutton St. James.
 Second, Lady L. Charteris. Third, W. Hughes, Oakham. Highly Com-
 mended, W. Kirk, Wymondham; R. B. Seaton, Empingham; W. Hughes,
 Oakham. Commended, R. B. Seaton; O. Turner, Uppingham; G. R.
 Pearson, Colsterworth; Mrs. Berridge, Burley-on-the-Hill; Mrs. E.
 Harris, *Hens*.—First, Mrs. E. Harris. Second, G. R. Pearson. Third,
 Mrs. Berridge. Highly Commended, M. Kew, Market Overton, Oakham;
 Mrs. E. Harris. Commended, W. Kirk; R. B. Seaton; G. R. Pearson;
 M. Kew.

DUCKS (White Aylesbury).—First, Mrs. Barrell. Second and Third,
 J. Hornsby. Highly Commended, W. Carver & Sons, Ingarsby, Leicester;
 J. Hornsby.

DUCKS (Rouen).—First, J. White, Netherton, Wakefield. Second, R.
 Wood. Third, G. R. Pearson.

DUCKS (Any other variety).—First, M. Kew. Second, T. C. Harrison.
 Highly Commended, G. H. Finch, M.P. Commended, T. C. Harrison,
 Hull; Lady H. Hazlerigg.

DUCKS (Crossbred or Common).—First, J. M. Wellington. Second,
 and Highly Commended, Mrs. Berridge. Commended, Mrs. Blackwood,
 Oakham; Lady H. Hazlerigg.

GESE (Any colour).—First, J. Garton, Loughborough. Second, J.
 Christian, Barrow, Oakham. Highly Commended, M. Kew. *Goslings*.—
 First, J. Christian. Second, J. Garton, Highly Commended, J. Christian.

PIGEONS.

TUMBLERS.—First, P. H. Jones, Fulham. Second, J. Fielding, jun.,
 Rochdale. Highly Commended, H. Draycott, Humberstone, Leicester.
CARRIERS.—First, Pen 470, name omitted in catalogue. Second, E.
 Walker, Leicester. Commended, H. Headley, Leicester; A. Storrar,
 Peterborough.

POUTERS.—First, P. H. Jones. Second, H. Draycott.
JACOBS.—First, H. Headley, Leicester. Second, P. H. Jones, Fulham.
 Highly Commended, J. Thompson, Bingley.

FANTAILS.—First, W. H. Tomlinson, Newark-on-Trent. Second, H.
 Draycott. Commended, G. G. Hall; W. H. Tomlinson; F. J. Leach,
 Middlesborough; H. Hoadley; J. F. Loversidge, Newark; P. H. Jones.

TRUMPETERS.—First, P. H. Jones. Second, J. Thompson. Highly
 Commended, H. Yardley; E. Sheerman, Chelmsford.

NUNS.—First, W. Croft, Killinghall. Second, P. H. Jones. Highly
 Commended, J. Thompson. Commended, F. J. Leach, Middlesborough.

TURBITS.—First, J. Fielding, jun., Rochdale. Second, F. J. Leach.
 Highly Commended, F. H. Paget; J. Thompson; P. H. Jones.

RUNS.—First, H. Yardley. Second, H. Headley.

ANY OTHER NEW OR DISTINCT VARIETY.—First, H. Draycott (Fribbacks).
 Second, H. Headley (Brunswicks). Highly Commended, Mrs. Berridge
 (Fantaile and Jacobine); Miss F. Easton, Nail (Owls); A. Storrar (Owls);
 P. H. Jones (Magpies, Fabrics, and Dragons). Commended, H. Yardley;
 T. Fielding (White Owls); F. J. Leach (Magpies); H. Headley (Owls);
 J. C. Marshall, Peterborough (Magpies).

The Judges were Mr. W. B. Jeffries, The Arboretum, Ipswich, and
 Mr. W. B. Tegetmeier, London.

THE CHIPPENHAM POULTRY EXHIBITION.

This was certainly one of the very best Poultry Shows that has ever
 been held in this locality; and, when we consider that the great Show
 at Birmingham was so near at hand, the excellence of the poultry
 exhibited at Chippenham is only the more remarkable. The arrange-
 ments were very good, and the attention paid to the poultry was most
 efficient. *Dorkings* were excellent, and the *Game* fowls not less so.
 Some very superior *Cochins* were exhibited, and of *Hamburghs* the
 number of entries was large and the classes good. *Polands*, though
 few in number, were of very superior quality, but the *Bantams* were
 neither so numerous nor so good as in past years. The weather was
 favourable.

DORKINGS.—First, — Forster, Freshford. Second, Miss Millward, New-
 ton St. Lee. Highly Commended, — Hanks, Malmesbury. Commended,
 — Hanks; — Bennett, Yate.

SPANISH.—First, Tonkin & Tuckey, Bristol. Second, — Forster.
GAME (Black-breasted and other Reds).—First, — Waller, Beversbrook
 Second, F. Bailey, Caine. Highly Commended, — Bennett; W. H. Stagg
 Netheravon.

GAME (Any other variety).—First, S. Sainsbury, Devizes. Second, J.
 May, Bristol. Highly Commended, S. Sainsbury.

COCHINS.—First, Miss Millward. Second, — Maggs, Tethury. Com-
 mended, Miss Millward.

BRAHMAS.—First, J. Hinton, Hinton. Second, — Hanks, Somerford.

HAMBERGHS (Gold or Silver-pencilled).—First, H. Thompson, Hill-
 marton. Second, — Bennett. Commended, Rev. H. Mullens, Acton
 Tarville; — Hanks.

HAMBERGHS (Gold or Silver-spangled).—First, Rev. W. S. Shaw, Bath.
 Second, W. Hulbert, Chippenham. Commended, — Froud, Wootton
 Bassett.

POLANDS.—First, J. Hinton. Second, — Powney, Calce. Highly Com-
 mended, J. Hinton; F. Perrin, Bristol.

GAME BANTAMS.—First, — Cambridge, Bristol. Second, J. May, Bristol
 Commended, J. May.

BANTAMS (Any other variety).—First, — Cambridge. Second, Tonkin
 and Tuckey.

ANY OTHER DISTINCT BREED.—First, Mrs. Ward, Marlborough. Sec-
 ond, J. Hinton.

CROSS-BREEDS.—First, S. Sainsbury. Second, J. Hinton.
TURKEYS.—First, Miss Millward. Second, H. Brinkworth, Corsham.
 Highly Commended, I. Smith, Avon.

GESE.—First, — Baker, Allington. Second, W. Archer, Wootton
 Bassett.

DUCKS (Rouen).—First, G. M. Hulbert, Perrott's Brook, Cirencester.
 Second, — Hanks, Malmesbury. Highly Commended, Rev. H. Mullens.

DUCKS (Aylesbury).—First, — Hanks. Second, Forster. Highly Com-
 mended, — Bennett.

DUCKS (Any other variety).—First, Miss Millward. Second, Rev. H.
 Mullens. Highly Commended, Rev. H. Mullens; H. Brinkworth, Corsham.
SWEETSTAKES FOR SINGLE GAME COCK.—First, W. H. Stagg, Netheravon.
 Second, — Oriidge, Chippenham. Third, — Waller, Beversbrook.

E. Hewitt, Esq., of Birmingham, officiated as Judge.

THE JOHNSTONE POULTRY AND PIGEON SHOW.

This was held on the 21st of November, when the following prizes
 were awarded:—

SPANISH.—First and Second, J. Crawford, Beith. Third, D. M'Kean,
 Strathblane. Highly Commended, J. Thomson, Paisley.

DORKINGS.—First, A. Drummond, Glasgow. Second, A. Grant, Kil-
 harchan. Third, T. Raines, Stirling. Highly Commended, T. Smith,
 Stewarton.

BRAHMA POOTRAS OR COCHIN-CHINAS.—First, A. Crawford, Airdrie.
 Second, J. Taylor, Johnstone. Third, J. Boyd, Paisley. Highly Com-
 mended, W. Robertson, Paisley.

GAME (Black-breasted).—First, Third, and Highly Commended, P.
 Alexander, Bridge of Weir. Second, R. Stirrat, Dalry.

GAME (Any colour).—First, J. Macindoe, Gateside. Second, J. Menzies,
 Pollokshaws. Third, P. Alexander. Highly Commended, A. Drum-
 mond.

SCOTCH GREYS.—First, J. Hamilton, Hamilton. Second, J. Taylor,
 Johnstone. Third, R. Blair. Highly Commended, J. Fulton, Beith.

HAMBERGHS (Golden-spangled).—First, R. Cunningham, Stewarton.
 Second, J. Jardine, Kilmarnock. Third, H. Hope, Glasgow. Highly
 Commended, D. Black, Paisley.

HAMBERGHS (Golden-pencilled).—First, J. Armstrong, Longton. Sec-
 ond, W. Bachop, Paisley. Third, A. Grant. Highly Commended, J.
 Smith, Stewarton.

HAMBERGHS (Silver-spangled).—First, J. Logan, Carnwath. Second,
 A. Grant, Kilmarnock. Third, J. Staart, Barrhead. Highly Commended,
 A. Glen, Erskine.

HAMBERGHS (Silver-pencilled).—First, W. A. Bachop, Paisley. Second,
 A. Thomson, Paisley. Third, J. Dryborough, Paisley. Highly Com-
 mended, D. White, Johnstone.

GAME BANTAMS.—First, J. Gow, Kilmarnock. Second, T. Raines, Stir-
 ling. Third, J. Sharp, Johnstone. Highly Commended, A. Grant.

BANTAMS (Any other variety).—First, J. Logan, Carnwath. Second, W.
 Morris, Paisley. Third, A. Grant. Highly Commended, A. Robertson.

ANY OTHER BREED.—First, J. Pollock, Busby. Second, J. Allan, Kil-
 barchie. Third, J. Connel, Johnstone. Highly Commended, J. Anderson,
 Johnstone.

DUCKS (Aylesbury).—First, A. Robertson. Second, J. Logan. Third,
 J. Dryborough. Highly Commended, A. Robertson.

DUCKS (Rouen).—First, J. Hamilton, Hamilton. Second, Z. H. Heys,
 Barrhead. Third, J. H. M'Nab, Barrhead. Highly Commended, A.
 Robertson.

SELLING CLASS.—First, A. Grant. Second, A. Drummond. Third,
 Z. H. Heys. Highly Commended, R. Blair, Johnstone.

EXTRA PRIZES.—For the best pens from Classes 1 to 8.—Prize, P.
 Alexander. For the best pen from Classes 9 to 16.—Prize, J. Gow, Kilharchan.

PIGEONS.

POUTERS.—First, J. Butler, Glasgow. Second and Third, H. Thomson.
 Highly Commended, J. Campbell, Johnstone.

POUTERS (Black or Red).—First and Third, J. Sharp, Johnstone. Sec-
 ond, J. Butler. Highly Commended, J. Campbell.

POUTERS (Any other variety).—First, J. Sharp (Whites). Second, J.
 Butler (Yellow). Third, T. M'Donald, Johnstone. Highly Commended,
 H. Thomson.

CARRIERS.—First and Second, H. Martin, Glasgow. Third, J. Camp-
 bell. Highly Commended, J. Gow.

TUMBLERS (Short-faced).—First and Second, J. Sharp.
TUMBLERS.—First and Second, J. Sharp.

FANTAILS.—First, J. Sharp. Second, J. Smellie, Wishaw. Third, R.
 Blair. Highly Commended, W. Reid, Lochwinnoch.

JACOBS.—First, J. Campbell. Second, Third, and Highly Commended,
 J. Sharp.

TUMBLERS (Common).—First, R. Blair. Second, H. Martin. Third,
 D. R. MacKay, Glasgow. Highly Commended, J. Sharp.

COMMON.—First, C. Anderson, Johnstone. Second, J. Campbell, John-
 stone. Third, R. Blair. Highly Commended, J. Wilson, Beith.

ANY OTHER BREED.—First, Third, and Highly Commended, J. Sharp
 (Owls). Second, J. Gray, Airdrie (Trumpeters).

SELLING CLASS.—First, J. Butler (Carriers). Second, Third, and
 Highly Commended, J. Sharp.

EXTRA PRIZES FOR THE BEST PENS.—Prizes, J. Sharp (Pouters and Fan-
 tails).

JUDGES.—Poultry: Mr. J. M'Innes, Paisley; Mr. A. Paterson,
 Airdrie; Mr. A. Morrison, Glasgow; Mr. J. M'Langhan, Paisley.

Pigeons: Mr. J. Muir, Glasgow; Mr. G. White, Paisley; Mr. G. Ure, Dundee; Mr. J. Huie, Glasgow.

PIGEONS AT THE NEWCASTLE-ON-TYNE SHOW.

THE *Pouters* comprised some splendid birds. The most noticeable amongst them were the Whites of Mr. Fulton; both cock and hen were extremely good in all points. Next to these was a Black hen of splendid style, and the largest blower I ever saw, but rather deficient in limb. A Blue cock and a Red hen were also very fine. All the above won first prizes in their separate classes, and belonged to Mr. Fulton. In Yellow hens Mr. Stewart showed a splendid large hen, which was first, and Mr. H. Brown a fine hen, which had the second prize. Mr. Stewart also showed a very fine Blue cock, and a good Black cock. Yellow cocks were very poor in quality and numbers; Nealy cocks were strong in numbers, but deficient in quality; but some splendid hens were shown in the class for that colour, Mr. Sanderson's first prize Nealy hen being a very fine bird. Amongst the birds which did not take prizes, but were worthy of notice, were Mr. H. Brown's Red cock, Mr. C. Vaux's Blue hen, and Mr. Simpson's Blue hen.

For *Carriers*, Mr. Fulton was again first and second in both the classes with magnificent birds. Very fine birds were also shown by Messrs. T. Colley, J. C. Ord, W. R. Bleukinsop, and John Thompson.

Of Short-faced *Almond Tumblers* there were several beautifully coloured specimens. Messrs. Fielding, Fulton, Leach, Vaux, and Yardley all showed superior birds. For Any other coloured Tumblers the irrepresible Mr. Fulton was easily first with a splendid pair of Red Splashes; he likewise won the sweepstakes for the best Almond cock.

In the class for Black *Barbs* Mr. Van Haansbergen was first with a fine pair, the cock being a most superb specimen. In the class for Any-other-coloured *Barbs*, Mr. Firth won easily with Yellow, the hen being a very superior bird, the best of the colour I ever saw.

Among Red or Black *Jacobins* there was the closest competition, all the specimens being above mediocrity. I never saw so many first-class birds together. Mr. Jesse Thompson won with Reds, Mr. Pinder being second with Blacks. The latter were generally held to be the superior pair of the two, the cock being the best Jacobin I ever saw. Mr. Pinder showed another pair of Blacks, and very good birds were exhibited by Messrs. Van Haansbergen (two pens) and Horner, the hen in one pen, belonging to the former gentleman, being the best hen in the show. Of *Jacobins* of any other colour, only Yellows were shown, and they did not come up to the Reds and Blacks in quality. Mr. Horner's were the best.

Fantails (White) formed a large and very good class. Mr. J. Smellie's first prize pair were decidedly the most perfect specimens. Some immense-tailed birds were exhibited by Messrs. Edge, Leach, Else, Fawdon, and Taylor, and some marvels in carriage by Mr. Van Haansbergen. These extremely fine-carriaged birds were all more or less deficient in tail, as compared with those of Mr. Smellie. Some exceedingly good birds were shown in the class for coloured *Fantails*, Mr. Edge being first with very fine Blues. Messrs. Yardley, Martin, and Fielding also had very good specimens there.

Trumpeters looked well, Mr. Horner's especially so, and these were deservedly first and second in the class for *Mottles*. For Any-other-coloured *Trumpeters* Mr. Oates was first with a beautiful pair.

In the class for *Owls* Mr. Fielding was a long way ahead of all competitors both in Blues and Whites. Still, good birds were shown by Miss F. Easton and Messrs. Bleukinsop, J. Thompson, and Van Haansbergen.

Of *Nuns* there were several pens of excellent colour and marking, but in every pen but that of Mr. Croft one or other of the birds was deficient in crest. Those of Mr. Croft's were perfect. Mr. Horner's Yellows were very good.

Runts, *Dragons*, and *Maggie's* call for no special remarks.

Of *Turbits* there was an excellent show. The crested birds laboured under the same defect as the Nun class; there were plenty of perfectly crested single specimens, but not one pair matched in this particular. The competition was very close, most of the birds being correctly marked, and of good colour. Messrs. Sale, Yardley, Edge, Towerson, Van Haansbergen, and Liddall all exhibited fine birds. In the class for point-headed *Turbits* the competition was just as close as in the crested class, and most difficult to judge. Mr. Horner was first and Mr. Fawdon second. Messrs. Leach and R. Wilson also showed good birds.

In the class for any other variety *Swiss* were first. Several pretty varieties were exhibited.—BORDERER.

TRIMMING VULTURE HOCKS.

UNDER a painful sense of duty I have followed up my letter the other day on this subject by entering a formal protest against a prize pen of Brahma hens at Birmingham. I am ignorant of the result, but if the penalty be not enforced I am willing to publish the case in your columns, signed by myself

and the two witnesses (both competent judges), in whose presence I took the bird from the pen.

There were so many clear cases in the cockrel class, that I feel bound to add I selected the hen class as the *only one* in which I did not myself show, in order that no suspicion of personal motive might attach to me in this my *first* active step. Business engagements also imperatively prevented my attending on Monday to support my protest personally, so that I was obliged to select such a case as would be obvious on inspection to the most inexperienced observer. If, however, justice be done in this case, it is my intention to take up *every one* which shall come under my notice, and thus endeavour to stamp out a practice which deserves the most unmitigated contempt.

I may remark, that perhaps the best pen of Buff Cochins was scandalously trimmed about the hackles to conceal the black feathers. But one matter at a time is quite sufficient for—NEMO.

NOTES ON FANCY PIGEONS.—No. 19.

BALDHEADS AND BEARDS.

THE various colours found in fancy Pigeons arose, as we all know, from selection and crossing. I say we all know, because the pretty-feathered, pretty-named German birds which have of late years appeared at our Pigeon shows have been bred in this way. Any colour and marking may be so obtained, as the German fanciers, who appear to be marvellously skilled in the matter, declare, and as all Pigeon fanciers have found to be true in a greater or less degree according to their experience.

With regard to Baldhead Tumblers, they were in the first place so bred without doubt. Many Pigeons run perfectly white in flight and tail, and parti-coloured birds usually have some white feathers in the head. Hence it was no great difficulty to obtain by care Tumblers which are very variously hued, more so than any of the fancy birds, white in flight and tail, and white also in head. The white feathers in the head would be most difficult to get free from any other colour, as those who, like myself, have specially bred Baldheads know full well; for in nest after nest the birds will come with one or two tiny coloured feathers where no coloured feathers ought to be, or the white extends too low down the neck, or the division there is not clean and straight, whereas the white feathers are sure to come right enough in wings and tail. The fancier who produced the first pair of Balda was, no doubt, highly pleased with them, and so would be every one who saw them, whether man, woman, or child, fancier or no fancier, as the little, snowy, well-shaped heads would strike and please every eye.

Old Moore (A. D. 1735), who only just mentions the beautiful Almond Tumbler, does not mention the Baldhead at all. In his day Tumbler beauty had not been developed in the same degree as Pouter beauty; but between his time and the publication of the "Treatise," thirty years after, Tumbler beauty had been greatly developed. Accordingly we find in the "Treatise" the first account of the Baldhead and Beard. The former should, it is well known, have a clean-cut, pure white head, white thighs, tail, and flight; in all cases a clear pearl eye. If the eye (of course dark for some time) of an adult is not pearl, or, as it sometimes is, the bird is odd-eyed, off with that head directly. There must not be a feather on leg or foot, not a dark feather on the head—if such appear off with that head too. If you wish to breed perfect Pigeons you must have no scruples as to killing, and no more weakness than Henry VIII. on the head question.

I remember, when ill in bed some years since, my great anxiety to see my young Tumblers' heads; so a party of birds was brought to my bedside on a waiter, which scene drew from me a smile, for how they waddled about and slipped upon the smooth surface.

Baldheads have much to recommend them. I have found them absolutely free from disease. They are little healthy plump fellows, with, like all Tumblers, plenty of brain, and capable of being made very tame, and are always sharp and knowing, picking through your fingers if a grain of hempseed is within the hand.

As to colour, I have always found the Black by far the best for many reasons. First, the contrast of colour when on the ground, the little white heads looking so very white emerging from the coal black body, and I think the Blacks are usually better shaped. Buffs are also very pretty, being daintily-looking little dears. Blues are often good, and very pretty, as all blue Pigeons must be, from the brighter hues on the neck and the very telling black bars. Silvers I think less of; there is little

or no contrast, and silver looks like a blue washed out—like a washed gingham gown. Red, if good, which it rarely is, is another distinct and excellent colour.

But next in regard to Baldheads when flying. The black and white with clean thighs look better when on the wing than any other Tumblers whatsoever; and during many years I have never had a Black Bald that did not tumble, the hens as a rule tumbling less than the cocks. At the same time I never had a Buff or a Red that did more than back, but not go over. I have seen some Blues tumble, but found it was the exception and not the rule. None of the latter-named colours look so well in the air as the Blacks; and considering the tumbling power of the latter it is no wonder that my preference has been for them, especially as they do not over-tumble like the Rollers. I imagine the Black is the genuine colour, and that the other colours were imported from some other Pigeon—a Turbit or Jacobin, perhaps.

If any one is in search of pretty ornamental pets—pets of very striking appearance, perfectly healthy, and giving no manner of trouble, I recommend him to breed Baldheads. A flight of all Black is very pleasing to the eye when on the wing, but if of all the colours procurable there would be variety; and the Reds, Yellows, and Blues look charmingly when parading the ground or basking on the roof.

I remember an amusing scene when I kept Baldheads with Antwerps. The little fat plucky Tumblers would try to keep up with those winged racehorses. Of course, it is best never to keep any other Pigeons with Tumblers, except a few Pouters, which show off the little fellows so well, and, not caring to fly much, do not bring down the Tumblers.

As to Beards, I think they must be regarded as less valuable, less striking, and less ornamental than Baldheads. Just a little dash of white running from the lower part of the beak, is not to be compared, I think, with the clear bald head. But the Beards are fine Pigeons, though rather cut-throats in look, and deserve to be cultivated; they are of the same colours as the Balds. Just as one fancier might take up with Baldheads, so another might take up with Beards. Tastes happily differ, and a loft of all the different colours offers a pretty sight. This, I think, unless you are a Cæsus, and have immense lofts, is the best way to enjoy fancy Pigeons, take up a certain variety, and work it out and up thoroughly.

Both Balds and Beards make excellent nurses for the Short-faced Tumblers. I would recommend fanciers to breed flying Beards less coarse.

Among "Tumblers in general," I ought just to have named the Splashed, Mottled, &c.; in fact, there are Flying Tumblers of all colours. I must differ from some writers in regard to Tumblers having homing properties. My opinion is, that *un-crossed* by the Skinnan, they have no homing properties at all. I have moved Tumblers two miles, not one returned; I have bought Tumblers one mile distant, they never went back to their former owner; I have bought Tumblers in the same town, and flown them, they never forsaking my loft. I believe you might buy them at one end of a street, and keep them at the other end, and in a month's time they would, if well fed, not return to their former home. Such is my opinion.—WILTSHIRE RECTOR.

P.S.—In regard to "R. W.'s" remarks, entitled "Tumbler Pigeons," I am sure he enjoys his pets, and deserves to do so, and he rightly describes the act of tumbling; but I am afraid he will never get the fancy to view the beautiful Short-faced birds as other than the highest class of their variety. Witness the prizes given to them, and the prizes given for them, and the esteem in which they have been held for above a century; but of them more fully next time. Mr. Brent says, "Pearl eyes are essential for all Tumblers." I should never dream of keeping a Tumbler an hour that failed in this particular.

DISCOLOURED DUCKS' EGGS.

I CAN quite confirm the opinion expressed in page 412 as to the cause of the dark colour in Ducks' eggs at this time of year. I have a good many oaks about my place here, and my Ducks often have access to the falling acorns, and such eggs as were recently laid when the acorns were lying about were invariably thus discoloured—perfectly good and fresh for cooking purposes, but anything but sightly objects for the breakfast table. I have heard from other quarters that acorns were the cause, and my own experience quite confirms it. One oak tree overhangs the duckpond, and the acorns, as they fell, were

often seen to be greedily devoured by the Ducks.—ALFRED CROWLEY, *Croydon*.

JERSEY—ITS LIVE STOCK.

THE climate of Jersey, from its warmth and geniality, yet non-encraving character, is quite first-class for rearing live stock. Yet all kinds of live stock, except the celebrated island cattle, are still very far from first-rate. Those, however, who feel an interest in their prosperity must look at the improvement in them during the last few years, rather than at their present shortcomings.

The beautiful Jersey cows have always been bred with care, and protected in their purity by stringent enactments of the States, for no cow or bull of any other breed is allowed to land under any pretence. And wonderfully has this care and protection told upon the race. Twenty or twenty-five years ago really handsome cattle in a field formed a sight sufficiently rare to attract attention; but now any which are very faulty are quite the exception, and the beautifully ornamental little kine with the delicate head, the mild eye, the straight back and fine, sleek coat embellish almost every tract of pasture in the country. The old Jersey breed of cows was always famous for productiveness in milk and cream; they were fine in the head and limbs, with a soft eye and a crumpled horn, but faulty in many points. They were the origin of the Alderney race, having been sent there in 1798, and were used as a cross in the formation of that northern favourite, the Ayrshire breed. But it has been since the inauguration of the Royal Jersey Agricultural Society that the points have been settled, the breed brought nearly to perfection, and its price increased from £10 to £12 per head to sums ranging from £20 to £50 for cows, and from £15 to £70 for bulls. Heifers used to sell for £4 or £6, now they are from £12 to £25.

The points of the Jersey cow are, I believe, 36 in number. Genealogy, 2; those belonging to head, throat, horns, ears, and eye, 9; neck, chest, and form, 4; back, 2; tail, 2; skin and coat, 3; limbs and hoofs, 7; udder, teats, and milk vein, 4; growth, general appearance, and condition, 3: in all 36. According to Col. Le Couteur (a first-rate authority) the Committee of the Agricultural Society chose for forming a type the two best cows which could be found, and, from the fore quarters of one and the hind quarters of the other, drew a model of perfection which has never been bred up to in every point, but I believe within one of the goal has been attained. I can speak from experience of the produce of this beautiful breed. The beef is excellent, small, compact, and fine in flavour, and the milk is unsurpassed and unsurpassable, rich and sweet, but, of course, here, as in other places, sometimes tampered with. The butter is better than any I have known elsewhere, but it is not cheap, unless goodness be set down at money value. The price is generally 1s. 1d. at the cheapest period of the year, and it graduates from that to 1s. 8d. and even sometimes 2s. at the dearest. The butter is made up into round pats, tapering to the base, weighing 1 lb. each, and the Jersey pound consists of 17½ ozs. Stringent market laws enforce good weight. Any market woman offering underweight pats is not only compelled to forfeit her butter and her basket, but all such delinquents are marched in procession to convey the forfeited wares to the Hospital (where it is given for the use of the inmates), a distance of a mile or more through the town.

These pretty cattle are of the gentlest possible disposition, and although they are hearty they are not allowed to be wasteful feeders, for they are tethered in the pasture. The tethers are removed about three times a-day, and of course the feeding is clean and economical. The Jersey cow has been accused of being a great eater; but is it reasonable to expect a creature so productive as regards both the quantity and the quality of the milk to be other than hearty in appetite? Traffic in cows and bulls is quite a staple trade with England, America, and other countries. The last secretary of the Royal Jersey Agricultural Society was at great pains to establish a herd book, which will of course tend in a valuable degree to the farther perfecting of this beautiful stock.

The ragged, rough old Jersey horse had a valuable cross at the beginning of the present century with an accidental importation of Tartarian stallions, belonging to some Russian troops, which could not be landed in England in 1801, and Col. Le Couteur described the result of this cross in 1820 as "a hardy, active, fine-limbed animal, with a small head and bright eye;"

but I think such horses are not seen here at the present time, and it seems a pity that the energy of breeders appears now to be devoted to racers, which, from circumstances, must be only second-rate, rather than to more generally useful qualities.

Sheep and pigs for the Jersey market are mainly importations from France, and they have the merit of supplying excellent mutton and pork, but it has always appeared to me that, with regard to sheep, this most enjoyable climate might be valuably utilised in the acclimatisation of the Merino sheep. I know that chickens, which can scarcely be reared in England without many deaths after every cold wet spell, thrive here, and from that I judge that the Merino sheep might do well in Jersey.

Many of the pigs which are seen here have remarkably fine ears, taking that word to apply to size, not to delicacy. The bristles, too, are stout and abundant compared with those on the animals we have been in the habit of admiring at the London and Birmingham Shows. Possibly, however, prize and useful qualities do not of necessity go hand in hand, for the pork in Jersey is excellent, and, I think, generally that which is bred in France and imported, is better in quality than that from the Jersey-bred pigs.—E. W., Jersey.

(To be continued.)

MANAGEMENT OF SUPERS.

HAVING during the past summer found great difficulty in inducing the pure and hybrid Ligurian occupants of several Woodbury hives to enter supers, both of glass and wood, any information on the subject, which several of your more successful correspondents are so well able to give, will be valued.

My first hive, supered on the 27th of April, was of wood, the super also; and the bars were furnished with pieces of guide comb. This hybrid colony never entered the super, but swarmed on the 16th of May, and again later in the season.

My next attempt, on the 27th of April, with a similar super on a straw hive, met with the same success, the bees swarming on the 16th of May.

The third, a pure Ligurian in a straw hive, supered on the 30th of May, a super with glass top and sides being used, and the bars furnished with guide combs, failed also. The bees being thickly at the entrance of the hive for weeks, never entered the super, and on the 30th of June, when I formed an artificial swarm, they had made no preparation for natural swarming, though the hive was full to overflowing.

During the summer I have supered seven hives, and have had no honey, the bees of two only having taken to the supers, and that too late to do much.

The coverings of my hives are of wood, as used by Mr. Woodbury, and the glass supers are always covered with a thick padding of cotton wool. The adapting boards are on Mr. Woodbury's plan, and my two apiaries, distant about two miles from each other, are well situated. The season in the neighbourhood has been above an average one.—A. B.

[We should be glad if "A RENFREWSHIRE BEE-KEEPER," "B. & W.," or such other of our correspondents as may have had experience in supering, would advise "A. B.," in his difficulty.]

FOUL BROOD—SWARMS FROM INFECTED COLONIES.

THE able paper on foul brood by "R. S." which appeared in page 372 of "our Journal" is noticed by "A DEVONSHIRE BEE-KEEPER," who, however, has had no experience of swarms from infected stocks, and has had no opportunity of ascertaining the result; it is, therefore, with great pleasure that I contribute my mite of practical experience with regard to the question of swarms carrying the disease with them. If the reader will refer to this Journal of January 2nd, 1868, it will be seen that I there stated that a swarm came off from a diseased stock during the previous summer. The stock in question was the only one out of many diseased colonies which I have had, wherein I saw any attempt made to clean out the polluted cells; so well did the bees do it, however, that when the young queen began egg-laying it might have passed for a healthy stock. Yet the first brood which was hatched out became diseased, and the colony was at once destroyed.

But to return to the swarm—it was put into a clean hive with

clean guide combs, and removed to a distant cottage garden, there to await the result. My other swarm was from a strong stock of black bees in which a day or two previously, two queen cells had been inserted. This young queen, and her attendants, were also put into a clean hive with waxed bars and undoubtedly pure combs, and sent away to the same cottage at a distance.

These two swarms were frequently examined during the autumn, but both remained healthy, and were in October fed up to moderate weights for the winter. Spring came, and with its sweet influence the beauties of Nature were never more fully displayed around here than during this year. The clover fields were in their prime by the 6th of May, and bees more forward than was ever known before. Swarms began to come by the 8th, and were general by the 14th.

The two stocks in question remained free from disease up to the 1st of May, and the old queen's stock was the stronger. On the 6th of June the latter swarmed, giving me the opportunity of thoroughly examining all the combs. To my great satisfaction I found every cell healthy. As the question of how many eggs does a queen lay in a season was then being discussed in "our Journal" and in the pages of a contemporary, I carefully measured all the brood combs, and, allowing forty-eight cells to the inch, found that this stock contained at the departure of the old queen 38,000 cells, filled with eggs and brood.

The other stock continued healthy up to the hot weather of July. On the 14th of that month the disease had broken out and was spreading rapidly, when the stock was at once destroyed.

I was quite discomfited at this terrible disease appearing in one of two stocks which appeared the least likely, and was in daily expectation of finding the other colony fall a prey to the same dire calamity. I often examined it, and had the great pleasure of finding it healthy up to the middle of September, at which time it ceased to breed. I still think I am not warranted safe, as the old proverb says, "It is better not to shout until you are out of the wood." So all I can do with this apiary is patiently to "watch and wait."

I may add that all my made-up stocks of last autumn, which are here at home, and most of which had queens given to them from infected colonies, remain one and all perfectly healthy. How they swarmed and collected honey in this year's brief honey season I leave for a future evening's scribble.—J. B., Bracken Hill, Brigg.

P.S.—I am quite of Mr. Woodbury's opinion, that on no account can chilled brood ever become fount brood. I have seen brood combs completely chilled, but they always dried up and were easy to clean out.

OUR LETTER BOX.

N.B.—Several answers are unavoidably postponed till next week.

NORTHALLERTON POULTRY SHOW (W. L.).—The rules you have sent are in no way applicable to your case. Consult a solicitor, and if you can obtain evidence that your birds were duly received, then the Committee might have to show what became of them, and your remedy would be in the County Court if they could not.

DUCKS' EGGS GREENISH (*Idem*).—It may be from acorus or other food the Ducks have eaten. See some remarks in the previous page. They are only objectionable in appearance.

HEN AND PULLET SUDDENLY DEAD (*Silver-Grey*).—They were in good condition, yet not overfat. There were no symptoms of poisoning. The crops were full of undigested barley. Instead of the last feeding being of barley or other whole corn, let it be of barley meal mashed. Give a little bread soaked in beer once daily during the winter. The fowls were fine, and evidence that a cross between the Brahma Pootra and Silver-Grey Dorkings produces good table birds.

BLACK HAMBURG COCK (W. H. J.).—We recommend you to sue the seller in the County Court. The needle thrust along the comb probably killed the bird. Send us a report of the trial, and we will publish it.

BEES KILLED ON RAILWAY (T. P. Edwards).—As the railway officials have acknowledged that the bees were "killed in transit," there seems to be no difficulty. Sue the Company in the County Court, if they refuse compensation.

BUYING UNSEEN PIGEONS (*Constant Reader*).—Never send a post-office order for Pigeons you have not seen. It would be, as they used to say in Cambridgeshire, "buying a pig in a poke." Name a referee, and let the advertiser write to him; if you proposing that the birds should be sent to you for inspection, and if not approved you pay carriage.

TURBIT CHARACTERISTICS (*Idem*).—The points in Turbits are as follows:—Size, small; beaks, short; frill, large, head, broad; eyes, large and full. Judges now prefer a turn crown, or point crown, to the older smooth crown. In Blue Turbits the colour should be sound and good.

WEEKLY CALENDAR.

Day of Month	Day of Week.	DECEMBER 10—16, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year					
			Day.	Night.	Mean.	Days.	m.	h.	m.	h.	m.	h.	m.	h.	Days.	m.	s.					
10	TH		46.9	32.6	39.8	25	57	af	7	49	af	3	21	af	3	16	af	2	23	6	46	345
11	F		46.1	32.7	39.4	17	58	7	49	3	37	4	41	2	27	6	18		28	6	18	346
12	S	Royal Horticultural Society, Promenade.	46.1	37.3	39.7	18	59	7	50	3	47	5	16	3	28	5	50		29	5	50	347
13	SUN	3 SUNDAY IN ADVENT.	46.9	32.5	39.7	23	0	8	50	3	55	6	55	8	29	5	22		29	5	22	348
14	M		46.2	33.3	39.7	19	1	8	50	3	56	7	33	4	29	4	53		29	4	53	349
15	TU	Royal Horticultural Society, Fruit, Floral,	46.0	34.3	40.2	17	2	8	50	3	53	8	20	5	1	4	23		1	4	23	350
16	W	{and General Meeting.	45.5	33.8	39.6	14	2	8	51	3	39	9	23	6	2	3	54		2	3	54	351

From observations taken near London during the last forty-one years, the average day temperature of the week is 46.2°; and its night temperature 33.8°. The greatest heat was 63°, on the 12th, 1841; and the lowest cold 7°, on the 16th, 1853. The greatest fall of rain was 1.24 inch.

GROWING SHRUBS AS STANDARDS.



HERE is a host of plants in most shrubberies so prone to throw up suckers that they form a wilderness, especially at this time of year, constituting, indeed, a cage to catch the leaves as they fall, and thus occasioning no little trouble in taking these out. But this annoyance may easily be avoided.

Standard Lilacs, including the Persian Lilac, are very handsome when without the profusion of suckers which they are so prone to throw forth, and they are the easiest to grow as standards, except the snowball-bearing Gueldres Rose, which will make the most handsome standard imaginable. In good soil an old plant cut down will throw up suckers 7 or 8 feet high, with hardly a side branch. This and the common Lilac often throw up suckers, even without the old plants being cut down, sufficiently long to make such standards, but unless they are well disbudded, and rings of bark cut out, their natural tendency to produce suckers can never be effectually checked.

Ringed the bottoms to facilitate the emission of roots must be done at, or a little after, midsummer; for if you ring them any time in April or May, and cover the cut parts, a communication is soon formed by a new layer of bark. It was on a large stool of the Lilac, with eleven strong suckers, and another of the common Privet, with eight suckers, that I first discovered that spring ringing has little influence in arresting the circulation, and I was rather surprised at the fact; but so it was, and as the whole went through my own hands I could not be mistaken. On referring to such authorities as I could then consult, I discovered nothing relating to this early ringing, and as to the theory of the practice I need not speculate now.

The common Syringa, Philadelphus coronarius, is another deciduous rambling shrub as prone to throw up suckers as the Lilac, but treated as standards it forms beautiful little trees, and the troublesome habit of producing a host of suckers is got rid of. They make elegant little trees like standard Roses for forcing in the spring. There are two other plants of this genus which ought to be in every shrubbery either as standards or huge bushes; their names are the Warded and the Broad-leaved Philadelphus. These three flower early in summer. There is another species which does not flower till July, and on that account is valuable; besides that, it is a very handsome shrub—its name is Philadelphus Gordonianus. In their natural mode of growth these shrubs are little better than a Raspberry bush—indeed, they are more troublesome than ornamental; but train them as standards, and one could hardly believe how well they look.

The Berberry makes a handsome standard, but how seldom is it tried in that form, being only allowed to form a thicket of scrambling suckers, choking up the shrubbery like other plants of the same habit; yet when reared upon a clean straight stem, 5 or 6 feet high, it forms a very interesting little tree, particularly while in fruit. There is

another species called the Asiatic Berberry, which, if possible, is a still more interesting little tree, bearing bunches of purple berries in autumn. I have heard it highly recommended for underwood in plantations, for the purposes of sheltering and feeding game, for which use I think it well adapted; for no poacher could force his way through a thicket of it, as it spreads from the roots as much as the common Blackthorn. There are many other Berberries which, I think, would answer well as standards. I imagine it would be worth while to try some of the newer kinds of Berberry as standards, for I have not as yet seen any of them grown in that form. Perhaps others will give their experience on the subject.

The old Corchorus japonicus, or, as it is now called, Kerria japonica, with double yellow flowers, may be seen in every old garden in the country, growing after the manner of the Raspberry, but it would make a singularly beautiful standard if the stem did not rise above 4 or 5 feet high. The long slender branches first grow perpendicularly, and then bend over gracefully like plumes of feathers, and when in full blossom the weight of the flowers bears down the branches till their points nearly sweep the ground.

The genus Spiraea furnishes a host of plants which produce suckers in such numbers as to destroy each other. I never tried any of the species, nor saw them tried by others as low standards, but I am quite satisfied a great reformation could be made in their culture by getting rid of the suckers, and rearing the plants with single stems from 2 to 5 feet high, according to the growth. Spiraea Lindleyana treated as a low standard would form one of the handsomest plants that one could place out on the grass, and when not in flower might be mistaken for a Sumach tree.

Speaking of Indian shrubs, where could one find a better subject for a handsome standard than the beautiful Leycesteria of Dr. Wallich? It is a softwooded shrub, which caused a considerable amount of heartburning in this country some years ago, not having proved what it was at first reported to be, and is already almost neglected. It, too, never does well if allowed to take its own mode of growth, but elevate its handsome foliage, and its pendent clusters of flowers and fruit, on a clean stem 6 feet high, and I believe it will create a sensation in the neighbourhood. The plant has no English name that I am aware of, but commemorates William Leycester, formerly Chief Judge of the Bengal Presidency.

A book might be written on the subject of standard shrubs, and not exhaust it. These examples are taken from the most common shrubby plants, the most difficult subjects to deal with in any other way, and the least elegant in their modes of growth when allowed to take their natural course. Although I would strongly recommend this way of managing such plants, it is more for the purpose of remedying their propensity for throwing up a wilderness of suckers than for torturing their heads into globular forms like those of standard Roses. Indeed, I would rather let them assume their natural habit of growth, merely preventing any large limbs or shoots being formed to derange the balance of

their growth, and this is easily effected by stopping over-luxuriant growths occasionally, and by pruning the shoots in winter according to their size and strength—that is, the very short branches to be only a little shortened, the middle-sized ones to have one-half or two-thirds of their length cut away, the small spray cut out entirely, or cut in to a few eyes according to their position, and not allowing any branches or shoots to cross each other. This, of course, would be modified according to the way in which they produced their flowers after their heads were properly set off. What would our Gooseberry and Currant bushes be if they were allowed to pursue their natural growth? Their suckers would spring up as profusely as those of the Lilac, and their fruit would be comparatively useless. It is much the same with many of our ornamental shrubs, their flowers are in many cases only an apology for what they might be under a better system. We find no difficulty in forming our fruit bushes without suckers, and with clean straight stems, and we prune their heads in different ways accordingly as they best flower and fruit, and that is all I claim for our ordinary shrubs, which, as at present seen, are living examples of our negligence and bad gardening.

Standard bushes were made with great industry by our ancestors, and the practice is as old as the hills, but in those days they pruned and clipped them into all kinds of fantastic shapes, which are altogether foreign to our present taste. All that is original in this plan is the certain way of disposing of the contending suckers and side branches at once and for ever, from the collar to the head. Let the bole be of any length whatever, if it be prepared after the manner I describe, you may cut off the head ten years hence, and I will engage that the whole stem will die back inch by inch without the power of forming a single adventitious bud. Plants like the Lilac, which naturally have the power of producing shoots from the main roots, would, no doubt, produce suckers from these roots under such a severe trial, but certainly not from any part of the stem itself.—CHARLES ROBERTS, *Dorfold Hall*.

MARKET GARDENING ABOUT LONDON AND PARIS.—No. 3.

THE CULTURE OF ASPARAGUS.

“You can't get a head of Asparagus in Paris that is worth eating; it is hard and thick, with about an inch of eatable stuff without any flavour.” “There is no question that we know nothing in England about Asparagus culture; if you want to get good Asparagus you must go to France.” So say A and B, both knowing something about what they are talking of, yet, we see, coming to diametrically opposite conclusions. When they, doctors, differ, who shall decide? This I will not pretend to do, but will simply say what I think and what I know about the whole subject.

That Asparagus is a much more favourite vegetable in France than with us cannot be doubted. You will rarely find either a Frenchman or Frenchwoman who refuses it, while I have seen frequently at dinner tables in England, even when it is scarce, that a great many people never care to take it. This must to a great extent influence the supplies, and I believe does so to a considerable degree in the London market. There was a time when the market gardens of Bermondsey contributed large quantities to the London market, but the growth of the population has driven them away, while the more profitable though coarser Rbnbarb has replaced it in other places. Still, if there were a very large demand, I think the laws of supply and demand are such that the blank would be supplied, and I can only conclude that other things, being found more profitable, are cultivated in its stead. Even when Asparagus is cheap, I have frequently seen in provincial towns that it remains unsold, simply, I believe, because the taste of the people is not for it. They may want “educating,” but at present so it is; and I think it is utterly absurd to say that want of good cultivation is the reason that Asparagus is not more abundant. At the same time I am free to confess that there is much that we can learn from our neighbours in this matter, for as a rule their method of cultivation essentially differs from ours; and although much has been said and written upon the subject, additional observations made on the spot may not be out of place.

It was a broiling day at the end of June that, accompanied by M. Viret, I found myself at Argenteuil, the head quarters of the Asparagus-growing of the department of the Seine and Oise, for from there, Montmorency, and Pontoise, by far the

greatest portion of that which is to be found in the Paris market comes. At Argenteuil it is cultivated in two distinct methods—amongst Vines, and in plots by itself. The chief of all the Asparagus cultivators is L'Hérault; we spent some hours in going over his grounds, and in visiting some of those of his neighbours. The soil I found, generally speaking, to be a light friable loam, very easily worked, not clinging closely together and so becoming heavy, but free and open, giving plenty of play for the young rootlets of the Asparagus to run; and although much may be done with careful cultivation in any soil, yet without doubt the condition of that at Argenteuil is one reason of the very successful results gained. On this all the growers of Asparagus agreed, but not so on another point, about which I myself have great doubts. It is contended by M. L'Hérault that the first and chief consideration is the variety of Asparagus; that he has three of these, two of them—L'Ordinaire and La Hollande tardive, which are not peculiar to himself, but which he has improved by selection; and the third, La Hâtive, which he claims to have originated, and to which he gives the pre-eminence. I could see no perceptible difference in the plants of this as compared with other varieties, although without doubt the stems were larger than those in the neighbouring grounds; but in many of these the variety called La Hâtive was also cultivated, and therefore this difference was to be accounted for in some other way, of which more by-and-by.

The principal differences in the method of cultivation between French and English growers are two:—1st, In the separation of each stool, instead of allowing the stools to spread at will over the bed, as in England; and 2nd, Their cultivation in trenches instead of in raised beds, as with us; but this latter I look upon rather as a peculiarity resulting from the nature of the climate than from any other cause. Our greater humidity leads us to a method of cultivation which preserves the plant from too much moisture, while in France to obtain moisture is a matter of some consequence. I am confirmed in this idea by the fact that L'Hérault recommends the trench to be shallower, and that no “ados,” or shelving side, is to be used when the ground is moist, and that he especially notes that drought is to be guarded against. Hence the difference is really in the separation of the roots, and I think there can be but little doubt that to obtain the greatest possible amount of value from each plant this is preferable, especially if the large heads are desired; but this, even with the French themselves, is a matter of opinion. There are really three distinct sizes to be seen in the Asparagus season—the “gros,” the “gros grosse,” and the “ordinaire.” The second of these consists of those enormous heads which are supposed to display the skill of the cultivator, and which are sold for thirty, forty, and fifty francs a-bundle, and are mainly bought by the celebrated restaurateurs Verrey, Vefon, the Trois Frères, &c., whose pride it is to display in their windows the choicest productions in vegetables and fruits. The “gros” is not so large, but still vastly exceeds the greater proportion of the heads we see in the London market, or produce in our own gardens; while the “ordinaire” is somewhat like the best of our home-grown Asparagus. But in none of these cases is it considered right to have more than one or 1½ inch of eatable matter, and this ought to be of a violet or rose colour when gathered. The very large Asparagus is obtained from the stools which are about seven or eight years old, at which time L'Hérault considers them at their best, and that after that they begin to decline.

With regard to their very large Asparagus I could not, seeing that the method of cultivation adopted all round Argenteuil is alike, and that the soil is similar, understand how it was that L'Hérault's was so much larger than others', and was inclined for a while to think that it must be, as he said, something in the variety; but on talking with another cultivator, speaking of L'Hérault's growth, “Ah!” he said, “we cannot afford to do as he does.” “How so?” “Why, he goes over every one of his roots, and snbs off all those sheots which seem to be too small and defective, and only allows a certain number to each.” So that, after all, it was the case of the Lancashire Gooseberry over again—only allow a certain number, and let them swell as much as they can. The great length of stalk as compared with the eatable part is simply the result of fashion. With us you rarely see a lady take a head of Asparagus in her fingers, although it is the only way to eat it, but in France it is universally done; and I confess, that although the fashion, I should not, were I a youthful Corydon, like to see Phillis take a great stick of Asparagus as thick as a constable's staff into

her pretty little fingers, and open her mouth as if she had to swallow a Potatoe whole. Corydon might do so himself, no doubt; but then man is "such a brute" generally, that an act of this kind would make but little difference. There is, perhaps, another reason for this. Some people do not like the very *prononcé* flavour of Asparagus; they merely want just the mild whiff of it, which occasions no inconvenience, and hence these blanched shoots are preferred.

The great point aimed at by the French cultivator is that of giving care and attention to each stool, and when the stools are a yard apart, as they ought to be to grow them on the Argenteuil system, this is easily done; and I believe that a modification of this system would be very generally adopted were gardeners to see the result. I would say, then, instead of planting a 4-foot bed of Asparagus as we do now, make two rows in the same space; plant about 2½ feet apart in the rows; let the subsoil be well worked; and plant in March. Do not use plants older than two years. L'Hérault strongly deprecates the use of three-year-old plants; he says they become broken, and take longer time to establish themselves. I should plant in very shallow trenches, so as to be able afterwards to fill in from between the rows, and thus give the Asparagus a little elevation. In planting I should do precisely as in potting an Auricula—heap up the earth into a little conical mound, and then spread the roots all round, adding, of course, some good well-rotted manure; then place a small stick, to which by-and-by the young shoots may be tied, so as to prevent the action of the wind; it will, moreover, enable you to see where the roots are, and consequently what misses you have. Do not put in the stake close to the crown, but at a little distance, and incline it at an angle towards the plant. In the autumn each plant should be examined, a little well-rotted manure placed on each, and covered over again. Keep all clear of weeds, and do not cut until the third year, and then only sparingly. Apply manure in spring and autumn, but not over the whole surface of the bed, but only over the stools. I have said "cut;" but on this point the Argenteuil growers are very strong. They insist that no knife should be used, but that simply the finger should be the gathering instrument, and the young shoot rubbed off instead of being cut. Where it is considered desirable to have a long handle to eat the Asparagus with, a little heap of mould should be placed over each stool; but I do not fancy that this will be in much favour here. Be always careful to have a sufficiently strong stake to tie the branches to that are left after cutting, and never cut these away until, at any rate, the month of October. If you desire to have the enormous heads one sees in Paris, it can easily be accomplished by thinning out the shoots in autumn and only allowing a certain number to perfect themselves.

The same care is not always taken. For instance, at Fontainebleau, near Montrouil, and at other places, I have seen the stools planted in trenches indeed, but the roots had been evidently allowed to run into one another as with us, but the special and thorough French plan is that pursued at Argenteuil and in the neighbourhood. I do not know whether it has a tendency to wear out the plants; but L'Hérault says they ought to be destroyed after fifteen years, while I know beds in England which have lasted a hundred, and are in as full vigour as ever. As a matter of personal taste I much prefer the small and green heads to the large and white-stalked ones of France; but *chacun a son goût*. One thing I believe is not sufficiently attended to in the preparation of Asparagus for the table, that is scraping it well. The forcing of Asparagus is carried on in other places, and will come under notice when I speak of the *primeurs* at Montrouge and elsewhere.—D., Deal.

HARDY FERNS.

MR. DOUGLAS, in his "Notes on Ferns," speaks of having obtained *Ceterach officinarum* near Godalming, in Surrey. It may interest him to know that here, in Somersetshire, on the Mendips, this Fern almost clothes many of the old limestone walls with its characteristic fronds, some of which attain a considerable size. *Asplenium trichomanes* is also abundant here; while the pale green of *Cystopteris fragilis* contrasts charmingly with the grey stones from between which it springs. A large space of the north wall of my garden is covered with it.

Asplenium adiantum nigrum is a pretty bright Fern, more common, I think, in Surrey than in this neighbourhood, but never found, I fancy, in very great abundance.

Blechnum boreale, or epicanth, flourishes, with *Athyrium*

Filix-femina and the *Lastreas*, in the black peat of our hills; and among the smaller kinds of Ferns there is none more interesting, in its home, than *Asplenium ruta-muraria*, which grows side by side with *Ceterach*—sometimes in the same tuft.

Some of these Ferns are easy of cultivation, if their tastes as to soil, position, &c., are attended to, but *A. trichomanes* is very unwilling to be domesticated.

I must not forget to mention *Polypodium calcareum*, growing plentifully in the limestone *débris* at the sides of the road through the Cheddar Cliffs. It is an erect, branching Fern, with a distinct individuality, and one that readily adapts itself to a change of circumstances. In autumn its fronds die down, like those of the Lady Fern, Brake, &c.—G. H. T.

THE MERITS OF SOME BEDDING PELARGONIUMS.

So much has been said in the pages of this Journal in favour of some of these popular flowers, that I almost shrink from giving an opinion adverse to the acknowledged notions of some and what may be termed prejudices of others. We have certainly, during the last few years, had some fine introductions in this class of plants—varieties not only useful for the decoration of the conservatory, but also for the embellishment of the flower garden. It is my intention in these remarks to notice their qualities as bedding plants, and having in the past season had the opportunity of seeing some of the most recent introductions, as well as choice older varieties, bedded out together, I have made a few notes on their merits, and also on their shortcomings.

I do not intend to pursue any systematic arrangement, but will just make my remarks as from time to time I have jotted down my notes.

I will divide this large family into two sections; first, the Variegated section, and second, the Scarlet section, having horseshoe or plain leaves.

To begin with the Variegated section. Mrs. Pollock has for upwards of seven years held an honourable position, and has been a universal favourite. It will for a long time hold its place against such comers as Lady Cullum, Miss Watson, and others of the same class. I have not yet seen a leaf of Lady Cullum equal to the coloured drawing sent out last spring, that announced its advent, nor have I seen a plant yet of Miss Watson worth its carriage for a dozen miles. The latter is dwarf in habit, weak in constitution, and the colour of the foliage is a mongrel combination that is not effective.

Of the Golden-leaved and Bronze section I have as yet scarcely seen anything which answers to the glowing descriptions of the leading London catalogues. Beauty of Oulton and Beauty of Ribblesdale are not worth house room during winter for bedding purposes. Our old friends Cloth of Gold and Golden Chain have not been so effective as usual this season, nor have they made so much progress, owing, probably, to the excessive drought.

Among the Silver Variegated kinds I have seen nothing during the season to equal Pearl and Miss Kingsbury. Pearl, of first-class habit for bedding, has a broad white margin and a flat leaf-surface, with a slight shaded zone. I hardly like the zone, as I consider it rather detracts from than adds to its beauty. With this drawback—if such it may be considered—a bed of it at Mr. Pearson's Nurseries, Chilwell, by whom it was introduced last spring, was the most effective bed of Silver Variegated Pelargoniums I have ever seen. Miss Kingsbury is of different habit, yet very effective. It has a broad pure silver margin, with a rich dark green centre. These two Silver Variegated Pelargoniums I consider the gems of the season, and they only require knowing to be appreciated. Flower of Spring is a good old sort, and has been extensively used the past season. St. Clair I have long discarded, and when I can obtain a sufficient quantity of Pearl and Miss Kingsbury, such old sorts as Bijou, Alma, and Flower of the Day will follow in the same track. Italia Unita is very well as a pot plant, but it will never be appreciated for bedding purposes; besides, it is a very slow grower.

Coming to the Horseshoe section of Pelargoniums, we have a confusion of useless varieties for bedding purposes. Many sent out in the spring of 1867 and 1868, and described as "queeny varieties in all the essential features of habit and flower," have turned out to be no better than common garden weeds. The foremost of this character may be mentioned—viz., Christine Nosegay. Among others also left out to be

destroyed by the frost may be enumerated Rose Stella, The Sultan, Christabel, Mimas, and Le Grand, which last, though useful as a conservatory plant, is comparatively worthless in the flower garden. One of the most useful Scarlet Pelargoniums I have either grown or seen at other places this season, for beds or vases, is William Underwood. It is much in the same way as Lord Derby, though superior to it in all the essential qualities as a bedding plant. The flowers are bright scarlet, of immense substance, the trusses large and abundantly produced; foliage dark green, with a well-defined dark zone. I saw it at Wollaton Park, in the autumn of 1867, grown in vases, and nothing could be better adapted to the purpose. The plants were literally smothered with its noble flowers. This season Mr. Gadd, the gardener, has grown it again in the same place, in juxtaposition with Excellent, and though the latter is a fine plant for the conservatory, yet out of doors it was seriously affected by the sun, while William Underwood remained unscathed. I have myself grown it in vases this season, and I consider it as much superior to Stella, Herald of Spring, Indian Yellow, and Scarlet Gem, as Mrs. Pollock is to the old-fashioned though useful Golden Chain.

Bayard comes next in order as a first-class bedder, yea, it is even superior when grown in beds *en masse*. It is a crimson scarlet Noægay, with a prodigiously free-blooming habit, large trusses, and beautiful dark green foliage. It is the greatest leap that has been made in this class of plants, and no remarks that I can make in its favour can be too laudatory. It has been stated by Mr. W. Paul, the Rev. Reynolds Hole, and other eminent horticulturists, to be the finest bedding Pelargonium in cultivation.

I may mention William Ingram, Alfred, and King of Scarlets, as possessing qualities of first-class excellence for bedding purposes. These three, also Bayard and William Underwood, were introduced by Mr. Pearson, of Chilwell.

For conservatory purposes I do not consider the five above named superior to such as Lord Derby, Excellent, Chilwell Beauty, and Dr. Lindley. Rebecca is also a beautiful pot plant, with a peculiar shade of colour, fine round petals, and large trusses, though I have not yet seen it bedded out. Lucius is fine as a pot plant, with immense trusses of bright, rose-coloured flowers. I have not yet seen it employed in the flower garden, yet a plant of in our kitchen window, under the management of Mrs. R., is a perfect gem. Amy Hogg is too well known to need comment; Chilwell Beauty is not distinguishable in colour, but much finer in flower and truss.

Speaking of the Pink section, Christine and Helen Lindsay have long been favourites, but these give place to Maid of Kent. Rose Rendatler I have long grown and appreciated for in-door purposes; yet Maid of Kent, both for in and out-door cultivation, is far in advance of all others that I know in its class of colour. I could not really understand Mr. Luckhurst (page 144), in his select list, when he said that "Christine, Rose Rendatler, and Helen Lindsay were still unsurpassed for the decoration of vases, &c.," and then mentions Maid of Kent as being something not equal to the above-named; at least, that was the inference I drew from the statement.

Of the Salmon-coloured, Madame Rudersdorff shines forth pre-eminent; and of Whites, either for beds, pots, or vases, Virgo Maria is still without a rival.—Q. R., *PLEASELY VALE*.

TRAPPING WOODLICE—EXCLUDING SLUGS.

UNTIL I discovered the following plan for trapping woodlice, I suffered much annoyance and loss from their ravages. I tried all the suggestions that I saw recommended in your valuable Journal, but found that our colonial insects either did not appreciate potato, &c., or were more knowing than those in the old country. However, I thought I would try sinking a tumbler in their haunts, and I found it most satisfactory; and now, whenever I am at all annoyed by them, I insert a small propagating glass into the soil or plunging material, leaving the edge a shade lower than the surrounding stuff, and in a few nights I have had a 4-inch glass half full of woodlice, earwigs, and other abominations. They may either be left in to perish, or be emptied every morning.

I also find a circlet of zinc fastened with a single copper rivet a certain protection against slugs. I cut old zinc lining of cases into strips about 4 inches wide, and then make the circlet of whatever size I wish. Whether the slugs object to zinc, or whether there is a galvanic current established, I do not know, but I have never known a slug to get inside one of

these without being able to show some other way than by climbing over the sides.—SOUTH AUSTRALIAN.

CONSEQUENCES OF LAST SUMMER.

THE effects of the late tropical summer are now showing themselves here, especially amongst the Rhododendrons. Many of them during the drought were to all appearance dead; but when the autumn rains set in they revived again; some began growing, and are still doing so. Should severe weather occur I fear the young growth will be destroyed. Others came into flower, are still flowering, and are likely to continue so for some time. They look quite gay at this dull season; but I am afraid it is at the expense of our spring and summer display. To be deprived of the usual display of Rhododendrons would to me be a matter of much regret. Some plants are making their appearance above ground, as Colchicums, Tritelia uniflora, Bulbocodiums, and others, which do not usually appear until spring.

I find that of late the caterpillar, so destructive last winter amongst Scarlet and other Pelargoniums, has again made its appearance. It is only to be kept in check by diligently searching for it.

PLANTS IN FLOWER DURING NOVEMBER.

Lycosteria formosa	Zauschneria californica
Phlox atoniifera	Plumbago Larpenae
Arabis albidia	Campanula rotundifolia
Schizostylia coccinea	garganica
Jasminum nudiflorum	Chrysanthemums, Japanese
Viola odorata	Salvia horninum purpurea
Double Daisies	Pyrethrum parthenium
Erica ramentacea	Mirabilis jalapa
Corydalis lutea	Miguonetta
Koniga maritima	Gynerium argenteum
Virginian stock	Sedum caeruleum
Roae, Crimson China	Sweet William
Gloire de Dijon	Primrose, Double Crimsen
Mouthly China	Silene rubella
Fabvier	Eurothera taraxacifolia lutea
Arctotis breviscapa	Rhododendrona
Veronica hybrida	Sedum telephium
Omphalodas verna	dentatum
Polyanthus Fire King	Vinca minor
Veronica syriaca	Cheiranthua fruticulosus
Primrose, Double Lilac	Marigold
Hepatica triloba	Gazania splendens
Ten-week Stocks	Viola cornuta
Salvia fulgens	montana
Chrysanthemums	Anemone japonica
Anchusa sempervirena	Armeria rubra
Corydalis glauca	Viola tricolor
Antirrhinums	Campanula pumila
Aster tenellus	Common Ivy
Cineraria maritima	Sedum Sieboldi
Crucianella styloa	Gilia tricolor
Cuphea platycentra	Arbutus hybrida
Rhododendron dauricum	Daphne laureola
Erica carnea	Hedera canariensis
Fuchsia coccinea	Viburnum tipus
Erinus alpinus	hirtum
Lupinus albo-coccineus	Andromeda polifolia
Gaiothera macracarpa	Achillea millefolium rosea
Pentstemon Shepherdi	Viola lutea
Tritea uvaria	Rose, Niphotos
Verbena venosa	Coronilla varia

—M. H., *Acklam Hall, Middlesborough-on-Tees*.

ROSE SEED PROSPECTS.

THE present golden harvest of Rose seed is most encouraging to the English grower, and though the past intensely hot summer may have injured the tall Briar stems, this season must long be remembered with gratitude, as giving us seed beds of as much interest and importance as to our French neighbours. I feel sure I have only to mention even our Torquay ingathering from the rosery, to gladden the hearts of many of your readers. It was:—from Alfred Colomb, upwards of two quarts of fine ripe hips; from Pierre Notting, rather more, and remarkably fine; from Charles Lefebvre, Prince Camille de Rohan, and Souvenir de Dr. Jamain, a large quantity. Seed was also produced by Baron Gonella, Dr. Andry, Jules Margottin, Madame C. Crapelet, Madame Falcot, Blairi No. 2, Fisher Holmes, Madame Knorr, Madame Victor Verdier, Catherine Guillot, Gloire de Dijon, Safrano, Duchesse de Caylus, John Hopper, Senateur Vaissé, Souvenir de William Wood, Xavier Olibo, and many others.

I have never been able to obtain a ripe seed before from Gloire de Dijon, or from (the queen Rose for scent) Madame Knorr, or John Hopper.

Dark Perpetuals appear to bear seed more freely than the light kinds. The very hot summer of 1846, produced a large harvest of Rose seed, and I have now before me a memorandum of the varieties, forty of them, among which I see nine were Hybrid Perpetuals, at the head of which stand Madama Lafay, Mrs. Elliott, La Reine; seventeen Bourbons, and fourteen Hybrid Bourbons, but fully three-fourths of these have now passed away from our lists.

In conclusion, I would press on our French friends not to grow any more reds or darks for us after the present season, but devote their immediate and utmost attention to the production of white-striped and yellow Perpetuals. I sincerely hope they will take this advice, as they will find it very profitable to themselves and us.—HENRY CURTIS, *Devon Rosery, Torquay.*

ARRANGING AND PLANTING SHRUBS.

(Continued from page 310.)

Deciduous shrubs ought not to be removed so early as evergreens; their wood should be ripe, their growth at an end, and their leaves falling or fallen. From that time to the swelling of the buds in spring is a good period for planting deciduous shrubs, but the operation should be done in mild weather only, and the earlier in autumn the better. Avoid planting whilst the ground is a soapy mass, as it generally is for some days after a thaw, and above all secure the shrubs from high winds, for if they are moved to and fro the rooting is retarded, whilst by securing the head the roots are maintained in the position given them at planting, and the new fibres are then not liable to be broken and destroyed.

If planting is practised early in autumn or late in summer, also late in spring, the shrubs should have a good watering afterwards, and water may subsequently be given as required, but not until the soil is becoming dry, for nothing so injuriously affects the rooting of a shrub as saturating the soil with water. Instead of watering newly-planted shrubs so frequently at the roots, as is sometimes done, it would be far better to sprinkle the head with water from an engine two or three times. So long as the soil is moist, giving water, instead of promoting the rooting, hinders it by causing the roots to imbibe water through the cuts or broken portions, and then the waste by evaporation from the leaves is not so well restored as it would be by sprinkling overhead.

It is well not only to properly prepare ground for planting, but to be careful in the selection of the shrubs. Some like strong plants, and generally choose those which have made good growths. Now this is a mistake. Strong growths are one of the greatest evidences we have of the shrubs not having been recently transplanted, and unless they have been, the chance of successful removal is doubtful, and still more so that of their growing well the first year. I am no advocate for the planting of large shrubs at any time, and I would submit that unless they have been removed every second, or at least every third year, the chances of their growing are small; and the same remarks apply to shrubs of less size. If the shrubs have not been transplanted every two or three years, have not had space allowed for their growth, so as to be sturdy and well furnished, their roots are bad, long, and fibreless, and such plants are not worth the trouble of planting. Years must elapse before they attain a good size. No better criterion of the value of the two kinds of plants can be had than their commercial value: shrubs frequently transplanted and allowed room to grow are worth twice as much in the market, and to this planter they are the only ones worth his notice.

The distances adopted in planting are determined by circumstances and the habit of the shrubs. If immediate effect is wanted more must be planted than are intended to remain; but in this case, those which are to be permanent must be planted in their proper places. Shrubs of spreading habit, when planted for individual effect, should be allowed a distance apart equal to the height they attain; for groups of one species, varieties of one species, or species of one genus, half the height to which they grow will be suitable; whilst shrubs of upright growth, as the Irish Yew, may be planted no more than half the height they will reach apart. Their distance from the edge of the grass or walk should be half the height they usually attain. Though immediate effect may have due consideration, it is, nevertheless, desirable to place the permanent plants at once, and leave them to their proper growth. In any case, the permanent specimens must have the first consideration; they must all be placed, and then the planter

can fill up with such shrubs as may be removed with safety when the permanent ones require the whole of the space.

The tallest shrubs should be placed at the back of the border, or in the centres of the groups or masses, and the dwarfier sorts in front; and however irregular in width the border or mass may be, the same breadth of the dwarf-growing shrubs must be allowed the entire length of the border and all round the masses. It is a prevailing fashion to border shrubberies with flowering plants. This is productive of anything but a good effect. If the object were producing a picturesque effect by mixing trees, shrubs, and flowers indiscriminately together, then the present general practice of fringing borders and masses with flowering plants would admit of justification; but the shrubs being rival objects, and offering a great impediment to the flowers arriving at perfection, they ought not to be planted where these objections exist. Flowering plants—I mean herbaceous plants—from the shade of the shrubs and the occupation of the soil by their roots, do not nearly attain the perfection they are capable of, and they ought not to be planted where they cannot attain it; besides, the effect of shrubs is very different from that of herbaceous plants—distinct in expression, and they ought to be kept so.

It now only remains to offer a hint as to the grouping of the different shrubs. Mixed borders have always a motley appearance, and are poor as compared with masses. I would, in all cases where duplicates have to be planted, plant these together, assorting them according to colour of foliage, of which there are many shades, and of flowers, preserving lines or masses of one colour with a view to harmony and contrast.—G. ABBEX.

FERN FRONDS' DISFIGURED.

On looking through the "Answers to Correspondents" several replies will be observed, which seem to refer to the above evil, suggesting that it is most probably caused by the thrips. This, however, I have unfortunately very strong reasons for suspecting to be not the case, but that instead of being due to thrips it is owing to one of our more recently introduced pests, which, I am afraid, will prove to be a far more formidable enemy, as it does not seem disposed to succumb readily to any of the ordinary means now in use. The little wretch in question is a small white fly about the twelfth of an inch in length, and during the summer may be observed sitting with its wings folded over its body on the under side of the leaf. It has been known in our gardens for some years past, and is sometimes designated "the cloud fly" from its issuing in clouds from the bushes when they are shaken. It was at first thought to be harmless, but this was found to be a mistake, yet it appears to have been only within the last few years that its depredations have become so serious under glass. It has now disappeared for the winter, but when it first reappears in the spring it will then be advisable to attempt some energetic measures for its suppression.

An answer headed "Destroying White Fly" is given in No. 345 of this Journal (vol. xiii., New Series) explaining the escape of the insects from the effects of tobacco smoke, by falling to the ground out of its influence, and suggesting a wet floor to receive them; but this latter is not always practicable. A good plan where it can be done is to strew the floor with wet sawdust or sand, then after smoking sweep it up, and burn it as speedily as possible. I have found incessant syringing from an open nozzle with the finger over it so as to produce a fine but powerful stream, have some effect in driving the insects away, and thus lessening the mischief produced; but this is weary work, and in very damp weather not always desirable. It is to be hoped, when attention has been drawn to the character of the pest, that it will not be long before some easy and effectual means will be found for its extermination.—W. KENCELY BRIDGMAN. 2

CULTURE OF THE DOUBLE ITALIAN TUBEROSE.

THE Double Italian Tuberosa (*Polianthes tuberosa flore-plena*), is not very often cultivated; in fact, it is a plant that a great number of gardeners are unacquainted with, yet it is worthy of cultivation for the sake of its deliciously-scented white flowers, which resemble in some degree those of the *Stephanotis floribunda*, if one could suppose a double variety of that popular stove plant. The flowers of the Tuberosa are arranged in pairs on stalks from 3 to 5 feet long. Indeed, the long flowerstalks are rather objectionable, and there are seldom

more than two pairs of flowers expanded at one time on each flowerstalk. As the first-expanded flowers fade, the stalk lengthens, and a great many pairs are produced.

This plant is easily cultivated, and the bulbs may be purchased at a cheap rate. The largest bulbs must be selected, as small ones sometimes do not flower, and if they do, will not give satisfaction.

I pot three roots in a 6-inch pot, using for soil a mixture of two parts turfy loam and one part well-rotted cow manure, with a small portion of silver sand to make the compost porous. The best situation for the pots is a Cucumber frame, where they may be plunged to the rims in the material in which the Cucumbers are planted. A bottom heat of 85° or 90° suits the Tuberoses very well. They ought to be kept in the frame until the flowerstalks appear, when they may be removed to the greenhouse, and allowed to flower there.

They succeed very well in a vinery, but I do not recommend them to be grown there, as they are very liable to be attacked by red spider, and will undoubtedly introduce that unwelcome visitor. In the greenhouse they may be set so that the flowerstalks show above the foliage of other plants. They are also suitable to place in the entrance hall of the house, where scented flowers are appreciated.—J. DOUGLAS.

THE HYBRID COLEUSES.

DURING my visit to the great June Show of this year at South Kensington I first saw the collection of new hybrid Coleuses. Beautiful indeed they looked; I was charmed with the lovely foliage there displayed. No doubt eventually, when their value shall have been known and proved, they will prove invaluable both for in-door decoration and for bedders. For dinner-table decoration they are exquisite. To see them to perfection is by the aid of the chandelier; the contrast between the tablecloth and the lovely dark foliage is charming. They are so easily propagated that they are within the reach of every one, and no doubt as they become better known they will be more popular than they are at present.

Coleus Saundersi is of a deep chocolate purple in the centre, somewhat mottled, and of a pale bronzy tint towards the edge, which has a broadish band of green broken through with purplish bronzy reticulations; under surface blotched with purple in the centre. Stems green, blotched with purple. I have had some of the leaves as broad as the palm of my hand. It is a plane-leaved variety.

Coleus Marshalli—One of the best of the set. Rich chocolate purple; the base of the midrib and the crenatures green, so as just to form a narrow green margin. Stems green, stained with purple at the nodes.

Coleus Dixii.—Leaves dark chocolate purple in the centre, feathering out through the broadish bright green margin, which is nearly an inch wide; the crenatures narrowly purple-edged.

Coleus Berkeleyi.—Leaves, both above and beneath, of a rich velvety chocolate purple, the tips of the crenatures only being green. Stems green, slightly speckled and clothed with purplish down. This is a beautiful and richly-coloured plant, in which nearly the whole surface is of a velvety purple hue, which is well displayed, from the flatness of the foliage.

Coleus Murrayi.—Leaves green, pinnately marked along the principal veins with bars of dark purple, which sometimes coalesce, the rest of the surface showing through from beneath the purple reticulations, which are evenly and strongly marked on the under surface. Stems purple. This is a more regularly and more fully coloured form of *C. Gibsoni*, and, therefore, an improvement.

Coleus Ruckerci.—Deep purple throughout on both surfaces. Stems purple. A fine, sturdy-growing, dark-leaved sort, having very much the colour of the *Perilla nankinensis*.

Coleus Batemani.—This is a frilled-leaved variety, deep purple, here and there very slightly mottled with green. Stem purple.

Coleus Bausei.—This charming variety is one of the best. I have had leaves that would cover my hand, of a rich velvety chocolate purple, green towards the base, and at the extreme margin; under surface slightly blotched with purple. Stems green, purplish at the nodes. Very richly coloured, the dark colour nicely relieved by the slight green margin which lightens up the whole plant.

Coleus Clarkei.—Leaves' centre green, with the fringe purple. One of the darker-tinted sorts, having the markings of the reticulated character.

Coleus Wilsoni.—Leaves of a rich velvety chocolate, shaded with purple; the base of the leaf and the fringe slightly tipped with the same colour. A very elegant mottled variety, quite distinct.

Coleus Scotti.—Leaves bright green, everywhere traversed by deep purple veins, here and there coalescing into blotches; the under surface similarly marked, but of a brighter colour. Stem purple. A very elegant variety, having the markings of a deep tint of purple, but well relieved by the green spaces between the dark-coloured reticulations.

Coleus Reevesi.—Frilled with coarse wavy teeth, green, mottled with bronze and purple, sparingly dotted at the base, and laid on in close reticulations and patches towards the edge, the centre being deeply tinted and entirely of a dark colour, and the teeth green, with narrow purple edges. Stem green, blotched with purple.

Coleus Telfordi aurea.—Leaves of a yellow colour, with a blotch in the centre of each leaf. This variety does not do well with me. I do not consider it worth growing. It is very much after the style of *Plectranthus concolor*, but not nearly so good. All the others are doing exceedingly well, and are everything that I could wish.

I read the announcement of another set, shortly to be sold, said to be superior to any of the previous varieties. If they are, they must be good indeed.—F. P. L.

MUSHROOM CULTURE.

I HAVE hesitated about writing respecting Mushroom culture, so much has been written already; but my plan is so simple and successful that I must state it and the results.

The place in which the Mushrooms are grown was originally the stokehole for two of Weeks' tubular boilers, which are now removed some distance from the houses, and the sides of the underground stokehole have been converted into beds for Mushrooms; the end boarded-up for Sea-kale. There are two 6-inch flow and return pipes from the boilers, 40 yards off, to heat a block of seven houses, and these two pipes pass through the old stokehole under the arched roof.

The first bed was made October 5th, from droppings collected from the stable, which had been placed in an open shed and kept turned until there was a sufficient quantity. They were then put in the bed, well beaten down, spawned when the heat was on the decline, at 85°, and soiled with 2 inches of stiff yellow loam. The first dish was gathered November 10th, and since that time I have had thirty-one dozen from a bed 9 feet long, 3 feet wide, and 10 inches deep. I have just gathered five dozen more. There are 110, averaging 3 inches across the top, fit to be taken, and the bed is completely white with small Mushrooms the size of peas and upwards.

The second bed, spawned November 5th, is showing the little globules all over. I have made two more beds for successions, with room for eight more of the same-sized beds, so there will be no lack of Mushrooms throughout the winter. Of the 110 I have cut six which weighed 9 ozs.—J. C. MUNDELL, *The Gardens, Hooley Hall*.

BARBAREA VULGARIS VARIEGATA AS A WINTER DECORATIVE PLANT.

AS one much interested in hardy plants presenting a showy appearance in winter, I beg to thank "AYRSHIRE GARDENER" (page 417), who mentions one to which I confess being a stranger, but from the description given of it, I would be glad to have a closer acquaintance with it, as it is evidently one of those plants of easy culture which commend themselves more especially to those who want a great number of suitable plants with as little trouble in cultivation as possible. Presuming this plant to be a Winter Cress, as the generic name implies, its foliage I take to be a nearly pinnated leaf, of considerable beauty in the green form, but of much greater beauty in the variegated one, and being thickly set on the crown of the plant must, as the writer says, be very attractive in winter, excepting when enveloped in snow. The latter, of course, overwhelms everything, and we must not be deterred from growing the plant in consequence of that; and as ornamental plants for winter use are not at all numerous, especially such as are really attractive from, say, the middle of November to the middle of March, a period of four months, I, for one, will be glad of anything that can be worked in to advantage during that time. After the latter period comes spring, when we

may expect bulbs, Primroses, and other early flowers; but in the dark days we must be satisfied in general with gazing upon ornamental-looking plants, and as only such as can bear 20° of frost are suitable, their number is far from being great.

For some years I have urged the claims of winter gardening instead of that of spring, because of the much longer period that the one has to do duty than the other. Under the best of circumstances and with the best possible selection of plants, it is seldom that much display is made in spring gardening until April. Crocuses and Primroses may have been in some time before that if the winter has been mild, and the first-named as well as Snowdrops may have all flowered during March, but even if they should have done so, what was there to look at in December and January, and often long after that? This prolonged interval may certainly be turned to better account than is often done; and as plants having a light-coloured or variegated foliage form the best contrast with the dark-coloured damp ground, any possessing foliage of such a character are acquisitions. I hope, therefore, to hear something more of this plant, and I will again advert to winter gardening and the plants suitable for it.—J. ROBSON.

POMOLOGICAL GLEANINGS.

We never had more striking evidence of the influence of an orchard house over the quality, size, and beauty of fruit than was afforded by two Apples, part of the crop grown at Hamburg, in the orchard house of Mr. Johann Wesselhoeft. One of the Apples, the White Calville, is well known as a large and excellent dessert fruit; but the specimen sent was larger than large, for it measured 14 inches in circumference, and in every other merit surpassed those we have had from an open wall. The other specimen was of the Melon Apple, and this was the largest we ever saw of the variety, being 13½ inches in circumference, most brilliantly coloured, and all that a culinary Apple should be—flesh high-flavoured, and cooking tender.

—A CORRESPONDENT, "E. M. B. A.," writes to us as follows:—"In the interesting account given in the Journal of the 'DOYENNÉ DU COMICE PEAR,' I venture to think that either the writer or the printer of the article in question has fallen into a mistake in accenting the last letter of Doyenné. Turning to Contanseau's French Dictionary I find as follows:—'Doyen, *s. m.*, 1, dean; 2 (of age), senior. Doyenné, *s. m.*, 1, deanery; 2 (Pear) Doyenné.' The explanation of the latter word rather implies that Doyenné is correct; nevertheless, it seems to me that Doyenne should be regarded as the feminine of Doyen, the word *poire*, which is feminine, being understood. *Comice* is evidently derived from the Latin word *comitium*, an assembly; so that 'Doyenne du Comice' must mean 'Dean of the Assembly,' a title to which, from the account you give, it is justly entitled. It can scarcely be maintained that any one should name a Pear 'the Deanery of the Assembly' instead of the Dean—*i. e.*, the Chief of the Assembly. The one makes excellent sense, the other is little less than rubbish."

[All authorities, French and English, place the accent on the last letter of Doyenné, and, we think, correctly. The first Pear so named was raised in the garden of a French deanery, and literally means "the Deanery Pear." Since then many Pears resembling it in some one or more qualities have received the same name, with some affix to mark that they are differing. Thus we have the Doyenné d'Alençon, or Deanery Pear of Alençon; Doyenné d'Autonne, or Autumnal Deanery Pear; and full twenty others. Doyenné du Comice we believe is the Deanery Pear of the Committee, it having obtained the special approval of the Committee of the Horticultural Society of Angers.]

ENTOMOLOGICAL SOCIETY'S MEETING.

IN consequence of a recent arrangement the meetings of this Society are now held twice in most of the winter months, and are discontinued during the autumnal ones, instead of taking place once a-month throughout the year as heretofore. The second meeting was accordingly held on the 16th of November, the chair being occupied by the President, W. H. Bates, Esq. Amongst the donations received since the last meeting were various American publications on Natural History, which clearly proved that a great movement in the study of the natural sciences is taking place in the United States. The Lyceum of New York, the Natural History Society of Boston, the Entomological Society of Philadelphia, and the Essex (U.S.) Institute, were amongst these Societies.

Mr. Frederick Bond exhibited specimens of one of the Plant Beetles, *Chrysomela polygoni* (Phadon polygoni, Steph.), of which immense

numbers had occurred in various parts of Cambridgeshire in the middle of the month of September, crawling about the footpaths in such profusion that they might have been collected by handfuls. The larva on a previous occasion had been found to be very destructive to Tares. He also exhibited a specimen of *Polia nigro-cincta*, one of the rarest of the British Noctuidæ, from the Isle of Man; *Dianthia capnicola* variety, from Warrington; and *Tapinostola Elymi*, from Norfolk.

Mr. McLachlan exhibited a series of specimens illustrating the entire history of one of the most remarkable British insects, *Enoicyla psilla*, a species belonging to the order Trichoptera, containing the Caddice Flies, but differing from every other recorded species in being terrestrial in the larva state, feeding upon damp Mosses and Lichens, and forming a small, moveable, trumpet-like case, in which it resides, and from which the perfect insect is developed in the months of October and November, the males being furnished with full-sized wings, whilst the females are wingless, thus resembling some of the small case-making species of Moths. The insect had been discovered by Mr. Fletcher, near Worcester.

A specimen of *Papilio Machaon*, captured near Rupert House, Hudson's Bay, was exhibited, being the first instance of that species having been taken in North America, although a closely allied species (regarded, indeed, by some writers as a local variety), occurs in California not infrequently. It was also stated that *Pontia Rapa*, one of our commonest European insects, had been introduced within the last thirty years into North America, where it had become greatly disseminated in Maine and Vermont.

A prospectus of a new general specific and synonymical Catalogue of the Diurnal Lepidoptera, by Mr. Kirby, was distributed.

The Secretary read an article by Dr. Perkins, on the luminous species of Elateridæ found in the New World, where they are known under the common name of Cuenjo.

Professor Westwood exhibited drawings and dissections of several new and anomalous exotic Hymenopterous insects, including a new genus which had been referred to the families of the Ants and Sand Wasps, but which the author considered more nearly allied to the Vespidæ. Another new genus was also described, nearly allied to the curious genus *Trigonals*, of which, also, three new beautiful species were described. He also stated that the new British Noctuidæ Moth, recently captured at Folkestone by Mr. Briggs had proved to be *Lencania albi-maculata*.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

ONCIDIUM MACRANTHUM (Large-flowered *Oncidium*). *Nat. ord.*, Orchidaceæ. *Lin.*, Gynandria Monandria.—A magnificent species. Native of Peruvian Andes, at an elevation of from 1000 to 14,000 feet. Flowers yellow and purple.—(*Bot. Mag.*, t. 5743.)

PARROTIA PERSICA (Persian Parrotia). *Nat. ord.*, Hamamelidaceæ. *Lin.*, Pentandria Digynia.—One of the rarest trees in cultivation. Native of Northern Persia. Its special beauty is the foliage, which late in autumn is gorgeously orange, golden, and scarlet, and hangs long.—(*Ibid.*, t. 5744.)

CAMPANULA ISOPHYLLA (Ligurian Campanula). *Nat. ord.*, Campanulaceæ. *Lin.*, Pentandria Monogynia.—A very beautiful, rare, hardy herbaceous plant. Native of Liguria, between the Gulf of Tuscany and the Apennines. Flowers blue.—(*Ibid.*, t. 5745.)

LYCHNIS LAGASCE (Lagasea's Lychnis). *Nat. ord.*, Caryophyllaceæ. *Lin.*, Pentandria Monogynia.—One of the most rare and most beautiful of our rock plants. Native of North-western Pyrenees. Flowers rose-coloured.—(*Ibid.*, t. 5746.)

AGALMYLA STAMINEA (Long-stamened *Agalmyla*). *Nat. ord.*, Cyrtandraceæ. *Lin.*, Diandria Monogynia.—Native of Java. Introduced by Messrs. Veitch & Sons. Flowers scarlet, with yellow throat, and purple stamens.—(*Ibid.*, t. 5747.)

MADRESFIELD COURT BLACK GRAPE.—"This Grape is worthy of the warmest commendation both in regard to its appearance and quality. It was raised by Mr. Cox, gardener to the Earl of Beauchamp at Madresfield Court, Great Malvern, some half-dozen years since, and was selected as the best of a batch of seedlings obtained from the Muscat of Alexandria and the Black Alicante intercrossed in both directions. It proves to be a Grape of excellent quality, setting its fruit as freely as the Black Hamburg, than which it takes about a fortnight longer to ripen.

"The Vine is of a robust constitution, producing short-jointed wood, with prominent pointed eyes. The fruit-clusters are large, regularly tapered, and handsomely shouldered. The berries are large, of a longish oval shape, like those of the Muscat, perfectly black, and covered like those of the Alicante, with a fine thick bloom. They are attached by stout warty footstalks. Their skin is tough; and their flesh is firm

juicy, and rich, with a fine, luscious, muscat flavour. The leaves are briskly, deeply lobed, and serrated, with reddish stalks and midribs.

"With such qualities as those just indicated, it is not surprising that the Madresfield Court Grape should have won a first-class certificate when exhibited before the Fruit Committee in August, 1867, and that it should have been designated as a splendid new Grape. In truth it comes in as a very useful auxiliary to the few thoroughly good Grapes already in cultivation, nearly if not quite equalling the Muscat of Alexandria in quality, and indicating, by its stout firm footstalks and leathery skin, that it will rank amongst those especially useful kinds which hang well after they have reached the ripening stage."—(*Florist and Pomologist*, 3rd s., i. 265.)

PEACH CULTIVATION.—No. 6.

PRUNING (*Continued*).—*Figs. 5 to 8* (pages 302, 303), are representations of the training of a Peach or Nectarine tree fan fashion and for the long-pruning system, and I will now endeavour to point out the mode of proceeding.

Fig. 13 shows part of a branch having bearing shoots on the

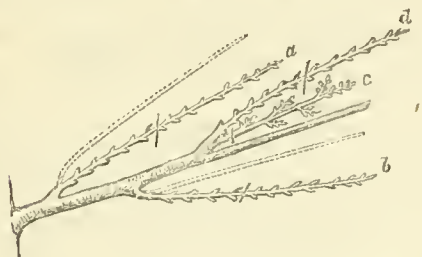


Fig. 13.

under as well as upper side. Beyond these there are no other shoots—no spurs, no stopped shoots. It has been already shown how the bearing shoots are originated. In *fig. 13 a* is a mature bearing shoot, which, from not being stopped, will be of considerable length, and will have fruit and wood buds terminated by a wood bud (see *fig. 9*). This, in autumn or at the winter pruning, is to be shortened to within 8 or 9 inches of its base—that is, eight joints should be left with their buds, and at the joint to which the shoot is shortened one of the buds must be a wood bud; but it is immaterial whether it have one or two blossom buds by its side or none, though it is desirable to have blossom buds as well as the wood bud. The bars across *a* and *b*, *fig. 13*, will give an idea of the pruning. All the wood buds upon the shoots *a* and *b*, or the parts left after pruning, will push shoots in spring. Those having fruit set at their base are to have their points taken out when they have made three leaves, and afterwards they should be kept closely pinched back to one joint. Those shoots having no fruit at their bases are to be rubbed off closely, but from the base of the bearing shoot a shoot must be encouraged and trained-in at its full length, as shown by the dotted lines from the bases of the bearing shoots *a* and *b*. The shoots *a* and *b*, having borne fruit, are not eligible for future bearing, and must in autumn or winter be cut off close to the origin of the successional shoots *a* and *b*. This will be more easily comprehended on reference to *c*, *fig. 13*, which represents a bearing shoot, which in the autumn after bearing is to be cut off at the bar across it close to the origin of the successional shoot *d*, which is to be cut back as already described for *a* and *b*. The following year's pruning is only a repetition of that of the preceding year, with respect to the stopping of the shoots on the bearing wood, and the originating of a shoot from the base for the next year's bearing. All bearing shoots must have a successional shoot from their base, and it cannot be kept too near the bases of the bearing shoot. Whenever there is an opportunity of securing a successional shoot from the branch it should be done, and trained-in to supplant the present bearing shoot; and the last, with its stub, should be cut away close to the branch, and the shoot from the old branch will replace it. In like manner, if a shoot push from the short stub below the bearing shoot, it should be encouraged and treated as the next bearing shoot; and the part above, at the winter pruning, should be cut back to the shoot intended for next year's bearing.

Now, one of the objections to this mode of pruning is the

shoots being allowed to grow at will. Some are very strong, others are weak; and even should they be of one uniform degree of vigour, from their great length, the buds on their upper part are in general the best, and these are the buds cut off at the winter pruning. Another objection is that the buds at the base are not so well developed, nor the shoot so strong, as in the case of a shoot stopped; for the buds, when a shoot is stopped, are better fed, and a greater majority of fruit buds is formed; and they are better in another way, for the wood becomes more fully ripened. By stopping we secure the full development of the part below the stopping, and concentrate, as it were, the vital forces of a long shoot in half the length, and that half the part needed; whereas by not stopping they are spread over twice the length, and we have a weak long shoot, buds badly developed, and wood imperfectly matured. I would advise that all successional shoots should be stopped if they exceed a greater length than 10 inches, stopping them between that and 1 foot in length, and treating them as described for the bearing wood, *fig. 12* (page 404).

Occasionally the bearing shoots do not exceed 8 or 9 inches in length. In that case they may be shortened at the winter pruning to about 6 inches, there being some bloom buds below; but if there is not a wood bud conveniently situated to which to cut back without destroying too many of the fruit buds, the shoots must be left entire, preserving the wood bud at its extremity. *Fig. 10* may be taken to represent a shoot of this kind.

A bearing shoot not having fruit setting upon it, should not be left over summer in its unfruitful state, but at the summer pruning be cut off close to the successional shoot. This will insure increased vigour of the successional shoot.

From stopping, the successional shoots sometimes push laterals lower down than is desired, or on the part which would not be cut off at the winter pruning. That is no great evil, if only their points be taken out at the first leaf, and they be stopped repeatedly, as they push, to one joint. Very often at the base of such laterals fruit buds will form; if so, at the winter pruning the laterals, if on the part to be left for bearing, may be cut back to such buds, but in no case leave more than one joint. If there are no buds, cut off close to the shoot at the winter pruning.

The training and pruning of the Peach after the tree is formed, depend on a few simple operations. 1, The bearing or intended bearing shoot is shortened at the winter pruning. 2, A shoot from the base of the bearing shoot is trained-in in summer, stopping it to secure the full development of the lower part, and its effectual ripening, a point of no mean importance in a cold climate. 3, The cutting away at the winter pruning of the shoots that have borne fruit, except the leading shoots of the branches, which, in order to remain vigorous, should not be allowed to bear fruit.

DISBUDDING AND STOPPING.—By disbudding is meant the removal of the shoots whilst in a young state. According to the directions above given, it will have been seen that no disbudding is practised for the trees trained after the first of the modes described—that is, as represented in *figs. 1 to 4* (pages 266 and 267) for we make use of all shoots from the branches, having spurs natural and artificial, and bearing-wood with its successional shoot. This, some will say, will give the tree an excessively crowded appearance; but it should not be forgotten that we have no bearing and successional shoots from the lower sides of the branches, but spurs in their place, and on the front and upper side also, when they can be obtained without crowding so as to shade and interfere with the bearing and successional shoots. If they are calculated to crowd and overlay the bearing wood, then those on the front and upper sides must be thinned; for it is necessary that they should have scope for their full development and maturation; but those on the under side cannot do any harm to the bearing and successional shoots, if the spurs be kept closely stopped, and shortened at the winter pruning; in any case, when too close together they can be thinned.

Disbudding should be governed by the weather, and consequent greater or less activity of growth. If the weather is cold vegetation is slow, and it is not desirable to disbud at that time, but when the weather is warm it should be more closely followed up. Sometimes vegetation is early, and proceeds with great activity; but if a cold period follow, the partially-developed leaves become almost stationary, and in that state disbudding ought not to be practised; for every leaf or bud in process of development promotes the circulation of the sap in its immediate neighbourhood, and to remove such, or pinch back the shoot, must to some extent cause the circulation

to cease, or find other channels. By disbudding and pinching when the weather is cold, the fluids of the tree become stagnant; but if we disbud or stop when the weather is mild, and growth active, the sap will find other channels, the circulation not being impeded or deranged. If we remove all but one shoot from a bearing shoot, or disbud and stop at the same time, it is certain that that one bud or the parts left, all being etopped, will not be able to receive and duly appropriate the sap; but if the weather is dull and vegetation advanced, we may remove all but the one shoot from the base of each bearing shoot without exciting that left to any undue development. Disbudding, therefore, should be performed by degrees. The forerights on the branches should be first removed or etopped. In a few days we may follow with shoots on the sides, and such as were not sufficiently advanced at the former disbudding, following in a few days with those on the bearing shoots, always preserving the lowest shoot on each for succession. Those with fruit at their bases, and the terminal, should be left to make three leaves, and then be pinched, and afterwards be closely pinched back to one leaf. It is a great evil to allow the shoots to become long and full-foliated before disbudding, for it causes a stagnation of the sap, and unduly excites the growth of those left; in a like manner the stopping of the shoots should be performed as soon as we have leaves nearly full-sized on the length of shoot we require. No more shoots or foliage should be left than will be fully exposed to light. In removing the shoots care should be taken not to tear off with them any portion of the bark of the shoot from which they are taken, but rub them off, or cut them off with a sharp knife.

FRUIT-THINNING.—If the trees are healthy more fruit will set than can arrive at perfection, few if any dropping unless injured by frost. The thinning of the fruit will be dependant on the vigour of the tree and size of the fruit; on a weak tree the fruit should be left considerably thinner than those on trees that are vigorous, whilst the thinning on the individual tree must not be the same throughout. Some parts of the tree will be weak in comparison to others; on the weak parts the fruit must be left thin; on the vigorous portions the fruit must be left more thickly. The small-fruited sorts should have the fruit left more thickly than the large-fruited. A vigorous tree of the large-fruited kinds, as the *Grosse Mignonne*, *Barrington*, &c., may be allowed one fruit for every foot of surface covered by the tree, but it is not necessary that the fruit should be distributed evenly over the tree, for some parts are weak, and there the fruit must be left thin, vigorous parts having more left than would be the case were the weak and vigorous parts allowed to bear equally. It will be sufficient if no more fruit be left than the tree can properly mature, and every healthy tree will bring to perfection a fruit to every foot of wall covered. Such varieties as the *Royal George* will perfect three fruit to every 2 feet of wall covered, and *Nectarines* will bear to have the fruit left more thickly than *Peaches* of the large-fruited sorts. Large kinds of *Nectarines* may be thinned to three for every 2 feet of wall covered, whilst for the small kinds two fruit per foot may be left.

In calculating the extent of wall covered, it should be calculated from the extent of the branches at the bottom of the wall and the height, without taking into account the current year's growth; and the dimensions taken in feet, multiplied together, will give the number of square feet, and it is then easy to thin so as to leave the proper number of fruit on each tree.

It is a common error to allow too many fruit to remain, indeed, some trees are permitted to bear as many as they will, the result being the weakening of the trees; for, though the number may be great, the fruit, if weighed, will not afford such a weight of flesh as if it had been properly thinned. The weakening of the tree is dependant more on the number of the fruit than on their size, for it is the production of stones or seed that diminishes the vigour of the tree, and to take twice the number of fruits that ought to be left, is to reduce its vigour correspondingly; besides, the fruits are small, thin in flesh, and badly flavoured, indeed, only fit for those unaccustomed to eat the *Peach* or *Nectarine* when full-sized and perfectly ripened.

The first thinning should take place when the young fruit is about the size of a hazel nut, but rather under than over that size. It will be seen by that time which, if any, fruits have been injured by spring frosts. There will be different sizes. The smallest will, of course, be removed, for these in most cases would not form stones, and in that event they must fall, from the kernel being injured by frost or some other cause. If the fruits are almost of one size they may be nearly thinned at

once, though it is well to leave a greater number at the first thinning than are required, until such time as the fruit is stoned, and then reduce them to the proper number. In taking off the green fruits care should be exercised so as not to remove or damage the bark of the shoots. The fruit should be gently twisted round and pressed upwards, for if pulled backwards or downwards in the direction of the base of the shoot it is likely the fruit will bring away with it a portion of the bark. To prevent the tearing of the bark, the fruit may be clipped off, the only purpose for which the scissors should be employed about a *Peach* tree.—G. ABBEY.

WORK FOR THE WEEK.

KITCHEN GARDEN.

WHEEL dung on vacant ground, renew old decayed borders, and procure good fresh loam to form new ones. Clean old shreds not too much wasted for use, by boiling them, and cut plenty of fresh ones. Deprive nails that have been used, of the adhering mortar, &c., by heating them red hot in an iron vessel, and to prevent their rusting immerse them in oil before they cool. All the more tender vegetables, such as *Cauliflowers*, *Lettuce*, &c., previously secured, will be found of great service during the winter. Rooms or sheds with thick walls, and lathed and plastered, so as to be cold in summer and warm in winter, or cellars or underground rooms, will be of great advantage, as then a supply may be maintained with comparatively little trouble during either severe weather in winter, or for a month or two of dry scorching weather in summer. The north side of a wall, with material to keep out the wet, and leaves or straw to exclude frost, may also be used with advantage. Secure *Potatoes* from frost; examine *Onions*, removing every one that has the smallest speck. Keep a supply of *Turnips*, *Celery*, *Jerusalem Artichokes*, *Horseradish*, &c., in case of a severe frost. Keep up a supply of *Herbs*, such as *Tarragon* and *Mint*, by placing roots either in pots or in *Asparagus* frames at work. The same method may be adopted with *Parsley* and *Chervil*, if you are likely to be short. Fill pots or boxes with *Rhubarb*, *Sea-kale*, and *Chicory*, to be placed in the *Mushroom* house, or in any corner where heat and darkness can be secured.

FRUIT GARDEN.

When planting fruit trees, if only an improvement in the soil is thought necessary, loam and leaf mould are the best materials for the purpose, and as a makeshift for drainage, raise as much as possible the spots where the trees are to be planted. In transplanting, the trees should be taken up with great care, and broken, bruised, or straggling roots pruned with a clean cut. When planting, spread the roots out equally in a hole of moderate depth, and of more than sufficient width for the extent of the roots; the fresh soil to be shaken carefully over them, and gently pressed down, not stamped with the feet, all round; then water and mulch, and train to the wall or espalier, or firmly stake if the tree is a standard. *Fig* trees should be protected from frost by unnailling the branches, and tying them in bundles, each bundle to be thickly covered with hay ropes, and tied up to large nails firmly fixed in the wall; or, extend the branches on the ground at the foot of the wall, and cover them with litter. If old *Gooseberry* and *Currant*, or standard *Apple* and *Pear* trees are infested with moss, a good dredging of powdered quicklime put on when the bark is moist will entirely destroy it, and render the stems and bark clean and healthy. If the root-pruning of fruit trees is considered necessary to check over-luxuriance, it should be attended to without further delay. Anoint all trees and bushes that are pruned, with a mixture of equal parts of cowdung, clay, soot, and lime, brought to the consistence of paint with strong soap-suds, urine, or the rich drainings of the dunghill.

FLOWER GARDEN.

This has been a very favourable season for the blooming of out-door *Chrysanthemums*, and I do not recollect to have ever before seen them in such fine condition, or to so much advantage. For the autumn decoration of the flower garden, especially in country places, they are certainly deserving of more attention than has hitherto been bestowed on them. If there is any tree, shrub, or plant, that the experience of past seasons has proved to be susceptible of injury from frosts, or the inclemency of the winter weather, it should be protected in good time. *Laurustinus*, *Variegated Hollies*, or similar shrubs, which have not grown kindly, ought to be supplied with a top-dressing of rotten dung or leaf mould, to be placed over the

roots, and lightly forked into the ground. If a similar want of luxuriance is perceptible in Rhododendrons, and other evergreen American shrubs, they may be taken up and replanted with advantage, enriching the ground at the same time with a liberal supply of peat soil, or well-decomposed leaf mould. Hoeing and raking the borders amongst shrubs will be sufficient to give a neat and clean appearance, without employing the spade, which is very objectionable, when by its use the fibrous roots of shrubs are cut.

GREENHOUSE AND CONSERVATORY.

The best temperature for the conservatory in cold weather is about 45°, although the generality of half-hardy plants will outlive the winter if the frost is kept from them, but the temperature of 45° is high enough for a conservatory not attached to sitting-rooms, and only used for the purpose of wintering large specimens, and not containing plants in bloom. A few good stove plants, and a forcing pit, are essential towards keeping up a good appearance in the conservatory in winter. See that the fireplaces, flues, and pipes act properly, as we often hear of accidents arising from such sources. Where the heating apparatus is barely sufficient to keep up the required temperature, accidents are more likely to follow. Sometimes plants are injured at this time by being placed over the parts of the pavement beneath which the pipes pass; in such cases an empty pot under that in which the plant is growing, would lessen the risk of the roots being dried too much. Another source of great injury to the plants in the borders, is their roots coming in contact with the walls which divide the beds from the hot-water pipes, when these are so arranged. Keeping such parts well moistened partly prevents injury, but in cases of this sort the beds or borders ought to be protected by a few inches of some non-conducting material, as by sawdust or pounded charcoal cased with a brick-on-edge wall between it and the soil. This arrangement ought never to be omitted where the pipes run under the paths, &c. The best way of forming a stock of pot climbers for exhibition in the shortest time, is to plant young plants of them in the borders; for a year or two encourage them to grow as much as possible, and then take them up for potting.

STOVE.

It is now fully acknowledged on all hands, that a high temperature in winter is injurious to stove plants, and it is no less injurious to have the atmosphere too moist, with a low temperature at night; hence the practice of watering early in the day. If there is any stove climber or shrub planted out in a bed or border, which it is desirable to move to another situation to flower next year, this is the best time to begin to prepare such plants for the change. Dig round one side, and take up half of the roots, place them near the surface, and fill in about them with sand, peat, and leaf mould, give a gentle watering, and in six weeks the new roots will be formed, to feed the plant; then the other half of the roots may be taken up and treated in the same way, and on any rainy day in March or April, the plant may be potted or transplanted without injury. Climbers 50 feet long and branched in all directions, have been removed in this way without their growth being diminished in the following season, and the experiment will succeed with Passion-flowers, Beaumontias, Allamandas, Echites, &c.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Digging, Trenching, and Ridging Ground.—Where there is vacant ground, and of that we have as yet little, there could be no better weather for turning it over by adopting one or other of the above modes, of which something like the *rationale* was given the other week. It is always important to dig-down soil after it has been frozen when fully thawed, and it is equally important to turn it again, for at least part of its depth, when so slightly frosted as to admit of that being done, and when a keener frost is expected. The more all rather stiff ground is turned so that the frosty air has direct access to the soil, the sweeter will this become, and the better pulverised will it be. We cannot depend on the season, or, as a matter of choice, we would prefer that vacant ground at all stiff, and where slugs, &c., had been troublesome, should be well frosted before being broken-up, then turned up as soon as the spade would go in, and exposed in the rough to future frosts by frequent turnings in a rough way. We have thus got rid of the slugs and snails for a season or two; but, when trenching or ridging

before the surface was frozen for several inches in depth, we have found the slimy tribe as numerous and destructive after a severe winter as after a mild one.

It is well now to fix on all the ground intended for long, tuberous-root crops, as Carrots, Parsnips, &c. The great point in their case is to have what manure is given placed in the bottom of the trench, and after the first trenching and ridging, whatever turnings the ground may have, the spade should not go so deep as to bring up or incorporate the manure with the bulk of the soil. That from the bottom of the trench will make excellent material for mere surface-rooting vegetables in the following season.

There is a great inequality in the country as to the power of the gardener to do his soil and his crops justice. We go into one place where the empty quarters—the fallowing system—can be carried out to such an extent that the gardener has actually to think what he can fill the garden with, so as at one time of the year to show it all well cropped; and we go into another garden, where except the places from which Carrots and Parsnips were taken late, there is scarcely an empty piece of ground to be seen, even in winter, to say nothing of the frequent crops in summer.

Such constant work can only be done by carefully stirring the ground, and the addition of some decomposing organised material for sustaining continued fertility. A garden much too large is a continued annoyance, but one too small is often a continued loss. The best compromise in the latter case is to grow a portion of the commoner vegetables, as Potatoes, Carrots, Turnips, &c., in a field, and that a fresh piece every few years, so as to afford all the benefit of fresh soil and rotation of cropping. It is one of those strange things for which there is no accounting, that gentlemen who are satisfied with but moderate returns from their fields after dunging them well, tilling them well, and fallowing, as well as putting them under the restorative process of green crops, cannot see that a kitchen garden will be worn out after such continuous cropping, and that even dung will come to be a bane rather than a blessing, if not brought into a more soluble and sweet condition by liming or exposure. In old, dark-coloured garden soil we have known from sixty to seventy bushels of lime per acre produce as wonderful an effect as it frequently does on fresh-reclaimed peaty soil. The time will come, when if we have fine walled gardens, and we ourselves never wish to see them gone, the new ones will enclose much less space than we now find in large establishments, and then the bulk of vegetables will be grown in fields, and be sweeter and finer than they can be obtained from old gardens, change and rotate the crops as you may. In the quality of vegetables, do what we can, we can never beat the market gardeners, and what contributes mostly to the quality is the more open and free exposure, for most of them give the ground little rest, though they are adepts in manuring and changing their crops. Many small gardens that would grow fruit well, and the earlier and later vegetables, are spoiled because too much is attempted in them, and expected from them. It is perfectly wonderful what is thus collected from perhaps less than an acre of garden ground, and yet the owner of that garden will be satisfied if he receive from 25s. to 30s. an acre for the contiguous land.

The chief point to be attended to in the *rotation of crops* is to have deep-rooting and shallow-rooting crops following each other, and the same may be said of fibrous-rooting and tuberous-rooting crops. The tuberous roots do best in rather poor soil. Celery is a good preparation for most crops, except the tuberous-rooted, as the dung when spread out from the trenches makes the bulk of the soil too rich, and encourages surface-rooting, and the dividing or branching of the tuber. Celery ground, after being trenched, and the well-sweetened dung left divided over the ground, does admirably for Peas, Beans, Cauliflowers, Cabbage, &c., and first-rate for Onions, with, perhaps, a little more sweet manure added. Cabbage is a good follower of the Onion quarter or bed, but nothing could be worse than to have Onions following Cabbage. In fact, every time we tried it, even after manuring, we had reason to regret it. In our case, however, the Cabbages had a long lease of the ground, planted say in September, and producing heavily all the following summer, and if the second winter was at all favourable, up to the second March from planting. We admire the Coleworts that come in for use from October, but we have had a fine bed of Coleworts destroyed in midwinter, when the old stalks of the old Cabbages carried us through with abundance of nice sweet sprouts; so that in general our main plantation of Cabbages stands through two winters.

Sea-kale and Rhubarb.—Put in some more Sea-kale into the Mushroom house, having gathered a lot very good for the season, as no treatment from taken-up plants now will produce the strong heads we obtain in March. Many complaints as to early Sea-kale would be avoided if the heads were cut short enough, say from 4 to 5 inches. When they become longer than that they are spongy and watery—in fact, little more than tough skin and liquid. Who will tell us how best to obtain good Rhubarb in the end of November or the beginning of December? We have never pleased ourselves, and suspect that to have it early we must grow it in a place more exposed to the sun, so that the buds will be sooner ripened. We think of having a short row specially for taking up early, as the bulk of our crop is in a shady place where it does well for general purposes. We suspect that the position renders the ripening of the buds and roots later than it otherwise would be. At any rate, for two or three seasons our first Rhubarb from plants taken up has not pleased us; in fact, the second lot often comes in good as soon as, and even before the first. Most likely we have hinted at the reason—at least it seems to us we can hardly expect better success until we change our treatment, but the subject is worth the attention of many of our correspondents. Even now we have no difficulty, except with the first lot, and we see no reason, if the Rhubarb plants are early ripened so as to have a rest, why they should not yield as good gatherings in November as Sea-kale or Asparagus. As to the latter, we will not do much, as we rather overdid our stock last year, and the dry summer and no water at our command prevented our young crops progressing as usual.

Mushrooms.—Our beds in the shed are still producing, and we have spawned the fourth piece in the Mushroom house, the fourth piece bearing well, and the second beginning to show. We have only two shelves in the house, one on each side of a pathway, and these we divide into four or more pieces. The house being a lean-to, facing the north, we would have more shelves, but for the lifting-up the material in baskets, &c. We have on the floor a space equal in width to these shelves; there we also make some beds, but we are generally more troubled with woodlice, slugs, &c., on these low beds than on the shallow shelves.

What we introduce the Mushroom house now chiefly for, is to state that the top ventilation for this house is merely an air-brick at the apex at each end, and in such close weather as this, such a small amount of ventilation is not sufficient, especially when every now and then you have to take in fresh material for fresh beds. Even though we put a little dry hay on the bearing bed, to bring it on more quickly for a definite purpose, the hay soon became damp, from condensed moisture, as none will rest on the roof. But for the sake of appearance, this does little harm, but those who eat the Mushrooms might not like to see them coming out from amongst such a damp covering. Sometimes after making a fresh bed we have placed a mat or a cloth over a bearing bed to keep out this condensed moisture. Were we building a house on purpose again, we would have a cowed air-shaft in every 25 or 30-feet length of roof, fixing it near the apex or ridge board. We can give air in the front wall, but in such weather as this, without using fire heat, this would do little to mitigate the evil, and though it may be a prejudice of ours, it is not held without many practical results to confirm it, that keen draughts are not relished by Mushrooms when artificially cultivated. We would even have open gauze to cover the openings in the air-shaft. Unless for a short time, and in such damp weather as we have lately had, our two metal ventilators the size of a brick, one at each end, are enough for what ventilation is needed, as the Mushroom likes a close, moist atmosphere.

Roof of the Mushroom House.—This reminds us of our neglect last week in not attending to the request of "one of our oldest readers," who "hates the idea of having a thatched roof, but whose slate roof is exceptionally hot in summer, and cold in winter, and that it only lasts a few years before it wants renewal, as the damp gets at the lath and rafters, and rots them in a short time. How proceed with his fresh roof?" Thus: have rafters or bearers of the usual size, have thin boards close over the bearers beneath the slates. Before fastening these boards nail on double lath for the plaster, stuff the space between the lath and boards with dry straw before nailing the boards down and slating, plaster inside twice in the usual way. When dry run a little cement all round where the plaster joins the wall, and, as above stated, when the plaster is dry enough, paint all over the plastered roof with boiled linseed oil. This will prevent damp finding its way to lath or rafters, and if the

slates are whitewashed with new lime in a hot dry day, that and the straw and wood together, will keep the roof at something like an equable temperature. In this case we have practised with profit what we advise.

Leaves and Dung for Hotbeds.—From the many inquiries that have come to us lately, two things are certain—first, that great numbers of our readers are convinced of the importance of a little bottom heat for many purposes, as helping late cuttings, bringing on bulbs after the pots are full of roots, enticing newly-potted plants to root, whilst the heads of the plants are kept cool; bringing on Sea-kale, Asparagus, Lihubarb, helping Strawberries in pots, and raising young plants of Cucumbers, &c. In the second place, however, there seem to be more difficulties in the making and management of a hotbed than was humorously described by "MAUD" some time ago. These difficulties and drawbacks refer chiefly to cases where there is little manure to be had, and there is a wish to make the most of it for heating, as it can all be used, when decomposed, for the garden. We recollect entering very fully into this subject last year, and showing how much of the difficulty would be surmounted by working and lessening the bulk of the dung but little beforehand, thus saving labour, time, and material. When such crops as Cucumbers are contemplated early, it is good, where manure is scarce, to have a one-light box for raising the plants in, and whilst that is going on the manure can be preparing. "DELTA" says "He has nothing but stable dung, can calculate on a barrowload per day, and wants a sweet, safe hotbed, with as little trouble as possible." In such a case have a fortnight's manure laid out rather thinly, so as not to heat. Lay out another week's manure separately, and then shake up the first fortnight's into a heap, watering when dry, and covering with long litter. In about eight or ten days turn this heap again, placing the top at the bottom, the outsides at the centre, and the centre at the outsides, and in about a week more it will be sweet enough for use. The second fortnight's dung should also be thrown into a heap, but not turned. The fifth week's dung we would place at once for the bottom of the bed, build the second fortnight's on it, and then the first-prepared dung on that. With a coating of ashes, &c., seeds may be sown at once. It would be well to delay a few days before placing plants in the frame; but one of the best tests as to safety is closely to observe the condensed moisture on the bars and glass of the frame. If these drops are brown or yellowish in colour, trust nothing growing in the frame. If they are clear as dewdrops, trust anything and everything that heat will not injure. If you could surface with from 6 to 9 inches of three-parts rotten dung from the centre of an old bed, we would be satisfied with still less preparation of the dung intended for the surface, but without that the once turning at least will be necessary.

We stated lately that the heat produced from tree leaves can be safely used for any purpose, as it is sweet at once. Hence the advantage which "ETA" possesses, who has rather more dung than "DELTA," and who, from pleasure grounds and other sources, can have several loads of tree leaves. In such a case we would prepare a part of the dung but little, and the most of it less, and cover with a foot of the sweet tree leaves. The sweet covering to keep down all rankness is the great essential, and that secured, it is more economical in every way that the dung should give out its heat as it decomposes slowly in the bed, rather than waste its bulk and its heat by being kept long in a fermenting heap. Of course, we would not for a moment urge such a plan on our great gardeners, who can go to their mounds of fermenting material; we merely wish to simplify all the difficulties of hotbed-making to those who have little material, and to impress on them the simple fact, that from 8 inches to a foot of sweet surfacing will keep down all noxious steam. Treated in a more rough manner than we have described, Cucumber beds made in February continued in good bearing until the middle of October, without even a firing being turned; but then the beds were made large at once.

FRUIT GARDEN.

Before frost comes, in addition to mulching Strawberries, it would be advisable to stick some evergreen boughs among British Queen, and the tender sorts. It is still fine weather for planting fruit and other trees. Where birds abound, and are destructive to buds, we have found no plan better for bushes of Gooseberries and Currants, than to tie them up like a faggot, or as nearly like one as that can be done without injuring the bushes, and then syringe them with limewash, using an old syringe for the purpose. No better weather could be

had for pruning. We have been so annoyed with birds, that such as Gooseberry trees we avoid pruning as long as we can.

ORNAMENTAL DEPARTMENT.

Here we have been very busy, altering, and making changes, but most of the work has been referred to, especially planting for cover and for permanent trees, re-arranging the rosery, &c., and but for the lists given by Mr. Radclyffe and others we might have had something to say on that subject.—R. F.

COVENT GARDEN MARKET.—DECEMBER 9.

We have again received a supply of well-grown Pines from St. Michael's, also a large supply of home-grown for this period of the year. Oranges are abundant, and the market stands show plenty of vegetables of excellent quality. Pears and Apples more than sufficient for the demand.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	1	6	to	2	Melons..... each	2	0	to	5
Apricots doz.	0	0	0	0	Nectarines doz.	0	0	0	0
Cherries lb.	0	0	0	0	Oranges 100	2	0	0	0
Chestnuts bush.	10	0	16	0	Peaches doz.	0	0	0	0
Currants ½ sieve	0	0	0	0	Pears (dessert) .. doz.	2	0	6	0
Black do.	0	0	0	0	Pine Apples lb.	3	0	5	0
Ridge doz.	0	0	0	0	Plums ½ sieve	0	0	0	0
Filberts lb.	0	9	1	0	Quinces doz.	0	9	1	6
Cobs lb.	0	9	1	0	Raspberries lb.	0	0	0	0
Gooseberries .. quart	0	0	0	0	Strawberries.. per lb.	0	0	0	0
Grapes, Hothouse.. lb.	3	0	6	0	Wainnuts bush.	10	0	16	0
Lemons 100	4	0	8	0	do. per 100	1	0	2	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	3	0	to	6	0	0	0	0	0
Asparagus 100	10	0	0	0	Lettnes per score	2	0	4	0
Beans, Kidney ½ sieve	3	0	4	0	Mushrooms pottle	2	0	0	0
Beet, Red doz.	2	0	8	0	Mstd. & Cress, punnet	0	2	6	8
Broccoli bundles	1	0	2	0	Onions per bushel	5	0	7	0
Brus. Sprouts ½ sieve	2	0	0	0	Parsley per sieve	3	0	4	0
Cabbages doz.	1	9	2	0	Parsnips doz.	0	9	1	0
Caspicums 100	0	0	0	0	Peas per quart	0	0	0	0
Carrots bunch	0	4	0	8	Potatoes bushel	4	6	6	0
Caulliflower doz.	3	0	6	0	Kidney do.	4	0	7	0
Calery bundle	1	6	2	0	Radishes doz. bunches	1	6	0	0
Cucumbers each	0	9	1	6	Rhinbarb bundle	0	0	0	0
Endive doz.	2	0	0	0	Sea-kale basket	3	0	0	0
Fennel bunch	0	3	0	0	Shallots lb.	0	8	0	0
Garlic lb.	0	8	0	0	Spinach bushel	2	0	3	0
Herbs bunch	0	3	0	0	Tomatoes per doz.	1	0	2	0
Horseradish .. bundle	3	0	5	0	Turnips bunch	0	6	0	0

TRADE CATALOGUE RECEIVED.

John Standish & Co., Royal Nursery, Ascot, Berks.—Catalogue of New and Rare Plants, Hardy Trees, Shrubs, Coniferae, American Plants, &c. With six coloured Plates.

TO CORRESPONDENTS.

BOOKS (J. R. M.).—We know of no books on emigrating to New Zealand. (F. V. M.).—Keane's "In-door Gardening," Is. 6d.; "Out-door Gardening," Is. 6d.; the "Garden Manual," Is. 6d.; the "Vine Manual," 2s. 6d. You can have them all free by post from our office if you enclose the amount in postage stamps with your address, and eight stamps for postage.

MANURE FOR ROSES (G. H. M.).—"I do not use charcoal. If you would prevent mildew you must give the pot Roses air and syringings. From want of these, Roses and other plants under glass suffer from mildew. I should think that charcoal would not stop mildew. After Roses have produced their first series of bloom under glass, they should be moved out into the air to ripen their bark and wood. Fresh pot your Roses, using turfy loam. You cannot refresh them in pots with better stuff than guano water.—W. F. RADCLYFFE."

COVERS FOR BACK VOLUMES (R. H.).—You can have covers for a year's numbers of this Journal, but each only for six months. If you state your address, mention what year you require the covers for, and enclose thirty postage stamps, the covers will be sent to you postage paid from this office.

STORING TURNIPS (Q. C.).—To keep them from being frosted pull them up, cut off the leaves and tap roots close to the bulbs, pile these in a heap, and cover them 9 inches deep with earth, smoothing the outside with the back of the spade.

ROSES (F. G.).—With the exception of Aspic, Hybrid Perpetual, the varieties you name are summer roses. Comtesse Lacépède is good; the other two are useful, but superseded by better kinds. We know of no work specially treating of the propagation of trees and shrubs. It is against our rule to recommend one dealer in preference to another.

DRAINAGE FROM COW HOUSE (T.).—Powdered charcoal might deodorise it. The drainage does not require diluting if applied to vacant ground, and dug in for ordinary crops. If applied to dormant flower-garden plants, two bucketsful of water to one of drainage would be a safe proportion; if to growing plants, five of water to one of drainage.

FOWLS' DUNG (J. J.).—It is one of the most fertilising of manures. Do not turn it over, but keep it under cover until required. Trench your ground for the Carrots and Parsnips, and dig in about an inch in depth with the bottom spit. Dig in about the same quantity with the surface spit for Turnips and other vegetables.

PROPAGATING BRIAR STOCKS FOR ROSES (A Subscriber).—Rose stocks when raised from seed are not so desirable as those propagated by cuttings, as they are always apt to produce suckers plentifully; but with cuttings this is not the case, for the buds or eyes are taken out before the cuttings are inserted in the ground, throughout the length of the part that is to go into the soil. Instead of raising Briar stocks from seed, it is more economical to purchase them; they can be obtained with stems 4 feet or more high at a small sum per hundred. If seed be sown, three or four years at least must elapse before the plants would be fit for budding—that is, if they are intended for standards, whilst for dwarfs they might be worked in the second or third year. You may gather the hepa of the Briar now, keep them in sand till the beginning of March, pull them in pieces, and sow an inch apart in drills about 6 inches from each other. The drills should be from three quarters of an inch to 1 inch deep, and the seeds should be covered with that depth of fine soil. The soil should be light and rich. Care should be taken to protect them from mice, which are very fond of the seed. It is likely you will have few if any plants the first year, as the seed generally does not germinate the first year. Keep the ground clear of weeds, and in the autumn of the second year take up the plants and plant out in good rich soil in lines 1 foot apart, and 6 inches from plant to plant in the row.

POTTING SEEDLING PELARGONIUMS (J. M.).—You do not say when the seed was sown, nor what size the plants are. If sown early this year, and in good health, you may bloom them very well in 6-inch pots, which are what we recommend; but for small plants from seed sown in August, or since then, that size of pot will not be required until they have been stopped and have become good bushy plants, say in April. A good compost is formed of two-thirds turfy loam, and one-third leaf mould, with a free admixture of silver sand. Mildew on Pelargoniums may be kept under by dusting the plants with flowers of sulphur where affected. This will not only destroy the mildew, but act as a preventive. Give more air—indeed, they should have fresh air every day, if only for an hour; keep cool and near the glass, and give no more water than is necessary to prevent the leaves flagging.

THRIPS ON CINERARIAS (An Inquirer).—The leaves were severely attacked by thrips, which is the small long insect you notice. Dusting with flowers of sulphur will not do any good unless the leaves are mildewed. The only remedy is to fumigate on a calm evening, taking care to have the foliage of the plants dry. Shut the house up closely, and fill it with smoke so that a plant cannot be seen from the outside. Repeat the fumigation whenever an insect of this kind is seen.

PROTECTING WELLINGTONIA GIGANTEA AND CUPRESSUS MACROCARPA (L. M. E.).—Both are hardy and do not require protection; but if the situation is very bleak and exposed you may drive some stakes into the ground, and hang up mats so as to shelter the trees from cold violent winds; but such protection should only be employed in very severe periods and until the plants become established.

VENTILATING GREENHOUSES AND FRAMES (Idem).—Damp mild weather is the time of all others when ventilation should be most carefully attended to. You cannot ventilate a greenhouse too much if you keep out rain and do not lower the temperature below 40°. Cold frames should have air every day when the temperature of the external atmosphere is 40°; but the lights ought not to be taken off during wet weather; they should then be merely tilted, so as to admit air and yet keep the plants dry. Nothing is so injurious in wintering plants as allowing them to become soaked with wet.

PRUNING RASPBERRIES (M. P.).—When the canes are more than 4 feet long shorten them to that height, which is quite long enough, and when of less height than that we like to cut off the small parts or ends of the canes, cutting back to some good eyes, as from the most plump eyes and strongest wood the finest largest fruit is produced. When the canes are very strong they may be shortened to 5 feet. The shortening or cutting-back should not be done until the end of February or beginning of March, as when it is done before winter the canes are liable to suffer from frost if it should prove severe.

PLANTING CLUMPS OF FOREST TREES (G. A. B.).—It would be difficult to say what would be the best form for the clumps; but for such small clumps as those you name we would have the Beech in a circle, and make it the centre clump, placing the Oak and Chestnut in separate clumps at the side of the Beech, and not in a straight line, but dotted irregularly. These we would plant in ovals. We would plant 4 feet from the margin, and allow 8 feet from plant to plant, placing a shrub between each. Common and Portugal Laurel, Yew, Aucuba, tree Box, and Laurustinus are good plants for planting along with trees to form undergrowth. If you do not plant shrubs, the Oaks, Beech, and Chestnut should be planted 4 feet apart.

WIRE FOR PEACH TREES, &c. (W. Osborne).—Addressed to "TRY," we answered your queries at page 411.

OUT-OF-DOORS VINEA (Grape).—Plant without delay; it is full late, unless the Vines are in pots, and can then be turned out and planted in the border at any time. Apply to the nurserymen in your neighbourhood—they all have the Royal Muscadine and Black Hamburg. The latter ripens well against an open wall at Winchester.

TRAINING VINES (Reader).—Your success in growing Vines first vertically and then angularly across the roof, will depend on having the Vines trained so thickly that the sun will reach the base of the vertical part. Some time ago we described a span-roofed house of Mr. Hawkins's near Hitchin, where the Vines were planted in the centre of the house and bore right down to the ground; but though Vines went along the roof, top and bottom, there was a clear open space in the roof for the benefit of the vertical part. We would disbud as soon as we could select the fruiting spurs, and with the general proposed management we thoroughly agree.

PLANTING OUT VINES FROM POTS (R. H. C.).—If the Vines have fruited at all heavily in pots, they will do little good when planted out in a vinery. They would have a good chance if you shook the earth from their roots, repotted them, cut them down to a bud or two, and grew them in pots until midsummer, and then planted them out, or even deferred the planting until next season. We would far prefer a Vine that has not fruited to one that has done so in a pot.

FLOWER BEDS PLANTING (W.).—Your plan is simple, and the proposed planting is simple and will look well. For the first eight beds from the centre we would pair in similar shades of scarlet Pelargoniums, and ring

these pairs alternately with purple Verbena and white or variegated-leaved Pelargoniums. Humous would look well in your outside circles. Other beds as you propose, but a few good Pelargoniums, &c., might go in the centre of the long beds.

VINE AND FIG TREE PRUNING (T. J. Mason).—We can hardly tell you how to prune your Vines without knowing more about them. If on the spur system the side shoots may be cut back to one or two buds, and the leader to 18 inches or 2 feet; and as the leaves have fallen the pruning cannot be done too soon. Your Fig tree with five branches 18 inches long would not prune at all, but as soon as growth commences cut the terminal bud of each shoot in two, and that will cause the fruit, if there is fruit, to set better, and you will afterwards have plenty of young shoots to choose from.

SOLANUM CAPSICARRUM (Idem).—It requires more heat than a common greenhouse—say average of 50° to 55°. The low temperature is against it.

GREENHOUSE FAILURE (Ignoramus).—We never before heard of a new house that seemed to ruin everything that went into it! We have no doubt that either the glass is very bad, or the ventilation is very deficient. Examine the glass for scars, and if you find any dab them with paint, and that will stop burning. We should care nothing for a blaze of light if the glass were good. If the sun is rather strong it is easy to dull the glass a little with size water. The practice with this one house may not be quite right. The syringing such plants, and especially Pelargoniums, is almost sure to cause spot and decay.

EARLIEST CUCUMBER (A Young Beginner).—The earliest and best Cucumber for winter is the Lord Kenyon or Lion House Improved, a smooth-skinned one, growing from 8 to 12 inches long. Among smooth white-spined Cucumbers, Volunteer is good, and ranges from 8 to 18 inches. Telegraph is a little longer, but requires more heat than the above two. Cutbill's Black Spine is also a good Cucumber, averaging about a foot in length, but will not come so soon as the above. Mr. Cox, of Kimpton Hoe, used to do wonders with the Volunteer. We have seen from three to five Cucumbers at a joint.

GISHURST COMPOUND (E. A. S.).—After this is dissolved in water exposure to the air does not destroy its effectiveness or weaken it, if not kept exposed for a long time. The dissolving first is useful when you syringe trees in leaf, otherwise not.

TREES IN POTS (Dougal McDougal).—Do not put into the pots more than 1 to 1½ inch of drainage, but sprinkle some moss over it and a little soot; but then we like to water moderately, and have always been rather scarce of water. In placing the pots partly in the ground, we allow the bottom of the pot to rest on the soil. The plan you propose of allowing the bottom of the pot to rest on two bricks, with an open space for free drainage between them, is good; but we have found no use for it, as the water in all our pots passes quite fast enough away, and we rather like the roots to run a little out during the summer. In two years we have hardly had two pots waterlogged, and these we lifted, and picked the hard soil from the hole in the bottom of the pot, and that made all right. One of our objections to plunging pots in sawdust is, that after a time the sawdust clogs up the drainage hole completely. If you have plenty of water we have no objection to your proposed plan, but we do not find any stagnation of water without it.

MULCHING—LOAM DEFINED (Idem).—Mulching is the placing rotten dung and rich soil over the surface of the pot as the soil sinks and you wish to give more strength. You will soon be surprised when the mulching goes. The mulching and the fresh surfacing is the secret of keeping trees in pots bearing for years without fresh potting. A good loamy soil is one that is neither too sandy nor too clayey—one that when moderately moist will squeeze tight in your hand and retain the traces of your fingers, and yet when dryish will crumble into pieces. If very sandy it will not be cohesive enough. If there is too much clay it will be too close. If at all in doubt ask a neighbouring gardener to look at some kinds of loam for you. Sandy loam, such as you will find at most roadsides, is the best for plants. Turfy loam is loam taken from the green sward of a pasture, or the sides of roads and lanes, taken off thin—from 1 to 2 or 3 inches in thickness, and allowed to decompose for a few months after being piled in a heap. When broken up for use such loam will be found full of decayed vegetable fibre, and hence its use for nourishment and keeping the staple open. When we advised covering your trees in summer and winter with a net we meant common fishing net, and the only use of the net is for keeping birds from the buds and fruit. The frigid dome, to which you allude, is for protection against frost. Of course, if you can manage the birds you will not need the netting.

GLASS ENCLOSURE FOR VINE (C. R.).—The frame is after the fashion of the cylinderinery invented by Dr. Newington, but unlike that in the glass not touching the ground. The permanent cap will make the frame ainery, and then the Vine will require syringing and water; whereas, if the cap is removed as soon as danger from spring frosts is over, say the first week in June, the Grapes will ripen well without further care. The Canary and the Exquisite Peaches, like nearly all the yellow-fleshed Peaches, require a hot summer like the last, otherwise their flavour is flat and insipid as a rule; except to ornament the dessert they are not fit for general cultivation. When crossed with our green-fleshed Peaches they produce seedlings not so high in colour, but of a superior and more vinous flavour.

AZALEAS LOSING THEIR LEAVES (St. Dennis).—It is usual for Azaleas to lose their old leaves at this season, but we cannot explain the cause of the fresh leaves withering. Why syringe the plants overhead at this season? and why have the temperature 45° or 50° at night, and 60° or 65° by day? We can only account for the leaves withering from their being injured, it may be by an escape of smoke from a fine, fumes from sulphur becoming ignited, or over-fumigation with tobacco or something prejudicial to plants. Neglecting to give water would cause the leaves to fall, and the young foliage may also wither from its being attacked by thrips. We cannot, however, from description assign any positive cause for the leaves falling and withering. The temperature for Azaleas and Camellias at this time of year should be 40° at night from fire heat, and 45° by day. There will be times when this temperature, from sun heat, will be exceeded, but this is an advantage, as it affords an opportunity for giving air, and when the temperature from natural heat is sufficient to maintain the temperature fire heat should be dispensed with. The Camellia buds will in a great measure fall. The cause is imperfect root action resulting from improper soil, imperfect drainage, or the want of water at an earlier period.

REPOTTING AZALEAS AND CAMELLIAS (Subscriber).—You do not say whether your plants are small or large. If large they will not require to be potted oftener than every other year, but if young growing plants and vigorous they should be potted every year. The best signs of a plant requiring repotting are its filling the pot with roots, and soon becoming dry after watering, or often requiring water. The best compost for the Camellia is turf taken about an inch thick, not more, from a pasture where the soil is a good, rich, sandy loam. This should be used fresh, tearing it in rather small pieces with the hand, and in potting make it firm, finishing off with a little fine soil. Failing that, a compost of two parts sandy fibrous peat, and one part fibrous loam, with a free admixture of silver sand, answers very well both for Camellias and Azaleas, adding, if it can be obtained, a sixth part of old dry cow dung. Good drainage must be provided.

COMPOST FOR VARIEGATED PELARGONIUMS (Idem).—Two parts loam from rotted turves, and one part old dry cow dung, or well-rotted manure, will grow them well, adding sand liberally. The plants, if for the summer and autumn decoration of the greenhouse, should be potted in March, and in May or June; young plants being frequently repotted from time to time as the pots become filled with roots.

PROTECTING RANUNCULUSES (An Amateur).—The Turban Ranunculuses will not sustain any harm now that you have top-dressed them with short manure, only we think you have put it on too thickly. An inch in thickness would have been sufficient, and we should have preferred it had it not been very rotten. We think leaves about three parts decomposed a better mulching than rotten manure. In very severe weather you may place a thin covering of dry fern or short dry litter over the beds, taking care to remove it when the frost is past. Double Anemones planted at the same time as the Ranunculuses may have a top-dressing of leaf mould or short manure, which will be all the protection they will need. The Ranunculuses were not planted too soon. You will have a better bloom by early than late planting.

FLOWERING BOUGAINVILLEA LATIFOLIA AT THE END OF JUNE (S. M.).—We presume your plant is well ripened and has made a good growth during the past year. It will, therefore, need to be started into growth early in February and forwarded in a brisk net, securing a good growth, and at the end of April place it in the full sun, keeping dry and in this state for about six weeks, then by placing it in heat again it may probably flower at the time you wish, but everything is dependant on the present condition of the plant.

GROWING CYCLAMEN PERSICUM IN A GOLD PIT (Thorn).—The Cyclamens will do well in the pit as you propose, it is a move in the right direction. We would not remove any of the present soil, but add to leaf mould, peat, turfy loam, and rotten cow dung in equal parts, a top-dressing 6 inches thick, and work it into the soil, stirring it to the depth of 15 inches. If the soil is of a close nature, add 3 inches in thickness of freestone, or grit, in pieces from the size of a pea up to that of a walnut, mixing it well with the soil. About 3 inches of fine soil may be placed over the bed for planting in, the corms being placed with their crowns about an inch below the surface. The surface of the soil should not be more than 6 inches from the glass for seedlings, and for established plants 9 inches. The best means of protecting will be a covering of mats, and in very severe weather an extra covering of straw will be required. The lamp will not answer well.

PACKING TREE FERNS (Wiltshire Curate).—Tree Ferns may safely be brought to this country, if taken up and packed in dry material, as straw or bay.

GRAFTING A VINE FOR FRUITING THE SAME SEASON (Somerset).—It is practicable to graft a Vine with a scion having eight or nine eyes instead of two, but the eyes will break very irregularly, and the fruit, if any be allowed to grow, will set very badly; besides you will have a weak growth and a poor prospect for another year. We would only leave two good eyes, and encourage one, so as to secure a good, strong, well-ripened cane.

OLEANDER CULTURE (Germanicus).—The plant should be repotted in spring, employing a compost of two-thirds fibrous loam, and one-third sandy peat or leaf mould, adding sand freely. The best time to repot is when the plant is beginning to grow. Good drainage should be provided, and a rather small shift given for the size of the plant. In winter it should be kept in a light position in the greenhouse, giving no more water than is necessary to keep the foliage from flagging, which will not often be the case. During the growing period give an abundant supply of water, and keep the plant well syringed overhead, and rather close, so as to encourage it. Do not discontinue watering until the growth is complete, then gradually leave it off, exposing the plant fully to light and air, so as to have the wood well ripened.

HARDINESS OF HYDRANGEAS AND VERONICAS (Idem).—Hydrangeas are hardy in sheltered situations, and so are the Veronicas; but they are best treated as half-hardy, wintering them in a cold pit, and protecting them from frost.

STOCKS FOR FRUIT TREES (Julians).—The best stock for the Apricot is the Musel Plum, and it answers for both Peach and Nectarine trees. We are not aware that they can be grown on the Mahaleb Cherry; but we may state that we have Plums succeeding admirably on the Cherry stock, and we think the experiment worth trying.

COCKSCOMB STRAWBERRY (A. H. H.).—The Cockscomb Strawberry has large and downy leaves like those of the British Queen, but larger, and is of better habit. The fruit is very large, ovate, and occasionally cockscomb-shaped; skin pale scarlet; seeds prominent; flesh white, with a rosy tinge, richly flavoured.

APPLE AND CHERRY STOCKS (Idem).—The Paradise stock as commonly used in this country, is raised from pips of the Apple, and planted out in nursery lines as you describe. The Mahaleb Cherry, or stock, is a sort of Cherry of that name, of dwarf growth, and propagated by seeds, layers, and suckers.

PYRAMID versus BUSH FRUIT TREES (Idem).—We consider pyramids are more profitable than bushes, as more of the former can be grown in or on an equal space of ground, but allowance must be made for the greater danger in pyramids of the fruit being blown off; but everything considered we prefer pyramids, and should plant such. If the situation were exposed to wind we would plant bushes, as their fruit escape better, and the trees are not so liable to be blown to one side. Pyramid Apple trees on the Paradise stock may be planted 4 feet apart, and Pears on the Quince stock the same distance; afterwards, when becoming too close

they can be afforded more room. It is better—i.e., more profitable, to plant 4 feet apart, and give more room as required, than to plant at a greater distance, and crop the ground between the trees, as justice is by that method rarely done to either crop, and disturbing the ground about

fruit trees is destructive to the roots and lessens fertility. Pyramid Cherry trees are formed in the same way as pyramid Apple trees.
NAME OF PLANT (*D. B.*).—A Nephrodium, probably *N. a. rhusculum*. Capsicums are often larger than those you mention.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending December 8th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed.. 2	29.723	29.604	50	42	46	45	S.W.	.00	Overcast; very fine; overcast, but fine at night.
Thurs. 3	29.573	29.460	52	42	48	46	S.	.06	Fine, overcast; drizzling rain; overcast, slight rain.
Fri. . 4	29.558	29.298	57	51	49	47	S.	.14	Overcast, very mild; boisterous, overcast; boisterous with rain.
Sat. . 5	29.548	29.245	58	48	51	47	S.	.04	Densely overcast; rain; cloudy and very boisterous.
Sun. . 6	29.557	29.267	58	46	51	48	S.E.	.28	Densely overcast; mild with rain; and exceedingly boisterous with rain.
Mon. . 7	29.785	29.469	55	46	52	49	S.W.	.36	Very boisterous, clear; densely overcast; heavy rain.
Tue.. 8	29.557	29.389	56	43	51	49	S.W.	.14	Cloudy, fine; overcast; densely overcast, showery.
Mean	29.620	29.390	55.14	45.43	49.71	47.29	..	1.02	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

BIRMINGHAM POULTRY SHOW.

WE can now speak more at leisure of the Birmingham Show. We will give the weights of some of the breeds where such qualities are of importance, merely premising that weight is only important where it is joined to other, and, in many instances, more valuable properties.

The adult Dorking cocks ranged between 12 lbs., and 10½ lbs.; these were mostly faultless birds. The cockerels, eighty-three in number, ranged between 11 lbs. and 9½ lbs.—such of them as appeared in the prize list; but many of them were not perfect. There was a defect we have often had to point out of late years—viz., the spurs growing outside the legs. The average weight of the prizetaking Dorking hens was 8 lbs. each. The twelve successful pullets weighed 93 lbs.; the Silver-Greys were little behind in weight.

In the Cochin-China cockerels there were many bad combs, which disqualified birds that would otherwise have held good positions. Among the Cochin pullets and hens there were many with stained and marked hackles, otherwise they were classes of very high merit.

We repeat that which we said last week about the Game; the Black and Brown Reds and Duckwings were all perfect, save that in some there is a tendency to breed them too long in the thigh, and to look too much for weight. Many of the birds exhibited were fit for shake-bags; Blacks, Whites, Piles, Duns, and Brassy-winged seem disappearing, at any rate they cannot hold their own.

The same may be said of the Golden Polands, unless they increase in number and quality they must give way to their Silver brethren.

The Brahmas are now established and form large classes, both Dark and Light. We shall be glad to see the time when no sign of a vulture-neck will be seen.

We considered the Crève-Cœur cocks a show in themselves, and we anticipate popularity for them and the Houdans. We can say nothing for the La Flèche.

The result of Duck-breeding by the *cognoscenti* is a curious one. Some years since the Aylesbury was always heavy, the Rouen was a bird of feather; the latter having accomplished feather took up weight, and has now passed the Aylesbury in the race. The three prize pens of Rouens weighed 55½ lbs.—respectively, 19½ lbs., 18½ lbs., 18½ lbs.; the Aylesbury collectively 50½ lbs., separately 17½ lbs., 17½ lbs., 16½ lbs. We were much pleased with the Black Ducks. They improve every year, and are now all that was desired years since.

White Geese beat the Grey and Mottled in weight—old White 55 lbs., 51 lbs.; young, 50 lbs., 40½ lbs. Old Grey, 55½ lbs., 38 lbs.; young, 45 lbs., 44 lbs.

Old Turkey cocks weighed 33 lbs., 32 lbs.; young 24 lbs., 23½ lbs. Two hens, old, 37½ lbs., 30 lbs.; young, 29 lbs., 26½ lbs. It will thus be seen that a pen as exhibited of old, containing a cock and two hens, might have been shown weighing 70½ lbs.

We were amused to find many persons during the show, speaking of the Aylesbury and Rouen as the edible Ducks, and putting the Black and the Call Ducks among the fancy birds. It is a great mistake; both these breeds are excellent for the table, the former being distinguished, even among the good ones.

The amount of money taken at the doors was £1037; the number of persons admitted, 44,583.

It was throughout a deservedly successful meeting.

DETAILS OF POULTRY SHOWS.

THE Meeting called by advertisement was held on Monday evening, November 30th, at the Acorn Hotel, Birmingham, a considerable number of poultry and Pigeon exhibitors from various parts of England being present. There were many subjects freely discussed, and several resolutions unanimously adopted. See advertisement.

The Members of the Meeting, wishing to consult the convenience of the various shows as much as possible, expressed a wish that it should be understood they do not dictate a wish that they shall adopt the regulations; at the same time they thought it would be to the advantage of all parties if they could be carried out. It was the general opinion that large shews should appoint more judges, and instead of two or three persons having to judge the same classes, assign to each of them a certain number of pens, and then it would be seen who were the most competent to arbitrate, and if mistakes were made the judge committing the error would be known. It was thought the trimming of birds was not sufficiently taken notice of by judges, and if they used their discretion more frequently in disqualifying birds it would be advantageous.

OAKHAM POULTRY SHOW.

WHEN exhibitors send valuable fowls to shows they expect that they will receive ordinary care, but the way this Show was managed is a disgrace to the Committee. Instead of the show being held in the Riding School, as exhibitors had good reason to expect, especially at this time of the year, it was held in a tent, which was blown down two days previous to the show, and the ground saturated with rain. After it was repaired the fowls were penned and kept in this cold, damp, draughty place for three days and nights—quite enough to injure them all, and make them unfit for exhibition again this season. Some of my birds arrived on Saturday morning, and the rest on Saturday night, so that it is probable they were two days without food. I think it right these facts should be known to exhibitors generally.—J. W.

DORKING POULTRY SHOW.

(From a Correspondent.)

THIS was held on the 3rd inst., in the Assembly Room, Dorking With the exception of classes for adult and chicken Coloured Dorkings the competition was confined to members of the Society only.

This Show was a decided success, being far superior to any former exhibition in that town. Its chief characteristics are that, with the exception of aquatic fowls and Turkeys, it is confined solely to Dorkings; and though the prize list is particularly liberal, it is thrown open to all England by an entrance fee of 5s. per pen, whatever number of pens may be exhibited. I believe that next year a larger building will be available, which will add to the comfort of the visitors, and provide better accommodation for the birds; and, as the entries increase every year, this will be a necessity.

The cup in the adult class was deservedly won by Dr. Campbell, and that in the young class by Mr. Gellatly. This case was the only one

in which I should demur to the judging, and here, I think, it was decidedly faulty. The cup classes contained a most beautiful collection of birds, making it by no means an easy task to select the winning birds.

The local classes also contained birds, many of which would have easily won cups a year or two back. Many birds changed hands, as the prices asked, in numerous cases, were very moderate.

DORKINGS (Coloured).—First, D. C. Campbell, M.D., Brentwood. Second, H. Humphrey, Steyning. Third, J. Ivimy, Radhill. Highly Commended, J. Elgar, Osmanthorpe Hall, Newark. Commended, E. & A. Stanford, Eatous, Steyning. **Chickens.**—First, D. Gellatly, Meigle. Second, H. Humphrey. Third, Major C. W. Calvert, Ockley Court. Highly Commended, D. C. Campbell, M.D. Commended, E. & A. Stanford.

MEMBERS ONLY.

DORKINGS (Coloured).—First, J. Ivery, Dorking. Second, E. T. Bennett, Betchworth. Third, M. Putney, Dorking. Fourth, J. Attlee, Dorking. Highly Commended, J. Ivery. Commended, H. Wias, Brockham. **Chickens.**—First, J. Ivery. Second, M. Putney. Third, E. May, Dorking. Fourth, W. Fell, Wescott. Highly Commended, J. Ivimy. Commended, J. Clift, Dorking.

DORKINGS (Blue-speckled).—Prize, W. Griffin, Westcott. **Chickens.**—Prize, W. Griffin.

DORKINGS (White).—First, T. Sherlock, Dorking. Second, W. Attlee. Third, Mrs. J. Matheson, Holmwood. Highly Commended, A. Way, Betchworth. **Chickens.**—First, G. Cubitt, M.P., Denbies. Second and Highly Commended, W. Attlee, Dorking. Third and Commended, Mrs. J. E. Matheson, Holmwood.

DORKINGS (Coloured).—**Cock.**—First, J. Ivery. Second, W. Fell. Highly Commended, M. Putney. Commended, E. May. **Hens or Pullets.**—First, J. Ivery. Second, F. May. Highly Commended, J. Clift. Commended, Major C. W. Calvert.

DORKINGS (Blue-speckled).—**Cock.**—Prize, W. Griffin. **Hens or Pullets.**—First, Withheld. Second, Major C. W. Calvert.

DORKINGS (White).—**Cock.**—Prize, W. Attlee. **Hens or Pullets.**—Prize, W. Attlee.

DUCKS (White Aylesbury).—First, J. Ivimy. Second, E. Kerrieh, Dorking. Highly Commended, W. Attlee. Commended, W. F. Watson, Dorking.

DUCKS (Any other breed).—First, J. Ivery. Second, G. Minter, Fatcham. Highly Commended, Mrs. E. Norris, Hatchford Parsonage, Cobham. Commended, Sir R. A. Glass, M.P., Ashurst, Headley.

GESE.—First, W. Attlee. Second, H. Wias.

TURKEYS.—First, Sir R. A. Glass, M.P. Second, E. Neal, Bury Hill, Dorking. Highly Commended, A. Way. Commended, Miss A. Lushington, Ockham Park.

DORKING (Fatted).—First, G. Ellis, Betchworth. Second, J. Ivory.

JUDGE.—Mr. John Wood, Westcott.

KILMARNOCK POULTRY SHOW.

The Exhibition held in the Corn Exchange, on the 23rd of November was a very successful one. The following prizes were awarded:—

SPANISH.—First and Commended, J. Crawford, sen., Beith. Second and Third, R. Blair, Kilmarnock.

DORKINGS.—First, J. Muir, Glasgow. Second, A. J. Mutter, Kilmarnock. Third, W. M. Groat, Kilmarnock.

BRAMA POOTRA.—First, A. Gibb, Ayr. Second, J. W. Taylor, Ayr. Third, A. Robertson, Kilmarnock. Commended, A. Geddes, Kilmarnock; H. Roxburgh, Galston.

SCOTCH GAES.—First, J. Fulton. Second and Third, W. Craig, Kilbirnie.

HAMBURGH (Golden-spangled).—First, R. Cunningham, Stewarton. Second, H. Currie, Ardrossan. Third, A. Gibbs. Highly Commended, and Commended, J. Jardine.

HAMBERGUS (Golden-pencilled).—First, W. Bachop, Paisley. Second, J. Armstrong, Longtown. Third, J. Smith, Stewarton. Highly Commended, J. Smith; J. Richmond, Kilmarnock.

HAMBERGUS (Silver-spangled).—First and Second, R. Mackie, Stewarton. Third, D. Skeoch, Stewarton.

HAMBERGUS (Silver-pencilled).—First, W. Bachop. Second, J. Musgrave, Longtown. Third, M. Anderson.

GAME.—First, R. Stirrat, Dalry. Second, J. Baker, Stewarton. Third, J. Hodge, Hurlford. Highly Commended, T. Mackie, Stewarton.

GAME BANTAMS.—First, J. Glass, Ayr. Second, C. Aird, Kilmarnock. Third and Highly Commended, A. Morrison, Glasgow.

BANTAMS (Black).—First, J. Robertson, Kilmarnock. Second, J. Sharp, Johnstone. Third, J. Jardine, Kilmarnock.

BANTAMS (Any other variety).—First, J. Robertson. Second, J. Jardine. Third, A. Yendall, Galston.

ANY OTHER VARIETY.—First and Second, J. Allan (Crève-Cœur). Third, J. Pollock, Busby.

DUCKS (Aylesbury).—First and Second, A. Robertson. Third, Miss J. W. Picken, Craigie.

DUCKS (Rouen).—First, Second and Third, A. Robertson.

DUCKS (Any other kind).—First and Second, J. Robertson. Third, J. Dickie, Gatehead.

SELLING CLASS.—First, J. Musgrave (Silver-pencilled Hamburgs). Second, H. Currie (Golden-spangled). Third, A. Robertson (Rouen Ducks). Highly Commended, A. J. Mutter (Dorkings); J. Robertson (Ducks).

PIGEGNS.

POUTERS (Any colour).—First and Second, J. Sharp. Third, J. McCrae, Kilmarnock. Commended, J. Glass. **Young.**—First, J. R. Adam, Ayr. Second, J. Scoular, Kilmarnock. Third, W. Douglas, Crosshouse. Highly Commended, J. Sharp. Commended, D. Munn, Kilmarnock; A. Sim, Kilmarnock.

CARRIERS.—First, J. Kerr, Kilmarnock. Second and Third, J. Muir. Highly Commended, D. Munn. Commended, A. Wardrop, Kilmarnock.

TUMBLERS (Short-faced).—First, J. Muir. Second and Third, A. Millar, Kilmarnock. Highly Commended, J. Kerr. Commended, Miss E. M. Beveridge, Ayr.

TUMBLERS (Any other kind).—First, R. Mackie. Second, W. Douglas.

Third, D. K. Mackay. Commended, A. Thomson, Knockentiber; G. Brown, Kilmarnock.

FANTAILS.—First, J. Sharp. Second, T. Wilson, Stewarton. Third, R. Blair. Commended, W. Crawford.

JACOUBINS.—First, J. Wilson, Galston. Second, A. Morrison. Third, J. Sharp. Highly Commended, A. Mitchell, Paisley. Commended, R. Gibson.

BARRS.—First and Second, J. Muir. Third, J. Sharp. Highly Commended, Miss E. M. Beveridge.

TRUMPETERS.—First, J. Muir. Second, J. Sharp. Third, J. Thompson, Bingley. Highly Commended, W. W. Beveridge. Commended, A. Wardrop.

NEWS.—First, W. W. Beveridge. Second, J. Morton, Newmilns. Third, R. Gibson. Highly Commended, J. Sharp.

COMMON.—First, C. Kerr. Second, W. McKinlay. Third, W. McCrae. Highly Commended, R. Stirrat. Commended, J. Muir.

ANY OTHER DISTINCT BREED.—First, J. Thompaon. Second, W. W. Beveridge (Turbits). T. Baird, Galston (Turbits). Highly Commended, J. Thompson. Commended, J. Sharp.

SELLING CLASS.—First, A. Millar (Pouters). Second, J. Wilson (Jacobins). Third, W. Crawford (Fantails). Highly Commended, J. Scoular (Pouters). Commended, A. Wardrop (Trumpeters); J. Sharp.

CANARIES.

CLEAN YELLOW.—**Cock.**—First, A. Kelly, Paisley. Second, T. Craig Third, J. Richmond, Kilmarnock. **Hen.**—First, R. Crawford. Second, and Third, J. Muir.

CLEAN BUFF.—**Cock.**—First and Second, R. Calderwood. Third, T. Craig. **Hen.**—First, A. Kelly. Second, W. McLuckie, Kilmarnock. Third, R. Watson.

YELLOW PIEBALD.—**Cock.**—First, G. Haddow, Corechill. Second, J. Crawford. Third, C. Aird, Kilmarnock. **Hen.**—First, A. Kelly. Second, R. Crawford. Third, J. Glasgow.

BUFF PIEBALD.—**Cock.**—First, G. Hamilton, Beith. Second, R. Stevenson, Galston. Third, W. Bryson, Darvel. **Hen.**—First, J. Fulton. Second, J. Glasgow. Third, G. McLura.

GOLDFINCH MULE (Yellow).—First, A. Wardrop. Second, J. Patoa, Gverton.

GOLDFINCH MULE (Buff).—First, J. Patoa. Second and Third, G. Goudie.

GOLDFINCH.—First, J. Crawford. Second, T. McMurtrie.

SILVER MEDAL FOR THE BEST CLEAN BIRDS.—Prize, J. Muir.

JUDGES.—*Poultry:* Robert Paton, Esq., Kilmarnock; James Stevens, Esq., Ardrossan; James Holborn, Esq., Stewarton. *Pigeons:* James Huie, Esq., Glasgow; James Paton, Esq., Stewarton. *Canaries:* John Wren, Esq., Pollokshaws; Andrew Pringle, Esq., Dalry; William Orr, Esq., Beith; John Anderson, Esq., Kilmarnock.

BELFORD CANARY SHOW.

This was held on the 2nd and 3rd inst. The following is the prize list:—

BELGIAN (Clear Yellow).—First, W. Tinlin, Galashiels. Second, G. Nicholson, Newcastle. Third, J. Robson, Beshide, Morpeth. Very Highly Commended, W. Bulmer, Stockton; J. Robson; Highly Commended, J. Baxter, Newcastle. Commended, J. Baxter; G. P. Norris, Berwick; J. Dryden, Kelso.

BELGIAN (Clear Buff).—First, W. Bulmer. Second, R. Forsythe, Edinburgh. Third, B. Gilchrist, Barnes, Berwick. Very Highly Commended, G. P. Norris. Highly Commended, C. Lugton, Hillburn, Ayrton; W. Dippie, Edinburgh; T. W. Wark, Edinburgh. Commended, G. P. Norris; W. Tinlin.

BELGIAN (Marked or Variegated, Yellow or Buff not Ticked).—First, B. Gilchrist. Second, W. Bulmer. Third, E. Hawman, Middlesbrough. Very Highly Commended, J. Bexson. Highly Commended and Commended, J. Dryden.

DON (Clear Yellow Glasgow).—First, J. Soulahy, Newcastle. Second, W. Tinlin. Third, G. Nicholson, Newcastle. Very Highly Commended, W. Crease, Edinburgh; G. Nicholson. Highly Commended, J. Kemp, Galashiels; W. Curry, Belford; W. Tinlin. Commended, J. Greenlees, Sunderland; A. Ferguson; A. Scott, Jedburgh; W. Crease.

DONS (Clear Buff Glasgow).—First, W. Alexander, Edinburgh. Second, J. Soulahy, Sunderland. Third, G. Nicholson. Very Highly Commended, W. Crease. Highly Commended, J. Murray, Belford; R. White, Westwood; J. Kemp. Commended, J. Greenlees, Sunderland.

DONS (Marked or Variegated Glasgow, Yellow or Buff not Ticked).—First, J. Ross, Edinburgh. Second, G. Greig, Edinburgh. Third, J. Cleghorn, Galashiels. Very Highly Commended, A. Ferguson; W. Dippie, Edinburgh. Highly Commended, J. Greenlees; S. H. Jeffrey, Jedburgh.

NOAWICH (Clear Yellow).—First and Highly Commended, T. & J. Irons, Northampton. Second, J. Bexson. Third, T. Carrington, Derby. Very Highly Commended, S. Tomes, Northampton; G. J. Barnesby, Derby; J. Wynn, Northampton; G. Moore, Northampton. Commended, G. J. Barnesby; J. Young.

NOAWICH (Clear Buff).—First and Second, E. Orme, Derby. Third, G. J. Barnesby. Very Highly Commended, J. Bexson; E. Coko, Derby. Highly Commended, T. & J. Irons; W. Young, Belford. Commended, E. Mills, Sunderland; J. Wynn.

NORWICH (Marked or Variegated Buff or Yellow).—First, G. Shiel, Sunderland. Second, R. L. Wallace, Berwick. Third, J. Baxter. Highly Commended, R. Hawman; J. Young; E. Orme; J. Wynn; G. Moore.

NORWICH (Variegated Yellow with Dark or Grey Crest).—First, G. Moore. Second, J. Baxter. Third, S. Tomes. Very Highly Commended, W. Blakston, Sunderland. Highly Commended, J. Wynn. Commended, J. Bexson.

NORWICH (Variegated Buff with Dark or Grey Crest).—First, S. Tomes. Second, G. Shiel. Third, J. Wynn. Very Highly Commended, G. Moore. Highly Commended, J. Young. Commended, R. L. Wallace.

NORWICH (Clear Yellow or Buff with Dark or Grey Crest).—First, J. Young. Second, J. Stainsby, Sunderland. Third, J. Wynn. Very Highly Commended, R. L. Wallace. Highly Commended, J. Stainsby; J. Baxter; J. Young. Commended, S. Tomes; G. Moore.

CINNAMON (Clear Yellow).—First, J. Wynn. Second, R. Hawman.

Third, R. L. Wallace. Very Highly Commended, S. Tomes. Highly Commended, E. Orme; S. Tomes; G. Moore. Commended, J. Statshy.

CINNAMON (Clear Buff).—First, J. Wynn. Second, G. Moore. Third, C. H. Angus. Very Highly Commended, J. Stainsby. Highly Commended, S. Tomes.

CINNAMON (Marked or Variegated Yellow or Buff).—First, J. Wynn. Second, R. L. Wallace. Third, J. Baxter. Very Highly Commended, J. Baxter; J. Wynn. Commended, R. Hawman; S. Tomes.

GOLDFINCH MULES (Marked or Variegated Yellow).—First and Very Highly Commended, G. J. Barnesby. Second, Third, and Highly Commended, J. Young. Commended, R. Paxton, Belford; T. Carrington.

GOLDFINCH MULES (Marked or Variegated Buff).—First and Third, J. Young. Second, G. J. Barnesby. Very Highly Commended, T. Carrington; G. Moore. Highly Commended, J. Robson; G. J. Barnesby; G. Shiel. Commended, J. Young; J. Robson; G. Shiel.

ANY VARIETY OF CANARY NOT BEFORE SPECIFIED (Open Class).—First, J. Baxter (Ticked Belgian). Second, T. Carrington (Silver-spangled Lizard). Third, W. Young (Ticked Norwich). Fourth, J. Jenrs, Belford (Ticked Belgian). Very Highly Commended, R. Hawman (Silver-spangled Lizard); C. Lugton (Ticked Don). Highly Commended, J. Wynn (Buff Crested Cinnamon). Commended, W. Bulmer (Ceperry); S. Tomes (Marked Crested Cinnamon); J. Wynn (Marked Crested Cinnamon).

ANY VARIETY OF CANARY (Local Class).—First, T. Humble, Belford (Buff Belgian). Second, J. Murray (Ticked Dou). Third, R. Hall, Belford (Yellow Norwich). Fourth, R. Tully, Belford (Ticked Don). Very Highly Commended, J. Jenrs (Buff Belgian); G. Richardson, Belford (London Faney). Highly Commended, W. Wear, Belford (Marked Cinnamon).

JUDGES.—For *Norwich and Cinnamon*, Mr. R. Pearson, Durham; for *Belgians, Dons, and Mules*, Mr. R. L. Wallace, Berwick.

PIGEONS AT THE BIRMINGHAM SHOW.

I MUST say that with one exception the management was all that could be desired. There is nothing of more importance in preserving the health of Pigeons in confinement than cleanliness; and delicate varieties, like the Almond and Short-faced, Owls, Toys, &c., easily acquire a fatal disease in a short time by its neglect. I regretted, therefore, to see the food of the specimens embedded in their excrements, while a liberal supply of sand would have absorbed the moisture, avoided the danger of disease, and kept the feathers clean.

In the *Almond Tumblers*, Mr. Fulton, of Deptford took all prizes; the first-prize pen were well matched, the hen better coloured than hens usually are, and both true almond ground, with good heads and carriage. The cock of the second-prize pen had the best head I ever saw on an Almond or Short-faced, but he was a year or two too old for colour; the hen, a good bird and beautiful in colour. The birds of the pen taking third were a pair of high merit. The class altogether was very good, the best point being yellow or almond ground instead of red.

In the class of *Balds and Beards* the first place was won by Mr. Fielding, of Rochdale, with a pair of Blue Beards fully deserving the honour; the second place by Mr. Fulton, with a pair of Blue Balds, the cock rather too coarse, but the hen very good; the third by Mr. Oates, of Besthorpe, Newark, with a pair of Blue Beards. The class rather good.

In the *Short-faced* class the first prize was taken by Mr. Crossley, of Elland, near Halifax, with a pair of Blacks, but I could not discover their claim to the distinction. Mr. Fulton's Red Agates were much superior in head and carriage. Mr. Fulton's Mottles also had a higher claim to the first place, for a good Mottle is a most difficult bird to breed, and the cock was decidedly a good bird. The second prize was awarded to Mr. Fulton for a pair of good Red birds, but not matching in colour. The third honour went to Mr. Ford, of London, for a nice pair of Yellow Mottles. It was a very good class.

Black Carrier Cocks.—This class was very good, Mr. Fulton again carrying off all three prizes, also the silver cup for the best Black in the Show. In my opinion the third-prize bird was the best in the class.

Black Carrier Hens were good as a class. Mr. Fulton was first with a most perfect specimen; Mr. Crossley second with a very good bird.

Dun Carrier Cocks.—Mr. Horner was first; Mr. Ord, second; and Mr. Fulton, third. I think the best bird was overlooked, it was exhibited by Mr. Fulton.

Dun Carrier Hens.—This class contained some very good birds. Mr. Fulton was again first with a grand bird, good in every point; Mr. Crossley was second with a moderate bird of rather short and thin beak, and too broad in skull. Mr. Fulton was commended for a far superior bird.

Carriers of any other colour in pairs.—This was a miserable class of only three entries. Mr. Fulton was first, and Mr. Ord, second. I believe this class ought to be divided into cocks and hens to meet with success, as many fanciers possess odd specimens in White, Silver, and Blue, but they cannot well match.

Red Pouter Cocks.—Mr. Rose, of Cransley Hall, near Kettering, was first with a very good coloured bird, but arched-backed; Mr. Balpin, of Bridgewater, was second with a good bird.

Red Pouter Hens.—Mr. Rose was again first with a good bird in every point but colour.

Blue Pouter Cocks.—Mr. A. H. Stewart, of Birmingham, was first, and also obtained the silver medal offered by Mr. Rose for the best Pouter, with a remarkably good bird, in points and colour all that could be desired, as it measured 20½ inches in length, and 7½ inches in

leg. He is the "King of the Blues." Mr. Crossley took the second prize with a good bird on inferior legs.

Blue Pouter Hens.—Mr. Crossley took the first prize with a bird rather short in leg, and with fowl thighs. Mr. Shaw, of Stainland, Halifax, was second with a fair bird.

Black Pouter Cocks.—Mr. Fulton was first with a very good bird. Mr. Heath, of Calne, was second with a good bird, but with too much white on the wings.

Black Pouter Hens.—Mr. Fulton carried off both prizes. The first-prize bird was of very good colour, in fact a grand hen.

White Pouter Cocks.—This was an exceptionally good class. Mr. Fulton was first and second. The latter bird was by far the best in the class, measuring 19½ inches in length, and 7 in leg.

White Pouter Hens.—Mr. Tegetmeier was first with a worthy hen with grand carriage, yet rather wide in legs; Mr. Fulton second with a fair bird, but rather coarse.

Pouter Cocks, Any other Colour.—The most insignificant class, and very wisely the first prize was withheld; the second went to Mr. Fulton.

Pouter Hens, Any other Colour.—Mr. Stewart carried off the first prize with a beautiful Yellow hen, good in points. Mr. Fulton was second with a very good bird.

The rather too much favour of so many classes to Pouter fanciers has not been appreciated. In the last Show there were four classes with ninety entries; while this year there are eight classes with only seventy-one entries!

Jacobins, Yellow.—Only eight pens. Mr. J. W. Edge took the first prize. The hen of this pen was splendid, but the cock rather coarse. Mr. Horner was second with a pair of good colour, but large and rather long in the head.

Jacobins, Any other Colour.—This was a rather strong class. Mr. Maynard, Ryde, Isle of Wight, was first with good Reds. Mr. Roys, Greenhill, Rochdale, was second with good Blacks, in caps and frills excellent, but foul in flights.

Barbs, Black.—Mr. Crossley was first with a fair pair; Mr. Charnley, of Preston, second. The third prize was most deservedly withheld, as this was the most unworthy class.

Barbs, Any other Colour.—Mr. Charnley was first with a good pair of Duns; Mr. Horner was second with Reds. Mr. Firth showed a pair of very good Yellows, the best in the class, but sadly out of condition, and to make them worse they were abundantly supplied with hempseed. The two classes last year numbered twenty-seven good pens, this year only nine pens! Are the fanciers of this beautiful variety getting weak?

Fantails, White.—This was a large and good class, numbering twenty-four pens. Mr. J. W. Edge, of Birmingham, occupied the most prominent position. He took the first prize and the silver cup for a pair of exquisite birds with very expansive fans, starting as it were from the extremity of the hackle, and possessing a great number of feathers. Mr. Yardley, of Birmingham, was next with a remarkably good pair. Another pair of his birds were highly commended. It would puzzle many judges to decide which should have the next place; however, Mr. Park, of Melrose, was third with a very good pen. The awards in this class must be very satisfactory to all who understand what a good Fantail should be.

Fantails, Any other Colour.—In this class also the two first places were assigned to the same exhibitors, Mr. J. W. Edge again being first with a very excellent and well-matched pair of Blues, which though fairly entitled to the first place had two slight defects, and if these could be remedied they would be perfect specimens—viz., in each bird in this pen the four primary tertials were missing, which, of course, detracted from their appearance. The birds had also yellow eyes, and although to many fanciers they may be no detriment, yet most will admit that the pearlsh-coloured eye is preferable. Some few were to be found in this class which could lay claim to the name of both Black and Blue; in fact, they would not be misnamed if they were called Chequers.

Trumpeters, Mottled.—Six entries formed this class, and, of course, it was not so well represented as so interesting and prolific a variety would warrant us to expect. Mr. Horner, Harewood, Leeds, was first with a good, large-sized, and well-muffed pair, but not well matched, the hen having much more white on her than her mate, which was a good-coloured bird. Mr. Firth was second.

Trumpeters, Any other Colour.—Mr. Oates was first with a really splendid pair of Whites. All the points that constituted a good pair of White Trumpeters were embodied in that pair. Mr. Shaw showed a very good pair of birds, which were not noticed for some reason which I cannot trace, unless the birds proved defective in band. Mr. Firth was second; Mr. Balpin, third. This was a fair class.

Dragoons, Blue.—Only nine entries, which, taken together, were good. Mr. Crossley was first with his very nice pair of Blues, which are, undoubtedly, very good birds, but are now becoming too "heavy" in wattle and coarse in skull to hold their ground much longer. In this class Mr. Ludlow and Mr. Percival showed a pen each, either of which ought unquestionably to be placed second, in lieu of those of Mr. Shaw, which were much inferior, one bird being white upon the back, the other dark, which difference, together with general character, has been overlooked.

Dragoons, Red or Yellow.—These were represented by some very superior birds, those of Mr. Balpin, which took the first place, being the most beautiful Dragoons of a uniform colour I ever saw, and fully

deserving the position they held, and, with good judges, will be difficult to beat anywhere. Mr. Ludlow was second with birds of a very good rich colour, and they fully merited the position allotted them. There were only two pens of Reds, both of which were bluish down the thighs and back. They are very difficult to procure of a good red colour throughout. It was a good class.

Dragoons, Any other colour.—In this class of eleven entries, Mr. Porcival was justly first, with a very beautiful pair of Silvers. They were, indeed, handsome, and I believe were sold easily. They were very straight in head, compact in form, beautiful in colour, and in all respects a pair of Dragons. Mr. Horner was second with a pair of Whites, sadly too coarse in head, and heavy in wattle, but in good condition, and looking quite at home in a pen. Mr. Ludlow and Mr. Allsop showed some very nice specimens—the former a pair of Whites, but rather soiled, the latter a very good pair of Silvers, the hen a little too dark for the cock.

Antwerps.—This large class, numbering twenty-eight entries, was not quite so good as has been brought into competition in this Show, although some are all that can be desired. It was evident that the best pair had been passed, being out of condition, but there were others also, which, according to the general standard, were unnoticed, but merited prizes more than the two pens to which these honours were awarded, and this is partly acknowledged by the exhibitors. The first-prize birds, Blue Chequers, of Mr. Yardley's, did not match in colour, and the cock was rather an inferior bird. The second-prize Duns, Mr. Yardley's, deserved their place. The third prize was given to a pair of Duns, which were not nearly so good in any respect but that they matched in style better than several other pens—namely, one pair of Duns exhibited by Mr. Taylor, and two pairs of Dun Chequers exhibited by Mr. Taylor and Mr. Noyé. This class has successively proved large enough to be in future divided into two classes—viz., Blue, and Blue Chequers; Dun, and Dun Chequers. Competition would increase, and the extra prizes recompense the care and attention bestowed so widely on such valuable birds.

Nuns.—The first prize went to Mr. Bulpin, Bridgewater, Somerset; the second and third to Mr. Banks, Runcorn, Cheshire. The second-prize pen to all appearance should have been placed higher.

Turbits, Red or Yellow.—First, Mr. Horner; second and third, Mr. Shaw—most deserving.

Turbits, Any other Colour.—First, Mr. Bulpin, Blue; second, Mr. Horner, Silver. Mr. J. Thompson, Bingley, Yorkshire, showed a pair of Blacks which were much more attractive than the second-prize Silvers.

Owls, Foreign.—First and second, Mr. Fielding, jun.; the first Blues, the second Whites. The second, with the exception of size, are superior to the first in head.

English Owls.—First, Mr. Bulpin; second, Mr. Watts, of King's Heath, Birmingham—well merited. I trust to see the last two classes a little stranger, as they are most worthy of attention.

Archangels.—First, Mr. Edge; second, Mr. Bulpin. Pen 2700, belonging to Mr. Yardley, I believe was the best in the class, as the birds in the prize pens were rather bronzed on the wings, unless this is a fashionably introduced pen.

Swallows.—First, second, and third, Mr. H. Paget, Birstall, Leicestershire. The first, a beautiful pair of Reds, found more than one customer, and were easily sold by auction for £6 15s., though entered for £5.

Runts.—First and second, Mr. Green, Saffron Walden, Essex; third, Mr. Yardley, worthily awarded by weight.

Any other Variety.—The pet class of visitors. In this Mr. Noyé, Birmingham, took the first with Satinets, pronounced by one of the Judges to be the prettiest pen in the Show. Evidently I was not mistaken when I wrote in this Journal that they had tired the old judges in awarding prizes to this variety. Equal first, Mr. Draycott, Humberstone, near Leicester—Fribbacks, a very good pair. The three second prizes went to Mr. Draycott, Mr. Yardley, and Mr. Paget, for birds all of the Ice-Toy stamp, or the same character of birds in different colours. The three third prizes were won by Mr. W. Banks, of Runcorn, Cheshire; Mr. Horner, Leeds; and Mr. Yardley; the two again of the German "chance variety;" and the other a pair of Labores, by Mr. Banks, which were rather out of place, as there was a pen of Dots shown by Mr. Baily, jun., also a pen of Rassins by Mr. Leder, far prettier.

In concluding my remarks, I must say that the duties of the Judges were rather too heavy, and I wonder how the three managed with 120 pens more than last year, especially those of Messrs. Ridpath and Esquilant, as Mr. Harrison Weir and Dr. Cottle only judged the Almond Tumblers, the Carriers, and the Ponters, and the first two gentlemen all the other classes. I should like to know who thus arranged the work, and why Messrs. Weir and Cottle did not undertake also the Dragons, and the Short-faced classes, including Balts and Beards. However, this greatest of English shows has made an acquisition in the services of the two newly-appointed Judges, Messrs. Ridpath and Esquilant, and they have been most justly severe in disqualifying, which will do much good to future shows.—A FOREIGNER.

[We have received letters from Mr. Barnes, and others, all agreeing in praising the judgment displayed in assigning the prizes, and the firmness in disqualifying birds that were either coloured or not paired. There were, of course, some oversights, despite the acknowledged vigilance of the Judges.—Eps.]

ARTIFICES OF THE PIGEON EXHIBITORS AT THE BIRMINGHAM SHOW.

ONE would have thought after what has been said and written in this Journal about the artifices that exhibitors of Pigeons use to obtain prizes at the various shows, that they would have taken the hint that has been put forth as regards the birds shown not being pairs, and also the handiwork displayed in trimming and colouring or dyeing the birds sent. But no! With an impertinence that is truly astounding they still persist in sending their two hens or two cocks, with the hope that they will delude the judges and they gain the award of merit; but the various and numerous cards of disqualification nailed above the pens at Birmingham this time prove that the judges are determined as far as possible to put a stop to such unfair practices, and to hold up the names of such as adopt them to the scorn of worthier exhibitors.

A man may be deceived with regard to a cock or hen bird, but there can be no excuse for dyeing or colouring a pen of birds. This is wilful, and evidently done with unjust motives, and is paltry and despicable. Yet such was the case with two Black Mottle Pouters exhibited by Mr. Stewart, of Birmingham, the black apparently coming off freely on to the white feathers of the birds. Happily the Judges instantly detected the artifice, and they were at once disqualified. But I do not think the matter ought to end here. I would have it that such exhibitor should be excluded from ever exhibiting again at Birmingham, and that he should be debarred from taking any prize at the then existing Show; and I sincerely trust that such a rule will be found amongst the other wise and prudent precautions already laid down by the Council to insure justice and fair play for every one; and I would further carry such rule, that in the event of birds dyed or otherwise coloured getting past the observation of the judges, that such birds should still be disqualified if so proved before the termination of the show.

I think all real fanciers will join heartily in this proposal, as at least one step in the right direction to protect the exhibitor who exhibits fairly.

I had hoped to have seen some notice taken of these matters in the last week's impression; but have no doubt that this week many, like myself, will express their opinions as freely as I have done, and with the same determination to try and put a stop to such unfair practices—I might use a stronger term.—CENSOR.

[We need scarcely say that we will do all in our power to put an end to these disreputable proceedings; and we are rejoiced that so competent and independent a judge as is "CENSOR" has issued this warning.—Eps.]

LARGE HIVES.

WHEN I introduced to the notice of the readers of THE JOURNAL OF HORTICULTURE the subject and the superiority of large hives, I deemed it wise to allude to the Stewarton hive and Neighbour's cottage hive. I did so with a view to give the reader a correct idea of what I meant by large and small hives, and incidentally to give the manufacturers of these hives a hint as to the desirability of enlarging their sizes. I did so with some hesitation, fearing that my remarks might be taken in a sense not meant by me.

A gentleman signing himself "A LANARKSHIRE BEE-KEEPER," has appeared in your pages, not only in defence of the Stewarton hive in its present size, but in bold antagonism to large stock hives; I am sorry he has not given his name and address, for I have a growing dislike to notice controversial remarks from gentlemen who withhold their names. As his criticisms may possibly influence a few readers not remarkable for close and accurate thinking, I will now try to guard them against being misled, by reviewing my reviewer.

After wisely passing over my remarks condemnatory of all hives made of wood, the "LANARKSHIRE BEE-KEEPER" comes to the question of large and small hives, and ventures to say that the disadvantage is greatly on the side of the large one in spring, owing, he says, "to the bees occupying only a small part of the hive in comparison with its size." It grieves me exceedingly to see a man, especially a Lanarkshire man, make statements he cannot substantiate. How does he know that large hives in the spring months are comparatively small in population, and without sufficient warmth to hatch the brood? I have never found such things happen in large hives under

good management. Another statement our friend makes is this, that the waste of eggs in a large hive is greater than in a small one, a statement so extraordinary and extravagant that I fancy it will be difficult to find another person, either north or south of the Tweed, who will believe it.

Again, he would have us believe that the Stewarton hive is large enough to hold some honey and pollen, and 63,000 cells for brood—that is to say “3000 eggs per day.” In my advocacy of large hives I have never gone so far as this “LANARKSHIRE BEE-KEEPER.” If he will satisfy me that there are deposited 3000 eggs in empty cells every day in a Stewarton hive, and 3000 bees produced every day, or room for them, I shall never again condemn this hive on account of its smallness. With an eye of honest scrutiny I cannot understand what induces this gentleman to go beyond the bounds of reason and possibility in his commendation of the Stewarton hive. Evidently he manages bees on the non-swarming system, whereas we go strongly for the swarming system of management where profit and a continuance of success are aimed at.

Will the reader just notice what happens where large hives are well managed and allowed to swarm? Very often each hive yields two swarms, but in a run of years three swarms from two hives will be about the average. In a moderately favourable year for prosperity the two stock hives and their three swarms will have 40,000 bees each at the end of the season—200,000 altogether. In the case of large hives each swarm is more populous than a smaller hive managed on the non-swarming system; very well, now suppose we take the honey from three of these five hives, and put their bees—120,000 in number—into the two selected for stock, what do we obtain? Two hives more than double the strength of those which have had no additions of bees. Such hives are neither cold in spring, nor are the bees slow to cover their combs. In 1867 I had only twelve swarms in September to divide amongst twenty-four hives, from these I had twenty swarms in May; and in June, 1868, one of the largest bee-keepers in Lancashire told me that no honey could be obtained here if hives were allowed to swarm, yet my swarms yield twice as much honey as his that are not allowed to swarm.

I am quite sure if my readers will adopt larger hives and manage them well, they will have no sympathy with the “LANARKSHIRE BEE-KEEPER,” when he expresses his detestation of large hives. I have both large and small hives in my garden; the small ones help me to increase the number of my hives, the large ones yield me profit. By-and-by I shall be able to work in an apiary every way excellent, and then the small castaways will be occasionally used for supers.

I am of opinion that if this advocate of the Stewarton hive had been in Manchester in the months of September and October last, to witness a number of Irishmen hawking, day after day, great dishes of pure honeycomb in large cakes, 12 inches square, cut out of large hives, he would hesitate before he again ventured to speak publicly of his detesting the use of large hives. Much of this comb brought from Ireland could not be surpassed for excellence, and generally realised 1s. 9d. per lb.

The “LANARKSHIRE BEE-KEEPER” says, if I would adopt and only half-manage the Stewarton hives, I would “find them very profitable, and be able to send to the market first-class honey, whilst the inferior which we now produce would gradually disappear.” This is rather too strong, and so is the following quotation:—“I would emphatically state that the whole world has not yet produced in quantity and quality honey equal to that obtained from the Stewarton hive.” I should fancy this expression of wild enthusiasm would have no more weight with thinking men than the sigh of a butterfly in love. As it is my intention to visit Lanarkshire next year in July, and stay fourteen days there, I earnestly hope that this gentleman will let me have his address, and permission to visit his bee garden; and if I find there what he talks about—results so prodigious that hives which took two men to lift have given place to the Stewarton hive, I can assure him that I will use what little influence I possess to bring it speedily into repute. At present I have no faith in the worth of wooden hives—no faith in the present size of the Stewarton hive, and, I regret to say, less faith in the recommendation he has given of it.

The “LANARKSHIRE BEE-KEEPER” has in one instance, perhaps unintentionally, misrepresented my meaning. He makes it that Mr. Pettigrew says if these Stewarton hives were “properly managed, much more honey would be obtained.” I never dreamed of such a thing. My words are “If these hives were twice as large and properly managed,” &c. His remark

about “the inferior run honey of large hives gradually disappearing” is another bold stroke. The markets of Great Britain demand ten times more run honey than honeycomb, and while this demand lasts bees will be managed so far as to produce it.—A. PETTIGREW, *Brighton Grove, Manchester.*

GREAT MEETING OF GERMAN BEE-MASTERS HELD AT DARMSTADT.—SEPT. 8TH, 9TH, & 10TH.

THESE meetings of bee-masters held periodically in one after another of the principal towns of Germany, show what a point bee-keeping has reached in that country, and are most interesting as well as advantageous in their results. The meeting which was held this year at Darmstadt, the capital of the Grand Duchy of Hesse, was attended by a large number of the celebrities of German bee-keeping. Some well-known names, including Baron von Berlepsch (who is suffering from a stroke of paralysis, but growing better), are missed from the list, but still a meeting attended by such men as Dzierzon, Von Hruschka (the inventor of the centrifugal comb-emptying machine), Vogel (introducer of the Egyptian bee to Germany), Dathé, Koehler, Professor Leuckart, of Giessen, perhaps the first authority of the day on the natural history of the bee, a Greek Priest from Croatia, Marchesi Crivelli, the great reformer in Italian bee-keeping, from Milan, to say nothing of many others more or less known, from all parts of Germany, and several from France, could not fail to be interesting. Great facilities were also afforded by the fact, that almost every railway company in Germany and Austria conveyed bee-keepers or other visitors to the meeting, as well as articles for exhibition, at fares generally 50 per cent. or more reduced.

The first day of the meeting was Sept. 8th, and at half-past ten the President, His Excellency Herr von Berchthold, opened the proceedings, by welcoming the visitors in the name of H.R.H. the Grand Duke, who had placed his orangery and adjoining grounds at the disposal of the meeting, and addressed the assembly in a short speech, followed by two other addresses by the Mayors of Darmstadt and Bessungen.

The President then read out the rules for guiding the speakers, and the real business of the day was commenced by a speech by Professor Leuckart, enforcing first of all the necessity of learning theory as well as practice, in order to become a successful apiarian. He then proceeded to notice the points of similarity and difference in their habits between hive bees, wasps, ants, and humble bees, dwelling especially upon the extraordinary fertility of the queen bee.

The first subject upon the programme then came on for discussion. “1, What is the cause of the difference of size in queen bees? 2, Are the larger queens to be preferred to the small, and why? 3, Is it in the bee-master’s power to insure the production of large queens?”

These questions had been proposed by Dzierzon, who ascended the speaker’s platform amidst a storm of applause. The substance of his remarks was: 1, That the difference in size is caused by difference in food during development, and depends, therefore, much upon whether the queens be bred during the time when there is abundance of pollen or not, pollen being, in fact, the element of their food which is of most importance in this respect. 2, That although smaller queens are, often at least, as fruitful as large ones, yet that the advantages of size in other respects are great, as, for instance, if the queen is to be caught, and especially because experience has shown that large queens are annually impregnated in a much shorter time than small ones, a difference sometimes, especially in cool weather, being observed of ten days. The third question is answered mainly in the remarks on the first, merely adding, that the fewer queens that are being bred at once by one stock, the larger they are likely to be.

Dr. Pollmann, from Bonn, thought that the difference in size depended much on the age of the grubs in the case of artificially-bred queens, for that a grub which had been fed four or five days with common food, could not develop to the same size as if it had all along enjoyed royal food; and also on the fact that the egg naturally destined to become a queen is kept warmer at the first than other eggs. As every bee-keeper will allow, large queens must be stronger than small ones, and to produce large queens we must always take care to commence with the egg at as early a stage as possible.

The second subject came then in order. “What is the result of all that has appeared in the ‘Bee Journal’ during the last year upon foul brood?”

This question had been proposed by Baron von Berlepsch, and, owing probably to his absence, the discussion assumed a somewhat desultory character. The substance, however, was much as follows—Dr. Preuss, a scientific microscopist of some authority, and an experienced bee-keeper, and Professor Leuckart, unhesitatingly attribute the worst kind of foul brood to the presence of a microscopic fungus, similar, probably, to the one affecting the silkworm in North Italy. It was also remarked that foul brood had much increased since the introduction of the Italian bee. The fungoid theory was also supported by some of the non-scientific bee-masters present, as affording a satisfactory explanation of many of the details connected with foul brood.

Professor Leuckart thought it probable that the eggs (but, of course, only in the worst cases) contained already the germs of the disease, an opinion which was opposed by those who alleged cases where they had saved the queens of condemned stocks, which had afterwards always produced a healthy succession.

Upon the question how to deal with foul brood, the opinion was almost general, that the stocks, some said the hives too, must be destroyed. Others, again, and amongst them no mean authorities, maintained that they had cured foul brood by a process recommended by the Rev. Mr. Schieberle, of Moravia, at the meeting of German bee-masters held at Brünn, in September, 1865.* It seemed also probable, that in many cases foul brood arose from feeding bees with the impure honey imported from Havana and other places. The next question on the programme was—

“Whether foul brood is a result of using hives with moveable combs, and not rather of imprudence when giving them drink in winter?” Unfortunately Mr. Kleine, whose question this was, was detained at home by domestic affliction; but in his stead Mr. Dzierzon remarked, that though, doubtless, in the hands of inexperienced and incompetent bee-keepers, the system of moveable combs had its dangers, yet, as a matter of fact, it was the easiest, if not the only means of discovering foul brood and overcoming it. He could not understand the meaning of the second half of the question, and had no idea what could be passing in Mr. Kleine's mind to make him connect foul brood with giving bees drink in winter.

Dr. Busch remarked that, possibly Mr. Kleine had formed his opinion from some scientific articles which had appeared in the Hanoverian Bee Journal of which he is the editor. A Mr. Lambrecht had there made known the results of various chemical investigations, which had induced him to attribute foul brood to the bees feeding upon pollen which had been wetted and in consequence had fermented.

The next question discussed concerned some details in the construction of hives (first introduced by Dzierzon), with moveable combs, and since used with but slight modifications throughout Germany. We may pass this by as having little interest for English bee-keepers.

After this followed the question:—“Whether there are localities so absolutely unfitted for keeping bees, that in spite of all the experience and pains of the bee-master, the best stocks, if moved thither, die off in a short time?”

The only speaker to this question proved that bee-keeping might be impossible in some localities owing to neighbours poisoning the bees. After keeping bees successfully for forty years, he had, owing to the diabolical behaviour of a neighbouring manufacturer, lost in four years the whole of his bees, above £100 in value.

This led naturally to the question next in order, only interesting to Germany, as to the desirability of some laws as to bee-keeping.

After this Mr. Dzierzon spoke to one of his own suggestions—1st, “At what age do young bees first leave the hive and first gather honey?” 2nd, Would it be advisable, without reference to wintering, to hinder the breeding of bees which cannot gather any honey in the current season?”

Mr. Dzierzon remarked, that he had been induced to suggest this question in consequence of statements in Baron von Berlepsch's new edition of his bee book, in which it is stated that young bees begin first to gather honey in about thirty-five days, and that, consequently, it is advisable to prevent the increase of brood from about thirty-five days before the end of the honey season. Dzierzon believes that a young bee may leave the hive when three days old, or remain at home for as

many months, so that no precise number of days can be given. If there are plenty of workers, young bees would remain longer at home; if there were few old bees, as when a hive has been moved, the young bees would gather sooner. This he could assert from experience. And the second suggestion was grounded upon a mistake, for the activity of bees depends very much upon the amount of brood. If, therefore, for the last thirty-five days they had but little or no brood, they would gather comparatively less honey.

Mr. Vogel had seen young bees, after careful observation, come out of their hives when six or seven days old, but only in isolated cases. As a rule the eighth or ninth day would be the earliest, and dependent also upon circumstances of temperature, wind, strength of the stock, &c. Young bees do not gather honey till sixteen days old, as is proved by the fact that they starve under that age if left in a hive without honey or older workers. He agrees, therefore, on the whole with von Berlepsch as regards the first part of the question. As regards the second half, Dzierzon has not understood von Berlepsch, who does not say that one should not suffer any brood after a certain time, but that one should not suffer unnecessary brood, a mistake often made by beginners. And von Berlepsch's remarks are intended for places with very short honey harvests.

Mr. Köhler agreed with the last speaker, and remarked in addition, that the question how old the bee is when she first leaves the hive had a very important bearing upon the question of uniting weak stocks for the winter, an operation which he thought was usually undertaken too late in the year. It should be done before, and not after, the end of the honey harvest.

The next question on the list was “Whether it be possible to hinder drone brood in hives with moveable combs without having recourse to the old method of cutting out drone combs?”

Mr. Dathe was of opinion that it was better not to let the bees build drone cells, by filling up any empty space in the breeding room of the hive with worker comb so soon as the bees begin drone cells. To suffer bees to build drone combs, and then to cut them out involves a great waste of honey, and a great loss of time for the bees, who build drone cells over and over again. By filling up the gaps, we should probably have young bees in the same space where, but for this, we should still be cutting out drone comb. Further, the bee-keeper saves himself the time and trouble he would otherwise necessarily have to devote to examining his hives, and cutting out the drone cells. Of course in the space devoted to honey the bees may build as much drone comb as they please. The speaker had for eight years allowed no drone brood where he did not wish it, and this without any cutting-out. For this purpose it is necessary, 1, That there should be a division between the brood room and honey room, so long as the bees wish to build drone cells. 2, The bees must not be allowed to build in the breeding space after they cease to build worker cells. 3, In spite of all care, some drone cells are sometimes built in the breeding space. These should be at once removed to the honey division, using in fact for this part of the hive all the drone cells one can bring together.

The speaker then added. 1, That worker comb should never be destroyed, but either kept for feeding the bees if necessary, or, 2, Emptied by means of the centrifugal machine, and the empty comb used again. 3, Every means possible should be employed to secure a good store of worker comb from artificial swarms, late swarms, &c., and others which cannot be wintered. 4, We can compel any hive to build worker comb by reducing it to the condition of a swarm—i.e., by taking out nearly all the combs. 5, We may take out all perfect combs from a hive with a young queen, the bees will then build worker cells. 6, and lastly, When compelled we may use artificial comb foundations. These conclusions were supported by Messrs. Hopf and Huber; the latter also suggested that it would often be a good plan to remove the old queen with the drone combs in order that the bees having then a young queen might build worker cells, but it should not be forgotten that till the young queen is ready to lay, only drone cells would be built if the bees were allowed access to empty breeding space.

The proceedings of the first day were then concluded with a few words from the President, and the appointment of judges for articles exhibited.

NEW AND OLD BOOKS.

Peter Parley's Annual, 1869. London: Den. George.

We are not about to lecture upon the wondrous alteration for the better that has occurred within the last quarter of a

* We shall give a description of Mr. Schieberle's mode of curing foul brood in an early number.—Eds. J. or H.

century in books for the juveniles of this and other lands. Among them none excels, in combining the amusing and beneficial, "Peter Parley's Annual," and we commend it to all who purpose giving a Christmas or New-year's gift to their own or their friend's "boy." But we should not have felt justified in noticing it if it had not contained a chapter "About Pigeons," and several chapters about "A Wonderful Little People." Now, these "little people" are bees, and it so happened that when "Peter Parley's Annual" was placed on our desk we were turning over the leaves of a book about the same "wonderful little people," but it is a book nearly three hundred years old. The information about bees in "Peter Parley's Annual" is good, because derived from Langstroth, the American apiarian, yet the old volume contains good information too, and is so quaint and suggestive of the style of bee-lore in the reign of Queen Elizabeth, that we must print a few extracts. It is entitled, "A Treatise concerning the right use and ordering of Bees: newlie made and set forth, according to the authors owne experience (which by any heretofore hath not been done). By Edmund Southerne, Gent.

Better late than never.

Imprinted at London by Thomas Orwin for Thomas Woodcocke, dwelling in Paules Churchyard at the signe of the blacke Beare. 1593."

The dedication is to "The right worshipfull Mistres Margaret Astley, wife to John Astley Esquier, Master and Treasurer of her Majestie's Jewels and Plate, and Gentleman of her Highnesse Privie Chamber," and reminds his patroness that he had studied bees during "fourteene yeares," and that she had "had some triall of his skill."

He goes on to say, "If you lay out ten pence for two hives about the beginning of June, and put therein two swarmes, they can be no lesse worth than ten shillings, and your hives againe, before Bartholomewtide following. Then judge what gaines after that rate there would arise, if a man had but 40 stocks (or stalles) as some tearme them: for if you have 40 stalles at the beginning of spring, there is no doubt their increase will be 40 more before Bartholomewtide following, whis is in al 80, and then you may sell 40 and keepe 40 for increase, which 40 so sold will yeeld no less than 40 crownes, with your hives againe."

Bees, he states, "Never settle on Elder or Ewe" (Yew). The hive's aspect should be S., S.W., or W.

"The best time is to have your hives made about Christmas, for then you may have them better cheape, and straw is best in season, and the bryers that they bind them withall are then strongest, and will indure the longer, but in any wise let not your hives be above 15 or 16 rolles at most, both of great and small; but if your hives be made of twigges, as in some countries they use, so they containe not above halfe a bushel a peece, it is enough."

To prove that great hives cannot be profitable "when they should breed bees, they are busied filling their hives, for untill the hives be full of combes they will not swarme."

"To dresse hives before you put in Bees pryne and cut away all litle tickling straws." "Spray your hive" with six sticks at different heights, "for staying the combes—and sprinkle the inside with a litle honey and water."

"To place your Bees where they have the sun longest, hole towards the south, for that the south wind never bloweth so cold as other winds." Stocks to be "at the least three foete asunder," and far from bells and noises.

"Yong bees come to full perfection in 15 daies at the uttermost." Honey cells and brood cells are alternately; the young bees are fed on honey; though not sure, he does not deny that the bees "sit upon the eggs."

"One M. Hill of London in his book intituled 'The Gardeners Labyrinth,' sheweth the manner how Drones should be killed." "It is a great folly," "for although the drones labour not abroade, yet that which the other bees bring home, they doe both helpe to worke into combes, and also to unloade the bees of their burthens." Bees kill them "when they thinke good." "Drones do breed."

In swarming time "hold up the stocks to facilitate their egress—never sting them, nor fly away." "When the swarme is up it is not good to ring them, as some doe; nay, it is a common thing where there is no experience, to keepe a stirre and lay on either with a bason, kettle, or frying-pan, taking great paines, and having litle thanks, for by such meanes they make the bees angrie and goe further to settle." He thought the drones led the swarm, "for if there should a master bee to forth with the swarme, who shall rule the old stocke? Then

thou wilt say, there is a master bee for the stocke and another for the swarme; then it is not likely there is a king, for that love and principalitie like no equalitie."

He adds a story about the vicar of "Honeyborne, within the Vale of Evesham in Worcestershire," dividing two swarms that had joined, giving one to each of two neighbours, but the swarms united again next day.

"It is not good to have more than one swarme of a hive; otherwise both the old stocke and the second swarme are weak. Raise the stocke upon three bricks to prevent a second swarme, but take the bricks away at Bartholomewtide."

"The signe to know when the Bees will swarme," is that "You shall heare one Bee make a noyse as if it were the sound of a litle bugle horne in the summer evenings."

To know whether your Bees will live or die. "About Bartholomewtide poyse every stocke between your hands, and so many as to your judgement weigh above 23 or 21 pounds, you may be sure will live all that winter following." Allow 6 lbs. for hive, 3 lbs. for wax, 13 lbs. for honey, "which is about five quarters."

"At Bartholomewtide clean the floor board, and plaster the hive to it. Stop the entrance all winter, except a quill to admit air. In the spring clean the floor board about 21st of March, and open the entrance."

OUR LETTER BOX.

USEFUL CROSS WITH DORKINGS (H. A.).—We should run a Brahma cock with Dorking hens to insure such qualities as you desire. It is by far the best for those who wish to keep only one breed. The greatest layers are non-sitters, and it is a mistake to mate them with birds that perform all the duties of breeders.

BLACK OATS AS FOOD (E. A. S.).—Yes, but the fowls will not take them as readily at first.

USEFUL FOWLS, GEESSE, AND DUCKS (A Subscriber).—We recommend you as we have done above, to cross between a Brahma and Dorking. You will only supply your table with eggs in the winter by keeping pullets of the proper age for laying. It is not the province of any particular breed to lay in the winter. After they have once laid and sat, they fall into the natural groove, and breed in the natural season. This is neither December nor January. The Toulouse Geese are the largest and most prolific, but they are non-sitters. Rouen are very good Ducks, being large and prolific.

FOOD FOR POULTRY (J. S. C.).—No food is better for fowls than ground oats. The mixture of potatoes is bad. Potatoes are bad food for poultry. They make fat, and they induce disease of the liver, but they make neither bone nor flesh. The way in which fowls will starve on barley is this: If they were put in a place where there was no scratch, no dust, gravel, grass, or dirt—nothing but a painfully clean flooring, and they were fed on whole barley only, they would after a time starve on it. Ground oats, varied at times with barley or Indian meal, kitchen scraps, and crusts—if they have no grass run, large sods of growing grass, cut with plenty of earth—and refuse vegetables, especially lettuces, form a good and wholesome dietary.

FOOD FOR PIGEONS (Ignoramus).—Chicken rice would do for your Pigeons as part of their food, but never give it alone day after day. Indian corn is excellent; oats we do not recommend. The rice and Indian corn are not to be cooked or soaked, but you may crush the latter if you keep very small Tumblers. To keep Pigeons in health vary their food.

ARTIFICIAL HEAT FOR PIGEON HOUSES (Birkenhead).—We never knew or heard of Pigeon houses being warmed by artificial heat. If your wooden erections are backed by a good wall, and all cold draughts of air excluded by the boards being well joined together, no heat will be needed. Reed or straw is sometimes laid inside the woodwork, and well plastered over, and a skirting of bricks used at the bottom. These are excellent plans, as we can speak from experience, and the Pigeons have done well in such houses. In very cold weather feed your birds extra well, adding hempseed.

CANKER IN PIGEONS (E. D.).—You most likely bought a diseased bird, and that gave the canker to your others. Remove very carefully the lumps, and apply caustic. This must be done thoroughly. Canker is supposed to come from confinement, want of condiments, or drinking dirty water, and is infectious.

VULTURE-HOCKED COCHIN-CHINAS—BREEDING AGE OF HENS (Lemon Buff).—Vulture hocks are always hereditary, whether from cock or hen, and we strongly advise you not to breed from such. You may breed from Cochin hens up to four years old. They will breed longer, but not profitably, as they fill the room of younger birds. As at four years they will have lost their beauty, it is well to be sure they once had it.

BERKSHIRE HIVE (J. N. B. P.).—We have published drawings and a description of this hive, and the favourable opinions of those who have used it. If you write to the maker he will give you fuller information.

VARIOSA (C. A. J.).—The dwindling of the population of your stock was doubtless owing to the loss of its queen, a mistake which is very likely to arise in bee houses from young queens mistaking their hives on their return from their wedding flights. The bit of comb which you sent appeared perfectly healthy. The particle of greenish yellow matter seems to be thickened and nearly dried-up honey. The white stuff is a little mildew, and the minute creatures are common Acari or mites.

BASKET-MAKING (R. T. C.).—A correspondent asks for the name of any manual for teaching the art of basket-making. There are many hours when boys and men in country villages could profitably employ their time in the manufacture of baskets, wicker protections for plants such as those described by Mrs. London, &c., and he would willingly assist in poor neighbours in adding this to their scanty means of earning a livelihood. He also wishes to be informed what is the best way of purchasing osiers, and at about what rate they are to be had. Any of our readers will oblige us by answering these queries.

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 17—23, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock after Sun.	Day of Year	
			Day.	Night.	Mean.		Days.	m.	h.	m.	h.	m.	h.	m.				h.	Days.	m.	s.
17	Th	Meeting of Linnean Society, 8 P.M.	45.7	33.4	39.6	19	3	48	51	43	20	10	22	47	3	3	24	352
18	F		44.9	32.6	38.7	19	4	8	51	3	53	10	24	8	4	2	55	353
19	S	Royal Horticultural Society, Promenade.	42.7	32.7	37.7	16	5	8	51	3	21	11	27	9	5	3	25	354
20	Sun	4 SUNDAY IN ADVENT.	44.2	33.7	38.9	15	6	8	52	3	44	11	30	10	6	1	55	355
21	M	St. Thomas. Shortest Day.	43.5	34.7	38.6	15	7	8	52	3	after.	85	11	7	1	25	356	
22	Tu		44.5	32.6	38.5	20	7	8	53	3	29	0	morn.	7	0	55	357	
23	W		44.0	31.9	38.0	20	7	8	53	3	59	0	33	0	9	0	25	358

From observations taken near London during the last forty-one years, the average day temperature of the week is 44.2°; and its night temperature 32.9°. The greatest heat was 53°, on the 18th, 1865; and the lowest cold 17°, on the 19th, 1859. The greatest fall of rain was 1.13 inch.

CUCUMBER CULTURE.—No. 1.



It is generally considered that the Cucumber is a native of the warmer countries of Asia. It was cultivated in Egypt at a very early period, but whether indigenous to that country or to any part of Africa does not appear in any work I have had access to. We find the Cucumber largely grown at Rome for the table of the Emperor Tiberius, and artificially brought forward or cultivated, so as to furnish fruit throughout the year. The means

were not very different from those now employed in this country. Frames were used, filled with hot dung, and the open part covered in with thin sheets or plates of talc, through which light was admitted. Talc, in respect to the amount of light which it would admit, would be about equal to oiled paper frames, which every reader of John Abercrombie will know were extensively employed in this country at no very remote period. I have heard it stated that Cucumbers could not be produced all the year round with no more light than that transmitted through talc or oiled paper, and some would discredit the statement as to Cucumbers being supplied throughout the year to Tiberius's table, saying that it was not until the adoption of glass that Cucumbers were always in season. It should be borne in mind that what would not answer here might do so elsewhere, and that the light of an Italian sky is much more clear and powerful than that of England. Pliny mentions baskets and vases in which Cucumbers were reared and grown, and this so that they might be taken under cover when the temperature was unfavourable, and placed outside when the air was warm and genial. The same author goes even further, and says there were beds mounted on wheels, the plants thereby being easily moved under cover when the days or nights were cold, or taken out when the weather was warm. I mention these matters merely to afford some proof of our not being in many things so very far in advance of a race that preceded us. It is of little or no moment to us to be informed when or how Cucumbers were first introduced into this country—that I could never discover—but we are aware good Cucumbers have been for a long time, and are now, produced in this country, and that there are certain things essential to success in their cultivation.

The requisites for successful Cucumber culture are—1st, A good, rich, light, open, sweet soil. 2nd, A good uniform bottom heat, and a steady top heat, but higher by day than night. The bottom heat should be 75°, and not exceeding 80°; and the top heat may average 75°, or correspond with the bottom heat, but at night it should be less than the latter, or from 65° to 70°; or it may in severe periods fall to 60° at night, and in the day it should be from 70° to 75°, and from 80° to 85° or 90° in bright weather. 3rd, The soil ought at all times to be moist, without saturating it at one time, and having it dust dry at another: and the atmosphere should be moist, never dry; but not so much so in damp weather as in bright, nor should the moisture be so great during the day as at night. 4th, All the light pos-

sible should always be afforded, especially in the winter, spring, and autumn, it being easy, by a thin shading, to modify the sun's rays when too powerful, which, however, is not often needed. Lastly, Air should be given whenever it can be done without lowering the temperature, it being well for the temperature to advance with air-giving; and always diminish the amount of air by or before the time when the maximum temperature is reduced by the external air. Avoid cold currents, and by no means have for any length of time a close confined atmosphere.

SOIL.—The best soil that I have used for the Cucumber consisted of the top 3 inches of a pasture where the soil was neither heavy nor light, but a good hazel or yellow loam. This I lay up in ridges not more than a yard wide, and first put a layer of turf, and then an inch in thickness of fresh cow dung or sheep droppings, if I can obtain them, next a layer of turf, then dung, and so on, making the ridge about as high as it is wide. This, after it has been in the ridge for six months, is chopped up, and used rather rough without any admixture whatever. For winter forcing, however, I do not consider it open enough, and therefore add one part of good fibrous peat, which contains a considerable amount of white sand. The peat has the property of keeping the soil sweet, and in that way preserving the roots: whereas these, in soils that are closer and heavier, are liable to die off. Some grow their winter Cucumbers in peat alone. This I have tried, and I have found it answer very well, especially when dung heat is employed, and the roots can have access to the dung, but it is hardly rich enough for plants grown in beds or borders by the aid of hot-water pipes or flues, consequently turfy loam and leaf mould should be added to it; two parts turfy loam, and one part leaf mould added to one part of peat, make an excellent compost for the growth of winter Cucumbers. The soil, whatever it be, should never be such as will lie close, and with repeated waterings become a heavy soapy mass; but, on the contrary, it must be friable and porous, so as to admit of the free passage of water, and be readily penetrated by the roots. The loam may not always be so friable nor so turfy as desirable for the free passage of water and the roots, and in that case less of it should be employed, and more peat or sand.

Soils of the above descriptions are not always to be obtained. Where they are not, a good substitute may be formed by mixing with light garden soil an equal quantity of rotten hotbed manure or leaf mould. A first-rate compost is formed of light garden loam placed in layers with fresh horse droppings and cow dung, commencing with a layer of soil 6 inches thick, then putting on layers of horse droppings and cow dung, each 3 inches in thickness, then one of soil, forming the whole like a potato hog. This compost should be turned over twice or thrice in dry weather, and at intervals of two or three months, and in twelve months it will form a suitable soil for summer Cucumbers; but for winter-fruited plants it is scarcely open enough, and should be rendered more free, even if we go to the extent of mixing small gravel or grit with it, which will in most cases make it suitable.

It is not uncommon to see Cucumbers growing very

vigorously and producing fine fruit where common garden soil is employed, but this will in most cases only occur in summer when the days and nights are warm, and the amount of light considerably more than in autumn, winter, and spring. It should be considered that Cucumbers are not to be had by the same means at Christmas as they are at midsummer, and if they are wanted in winter provision must accordingly be made for their production. The best means for that purpose is a house with hot-water pipes for furnishing bottom and top heat; but where the necessary appliances are not provided, and fruit is not required in winter, it is well not to attempt forcing very early, but wait until there is a prospect of being successful with the materials at command. For the growth of Cucumbers for cutting in April and through the summer, a dung bed and frame with two or three lights answer very well, and as this is the mode most commonly in use, I shall treat of it first.

DUNG BEDS.—The materials for the seed bed should be in readiness by the middle of January. Good stable dung is best, and a quantity sufficient to form a bed for raising the plants should be thrown into a heap, mixing the long with the short, and the wet with the dry. If there is a large proportion of dry long litter, it will be well to throw it into a heap by itself, giving each layer a thorough soaking with the drainings from the dunghill or with water, beating it well with the fork, and, when thoroughly moistened, it may be thrown into a heap with the short litter, and well incorporated. It should be allowed to remain in the heap until it becomes hot, and then be turned, mixing carefully together the long and dry with the short and wet, and putting the top at the bottom and the outside inside. If the litter is in any part dry moisten it as the work proceeds, and when it again ferments and becomes hot, turn it again, and see that there are no dry patches; if there are, let them be well watered before being mixed with the mass. It will soon become hot, then turn it again if very strawy and the steam rank; but with good stable litter twice turning will be sufficient, and the dung will be in a fit state for forming into a bed when the third heating or fermentation becomes general.

A warm, sheltered situation ought to be chosen for the bed, and though it cannot be too well screened from the points of the compass between east, north, and west, yet the less obstruction to the full light of the sun, and especially from the east to the south and west, the better. For raising the plants a small one-light box or frame will answer as well as one of larger size. Mark out a space larger every way by 6 inches than the frame, so that when the bed is formed it will be 6 inches wider than the frame both at the sides and ends. It must, therefore, be 1 foot wider and longer than the frame. Commence forming the bed by placing a layer of the longest dung on the bottom, then layer after layer of the hot dung, well shaking and mixing the materials of each, putting them on evenly, and beating with the fork, so as to render each layer compact. The sides should be built erect, and of the coarsest material, keeping the small in the centre and at the top of the bed. The bed should be carried up to the height of 4½ feet at the back and 4 feet in front, a one-light box being used, but if a two-light, 6 inches less in height will suffice.

After the bed has been finished, put on the frame and the light or lights; keep close until the heat reaches 80°, then push the light down a little to allow the steam to escape, and in about a week the surface of the bed may be evenly covered with 6 inches of old tan, light dryish soil, or other material for plunging the pots in. In three days the materials will be warmed, and a thermometer inserted in the bed to the depth you propose plunging the pots will indicate the temperature; and if the temperature be low at the first examination—say, 70° or 75°—and on the next day 80° or more, the heat will in all probability rise considerably higher, and it will not be safe to plunge the pots in the material; but, to save time, seed may be sown and the pots set on the plunging material, but not plunged until the heat becomes regular; and when at 80°, and not likely to exceed 85°, the pots may be plunged, partly at first, and then deeper as the heat becomes less violent.

SOWING, AND MANAGEMENT OF THE SEEDLINGS.—For spring and summer use the beginning of February is a good time to sow, and, in my opinion, early enough. I generally sow in the first week, and have fruit with certainty in April. I have sown early in January, but it involves much trouble for a very precarious gain of a few days in cutting fruit. For those who do not require fruit before the end of May, the beginning of March is a good season at which to sow, and the plants are generally more vigorous, healthy, and continue longer in bearing than those from seed sown in February.

At whatever time the seed is sown the bed ought to be made a week previously; and whilst for February it should be 4 feet high, 3 feet will be sufficiently high in March, and less dung will be needed as the weather becomes warmer. A height of 2 feet 6 inches will be ample for April, one of 2 feet for May, and 1 foot 6 inches from the beginning of June up to September.

I prefer sowing the seed singly in 3-inch pots, half filling the pot with soil, and for drainage placing a lump of turf at the bottom. The compost used should be light turfy loam made fine, and the seed being placed in the centre, cover with half an inch—not more—of fine soil. The soil should be neither very wet nor dry, but in an intermediate condition, and in that case no watering will be needed at sowing, but if the soil is dry it must be made moist. The seeds, before sowing, ought to be proved by putting them in water, and those that swim after two hours' soaking are worthless. Those which sink are good.

If the seed bed be of the proper temperature—80°—to begin with, the pots should be about half plunged; but if it exceed 80° do not plunge them, but set them on the plunging material. When the bottom heat is from 75° to 80° plunge the pots to the rim, as, in consequence of plunging the pots, the heat will be more regular than if it were derived from the atmosphere of the frame. It ought to have been stated before, that the surface of the plunging material ought not to be more than 8 inches from the glass; indeed, when the plants appear, as they will in four or five days, they should not be further from the glass than that—better if not more than 6 inches from it, but they should not be nearer, as the young plants are liable to be chilled if the air in the frame be suddenly cooled by a heavy sudden fall of snow or rain on the glass.

When the seed leaves are as high as the rims of the pots, put soil round the plants up to the level of the rim. The soil used for this purpose should be kept in the frame twenty-four hours previously so as to become warm. Afterwards the plants will not need anything further in the way of soiling or potting until planted out. Some sow three or more seeds in a small pot, and, when the first rough leaf of the seedlings is showing between the seed leaves, pot them off singly, or two in a 3-inch pot. In this case the pots should be so filled with soil that when the plants are put in the pots their seed leaves will be as low as the rim of the pot, and if more than one plant be put in a pot, each should be held in that position, soil being placed round it to within half an inch of the rim or seed leaves. The potting should be done in the frame, and with soil which has been placed there some hours previously to become warm.

The seedlings should be very carefully watered, and always with water of the same temperature as the bed or air of the frame; and though it must not be saturated, the soil must always be kept moist. A gentle watering ought to be given after potting; then plunge the pots in the bed.

The temperature of the frame must be maintained at 65° by night, and from 70° to 75° by day, with a rise of 10° or more from sun heat, taking advantage of warm days to admit air, and yet not in excessive quantity, but sufficient to keep the plants sturdy in habit, and with leaves which will endure sun without flagging or scorching. Air should be given as early in the day after the temperature reaches 75° as can be done without lowering it, and air-giving should cease before the temperature becomes cooled below that.

The bed being the source of heat, it must be frequently examined, and when its temperature is found to be declining, and before it has sunk much, the heat should be renewed by linings of hot dung on one side (the front first), and if it still decline add others all round. The lining should be placed against the side, and may have a base of 18 inches, and be narrowed to 1 foot, keeping it against the side of the frame, and bringing it up to within a few inches of the lights. The temperature of the bed should be ascertained by sinking into it about 1 foot a thermometer, which should indicate a temperature at that depth of 80°; or it may be determined with tolerable accuracy by a stick pushed from the outside under the frame towards the centre of the bed. By withdrawing the stick and feeling it, it may be known when the heat is declining.

It will be necessary a few days after the bed is made, in order to maintain the proper night temperature, to cover the lights at night with mats or other material to prevent the escape of heat, or the air being cooled by the contact of the cold air with the glass. The material should be made secure, so that it may not be blown off by the wind, and it should not be allowed to hang over the sides of the frame, and lie on

the hot dung, as, if the heat or steam from the lining be at all rank, it may pass up under the protecting material, and through the laps of the glass into the frame. The protection should be placed over the lights soon after the sun leaves the frame, or on an average about an hour before dark, and should remain on until an hour after daylight. In some cases putting on dry litter or straw will be sufficient to keep up the temperature of the seed bed. It will be requisite in the case of high winds, which are apt to pass into these small beds and cool them more in proportion than wider beds, that litter should be placed against the side from which the wind is blowing, and, if necessary, all round, placing it also against the sides of the frame to within a few inches of the lights.

The stopping of the plants should be attended to when they have made two joints or rough leaves; then take out their points before the third leaf is formed. This will cause the plants to branch or push shoots from the bases of the leaves, and when these are a few inches long, or have made two leaves, they will be fit for planting-out in the fruiting bed.—G. ABBEY.

VERTICAL CORDON PLUM AND PEAR TREES.

In No. 397, page 340, of this Journal, "T. R.," as well as giving useful hints on cordon trees, has also given an excellent list of Apples suitable for that mode of culture. Will he add to that information by giving a similar list of Pears and Plums for vertical cordons, for open borders (some for walls are given in page 388), and at the same time state if the trees are to be headed back the same as for espaliers and pyramids; the trees all maidens?—J. M.

[The culture of vertical cordon Plums is rather new here, my bearing trees not being more than six years old. They bear well, and offer a good prospect of success, possibly owing to the calcareous nature of all descriptions of soils in this district. There is no calcareous formation, but all our clays, sands, and loams are full of comminuted chalk, the effect of denudation. The chalk hills to the north-west were doubtless in times long past mountains, the crests of which are now mixed with our soils. This mixture, I apprehend, is the cause of our fruit trees so rapidly coming into a bearing state. I mention this to prevent disappointment, as in some rich deep soils it may not be possible to control the growth of vertical cordon Plum trees by summer-pinchings as practised here.

The trees may be planted 4 feet apart, more or less according to circumstances—i. e., the size of the garden. Maiden trees may be planted, and the single shoot they should have must not be shortened. Care, however, should be taken to pinch-in, the first season after planting, all the shoots on the upper part of the tree to one leaf, or two at most; this will tend to make the lower buds break more freely.

The kinds of Plums most amenable to this interesting method of cultivation are the following, but more will be found when more attention is paid to the habits of Plum trees:—Prince Englebert, Belgian Purple, Early Orleans, Early Favourite (Rivers), Cluster Damson, Jefferson, Reine Claude de Bavière, Peach, Belle de Septembre, New Large Bullace, Yellow Magnum Bonum, and Belvoir Plum.

The following kinds of Pears, if on Quince stocks, may be formed into cordons—viz., Baronne de Mello, Beurré Bachelier, Beurré Hardy, Colmar d'Été, Dana's Hovey, Doyenné du Commerce, Fondante d'Automne, Louise Bonne, Madame Treyve, Passe Crasanne, St. Michel Archange, Summer Beurré d'Arenberg.

Fruit trees in an English garden require strict attention, like all other objects of fancy, and must be watched accordingly; so that if a tree shows symptoms of over-luxuriance not to be repressed by summer-pinchings, two spades should be introduced, as directed in page 340, in treating of cordon Apples, the tree headed, so as to break off a portion of its roots, and the earth trodden down round it. If this fail root-pruning should be had recourse to; and if over-luxuriance is still in the ascendant, the tree may be lifted—taken up with its roots intact—and replanted. Some trees may require only a gentle heaving, others a slight root-pruning on one side, and others the more rigid treatment of lifting. In no case should the fruit-culturist be an R. R.—a rash remover, like my excellent and acute friend "C. C. E." Does the poultry-fancier suffer his pets to ramble about for months without care and attention? Does the shorthorn-breeder suffer his beautiful heifers to be turned on to a common with the costermonger's donkey, which is always seeking and not finding? I think not. We must

therefore imitate our poultry and shorthorn prize-seekers and pay strict attention to our garden fruit trees, "root and branch."

I have known and advocated root-pruning for forty years; but I was not the originator of the system, for, like all inventions of consequence, it cast its shadow before in the shape of hints and notes from the correspondents of our horticultural periodicals. It is only recently that it has been formed into a system which, even at present, is but imperfectly understood, but which is making progress, so that a day will arrive when our gardeners will scarcely believe that "once upon a time" the roots of our garden fruit trees rambled uncontrolled by the pruner.—T. RIVERS.]

MANLEY HALL, STRETFORD, MANCHESTER.

THE RESIDENCE OF SAM MENDEL, ESQ.

(Continued from page 338.)

On leaving the Erica house I entered the house that was originally the Pine stove, but it is now converted into a house for specimen stove plants, and is, perhaps, one of the finest for this purpose to be found in the kingdom. It is 69 by 28 feet, has a pit in the centre 15 feet 8 inches wide, and a 3-feet-4-inch walk all round; between the walk and the sides of the house is a stage 2 feet 6 inches wide, made of solid slabs of iron covered with Derbyshire spar, and supported by stout iron pillars. This is at once the neatest and most substantial stage I have ever seen. The pit is formed of brick walls having a coping of dressed stone, and is filled up to within 6 inches of the top of the coping with tan, on which are placed some magnificent specimens of stove plants. Directly facing the door at the east end is a splendid *Croton variegatum* 7 feet high and 5 feet through, and most beautifully coloured—a perfect pillar of gold. There were also a *Croton angustifolium*, of larger dimensions than the plant just noticed, a grand *Medinilla magnifica*, and specimens of the following plants, most of which are considerably larger than those of which the dimensions are given above—viz., *Croton pictum*, *Rhynchosia albomites*, *Cissis discolor*, *Dracæna ferrea*, *Cossinea borbonica*, *Pandanus elegantissimus*, in the most perfect health and vigour, *Rondeletia speciosa*, showing hundreds of trusses of orange and red flowers, and *Eurya latifolia variegata*, with handsome *Camellia*-like foliage. This plant, Mr. Petch tells me, is quite hardy; if this be so, it will most certainly become one of the most popular bedding plants of the day, for no foliage can be more beautifully variegated, and as a decorative plant for the conservatory or greenhouse it has few equals. There were, besides, beautiful plants of *Gesneras* in great variety, *Dracæna Cooperi* and *stricta*, with very large leaves brilliantly coloured, and *Ananasæ Portæana*, the beautiful new Pine Apple sent out in 1866; likewise some of the new *Coleuses*, forming handsome pyramids. The best were *C. Bausei*, *C. Berkleyi* and *C. Saundersi*; to these Mr. Petch must add *C. Marshalli* and *C. Telfordi aurea*, the latter the handsomest of the whole. They are fine for conservatory decoration in the summer, and their colours may be kept very bright throughout the winter months if the plants are placed in the warmest and lightest part of the conservatory. In addition to the plants already mentioned, there were finely coloured specimens of *Dracæna marginata*, the best of the *Dracænas*, and *Begonia Pearcei*, one of the handsomest of winter-flowering plants with beautiful foliage, and which will be a lasting *souvenir* of poor Pearce.

This house is about 13 feet from floor to roof, and has a division in the centre. In the second compartment of the house there are fine specimens of many stove plants, and among them a plant of *Allamanda nobilis*, 7 or 8 feet high. Of what the appearance of this grand plant will be when it is covered with its immense large bright yellow flowers, those only who have seen it can form any idea. There were also fine plants of *Allamanda Schottii* and *Hendersoni*, *Gardenia florida*, *Dipladenia amabilis*, and the grand old *Combretum purpureum*, a plant not half so extensively cultivated as it ought to be. Here also were several varieties of the Cotton plant in various stages; some were just bursting their pods, and showing what is the source of the great wealth of Manchester. Some large plants of *Ixoras* were in a fine state of health, and were shortly to be placed in a new stove which has been specially erected for them.

I next entered a fine new span-roofed house, in three divisions, of the same length as the last, and 19 feet 6 inches wide.

It, too, has a pit in the centre, and what I call the everlasting side shelves covered with Derbyshire spar.

The eastern division is devoted to ornamental-foliaged greenhouse plants, and contained some very promising specimens of *Phoridium tenax variegatum* (the variegated New Zealand Flax), a splendid pair of the beautiful and very rare *Yucca albospicca*, a handsome pair of *Aralia Sieboldi variegata*, and several of the Australasian *Dracenas* and *Cordylines*, *C. Macarthurii* being very conspicuous.

The second division is called the *Ixora* house, having been constructed expressly for the cultivation of plants of that genus; and the third or west division, the *Allamanda* house, being intended for *Allamandas* and *Dipladenias*. On each side of this house is a very useful pit, which, like most of those attached to the houses, is heated by hot water. Such pits are invaluable for stowing away large numbers of plants, and for the encouragement of young specimens.

The three Orchid houses in this block, together with the two magnificent ferneries on the east side of the grounds, being under the management of Mr. W. Milford, I pass over their contents at present.—J. WILLS, F.R.H.S.

(To be continued.)

GARDENING IN THE WEST.—No. 2.

The most important difference between the climate of Great Britain at large and that of the middle States of America (Lat. 40° to 43°), is not the most obvious to the senses. The intensities of temperature are strikingly apparent, but the frequent extreme dryness of the air, if more obscure, is perhaps on that account all the more powerful and hurtful. What we do not see or feel we do not readily suspect. Even Dr. Franklin, eminently close observer of natural phenomena as he was, does not seem to have had his attention drawn to this feature of the American climate until the inquiry arose in his mind, What influence caused some wooden drawers that were made in England, and fitted very tightly there, to be quite loose in Philadelphia?

This want of vapour in the air is perhaps as common in winter as in summer, and greatest among the mountains of the Alleghany range, and away from the influence of the great lakes, &c. In the summer there are terms of tropical heat, and the air licks up with avidity every drop of moisture which it can reach. It will be remembered how greatly the capacity of air for vapour increases as its temperature rises. I have sometimes observed how long my hands would remain wet when simply held in the air after washing; in two minutes every trace of moisture has disappeared. The escaping steam from engines within view affords a very good indication of the degree of aerial thirst. In parching weather the steam escaping from a locomotive vanishes as instantaneously as from a tea-kettle in the heated air of a chimney. Usually the air is extremely clear and bright when so drained of vapour, but sometimes a smoky haze attends it.

In winter and early in spring strong north-west winds suddenly sweep the sky as with a broom. All fog and haze disappear, leaving a beautiful but dazzling brightness. These winds dry themselves on their way over sheets of snow that cover more than half the continent, and when they reach the icy crests of the Alleghanies they leave condensed upon them the last drops of their moisture. Being somewhat warmed while passing through the sunny valleys on the south and east of the mountains, these winds again derive moisture from the ice itself. In these valleys, probably, the extremes of hygrometrical variations occur. When the south and east winds come they are loaded with vapour from the Gulf Stream off the coast, and this is freely deposited among the cool mountains. Such visitations are not frequent. They are very uncommon in the summer, when thousands of cultivators would welcome their genial influences.

Under the influences of these rough, vapourless north-westers, the native vegetation on open dry plains is, of course, very different from what is found near open water, and especially in the lee of the great lakes. The open dry plateaus east of the mountains used to be called "barrens;" they had the appearance of sterility, and were avoided by settlers as worthless. Only the very hardiest and most rugged trees grew on them; Scrub or Chinquapin Oaks, and dwarf Pines, growing slowly, because continually pinched by the abstraction of moisture from their leaves and stems. It was found, however, that the soil of these plateaus had far greater capabilities than was supposed, and they are now among the best grain-growing dis-

tricts in the country. Red Clover serves for grass, there being no permanent meadows. Deep culture, to secure a supply of moisture for the roots, gives glorious crops of Indian Corn and of vegetables; while Wheat, although hurried so as to have little more than four months of actual growth, wants but a screen of snow through the winter and the opening of spring to ripen hountifully, in the first week of July, superior grain. If, however, neglectful culture, or injury from climate or insect, makes the ripening later than about July 10, the blades and stems of the plant rust, and the crop succumbs under the fierce temperature of the summer.

A notable change in the climate of the middle States has been observed since the north-western States have been settled. Peach and Quince trees, and other trees and shrubs of tender constitution, now fail to bear fruit, or even to live, where once they flourished. In those early days the western winds prevailed as they do now, but they were supplied with moisture, and softened by passing through and over almost boundless forests.

The advantage of a sheltering belt of leafy trees on the north and west sides of fields and buildings is very great. Farms so situated are valued by good judges at 25 per cent. more than land of the same description on the open unsheltered plain, where every March the attacks of the sun and the wind are renewed; for there the sun has at that time an equal altitude to that of our "English sun" in June and July, and it has greater power. At the same time keen northern blasts often drive over the district, continuing one, two, three days, or even more, and carrying into every cranny a temperature often below zero. If the wind and sun strip off the mantle of snow from the Wheat fields, the Strawberry beds, or the Clover fields, the unprotected plants perish under the alternate charges of heat and cold.

It is one duty of the gardener to teach the planting of sheltering belts. The American is disinclined to begin to do what he has laboured so hard and so long to undo. He has been bred to the duty of killing off and clearing all native growth; he prides himself on the complete absence of sprouts or shoots from his fields. Very often there is not a shading tree to screen the reapers at their lunch, or the cattle at their siesta. The fences of dead rails are no protection.

The glorious sun eventually conquers, and wonderfully repairs and beautifies the scene for summer. As walls are required in England to retain and accumulate sun heat, trees are wanted in America to divide, moisten, and soften the drying blasts.

Good illustrations of the genial effect of foliage on the air are supplied by the native Grape Vines, which never appear so healthy, or bear fair fruit so abundantly, as when their foliage is intermingled with that of some luxuriant tree, and bathed continually in the moisture of its exhalations. The thin leaves of young Pear trees often endure, and feed the stem that carries them the season through, if sheltered closely by some more robust nurse tree; while similar plants standing out separately lose their leaves in July, and become poor, feeble, and consumptive. Peach trees among the thick, damp Pine forests of the western slope of the Alleghany mountains, are healthier and more productive in a temperature which often sinks to 20° below zero, and in cold wet soil, than they are in the open valleys eastward, where the warmth of both the air and the soil are much greater, and where every condition is more favourable, excepting the frequent atmospheric dryness. So Gooseberries, which almost uniformly perish with mildew in open clear culture, often ripen fair fruit among weeds or grass. Even the native forest trees do not endure the strain if their fellows are cut away, and the tall bare stem of the solitary tree is fully exposed. Unless shoots issue to clothe the stem with foliage the tree soon begins to decay at the summit, and eventually perishes.

In another article some of the means used, out of doors and in, to avoid the evils and secure the good of this feature of the American climate will be noticed.—PENNSYLVANIA.

THE ROYAL ASCOT GRAPE.

In answer to the letter which appeared in your number published on the 3rd inst., from Mr. Thomas Record, relative to the keeping qualities of the Royal Ascot Grape, we have to state that as yet no one but ourselves has had the opportunity of testing its merits in this particular point. From our own experience, however, we have no hesitation in stating that it

will hang quite as long as the Alicante or Lady Downe's; besides which it is in flavour very superior to either of them. Even under the most adverse circumstances it sets more freely than any other sort we know, and the same remarks will apply to the crops which it carries.

To show what can be done with this Vine, we would mention that on the 28th of May last we planted one of our largest houses with canes raised from cuttings since February this year. They are now carrying a fair crop of fine fruit, which will be ripe by the 1st of January, and will hang well until April. If Mr. Record will favour us with a visit in January, and taste them, we do not think he will care for the fruit of Lady Downe's (for the three winter months) afterwards.—JOHN STANDISH AND Co., Royal Nurseries, Ascot.

GROWING FRUIT FOR MARKET AT LITTLE SUTTON, CHISWICK.

MR. DANCER'S.

(Continued from page 397.)

I now come to a well-known and deservedly popular Plum—viz., Denyer's Victoria. It is of large size, and in shape oval; the skin reddish purple; the flesh yellow, sweet, and pleasantly flavoured, parting freely from the stone. When well ripened it is good for dessert, but its merits lie in its culinary qualities. Good though it undoubtedly is, it is not a London Plum, although sold largely in Covent Garden, and cultivated extensively in the neighbourhood of London. It is but very little used there, the whole stock of it being greedily bought up for the use of the cotton-spinners of Manchester and the iron-workers of Glasgow. The Victoria is not a very profitable variety to cultivate, although a prolific and tolerably constant bearer; some seasons, indeed, the trees bear to such excess that many of the fruits never come to perfection, and the tree is injured so much by this over-exertion, that it frequently takes years to recover. The tree is of drooping habit, and never attains a very large size.

Poupart's Plum is a true market gardeners' Plum, little known elsewhere. It is named after Mr. Poupart, a large market gardener, who grew it extensively. Mr. Dancer has a good many trees of this sort, and recommends it highly, forming, as it does, a good succession to the earlier sorts. It is an excellent cropper, and, the fruit being rather firm, it can be carried in excellent condition to market—a quality which is a great recommendation. The fruit, which is nearly round, very much resembles in appearance Reine Claude Violette. The colour is light purple, dotted and streaked with yellow; the flesh reddish, sweet, but with a smack of the sloe flavour. An excellent preserving variety, and generally commanding a good price in Covent Garden. There is one peculiarity attached to this Plum. It is this: The trees bear fruit very irregularly. The whole of the plant may be well covered with flowers in spring, yet the fruit is borne on only a portion of the tree, some branches being literally loaded, and, to use a common expression, hanging "as thick as ropes of onions;" while other branches, having exactly the same appearance, are entirely destitute of fruit. This is a general characteristic of the variety. I have examined scores of trees in Mr. Dancer's and other gardens, and they are all so. I never saw any Plum produce the fruit in such enormous clusters; so thickly packed together are they, that Mr. Dancer compares the little branches thus laden to bottle brushes. It is but a moderate grower.

Cooper's Large, or La Delicieuse, is a very strong-growing sort, one of the few Plums which form timber trees. It is a rather large, oval, purplish Plum, sometimes, when not over-cropped, of excellent flavour. It is, however, by no means a good sort for cultivation, for the tree, having very large leaves, suffers severely in dry seasons, and the whole crop, which is very abundantly produced, is rendered worthless. The fruit, likewise, being of a dull colour, brings a very poor price in the market. Sandalls Plum, as a late variety coming into use in September, or after all the others are over, is very desirable. Mr. Dancer calls it a "really good Plum." The fruit is of medium size, oval, dark purplish. The tree is but a moderate bearer. The fruit, after being ripe, hangs a long time on the tree without cracking; and as but few Plums will do so, it is on this account, as well as its lateness, much to be recommended. It takes well in the market. The tree grows to a great size—from 30 to 40 feet, and, like La Delicieuse, is one of the few Plums which form timber. Mr. Dancer cultivates it extensively.

Of Plums which Mr. Dancer has on trial, and which promise to prove good marketable and profitable sorts, I may mention the following. When I say "on trial," I do not mean one or two small lots of trees as usually the practice, I speak of hundreds. Yes, the new varieties are tried by the hundred, if to be procured, and if unprofitable they have only to be grafted again. They are—Belle de Septembre, an excellent late purple sort, a vigorous upright grower; in use in the end of September. Autumn Compôte, also a reddish purple Plum, coming into late use. Belgian Purple, a very promising sort, large, and of excellent quality; midseason. Prince Englebert, a very excellent Plum, a prodigious bearer, somewhat resembling, but larger and of better flavour than Mitchelson's. Rivers's Early Prolific, a valuable early Plum, ripening in the end of July. With Mr. Rivers, this Plum bears most enormously, and makes but little wood. With Mr. Dancer, again, it has as yet, borne but very thinly, but grows excessively, making shoots from 3 to 4 feet in length during the season.

There are some other sorts of Plums which have been, or still are, slightly cultivated by Mr. Dancer, but which have proved unsuitable, either as to their bearing properties or market popularity. Such are Washington, which is not only a bad bearer in general, but on account of its colour and softness it will not sell. Jefferson is a great bearer. It is, however, a slight clingstone, and on that account avoided by the market folks. Kirke's, very beautiful in appearance, but a bad bearer, and in general commanding but a low price. Pond's Seedling, large, but, like Denyer's Victoria, not a London Plum. Green Gages, of which there are several sub-varieties—these are the queens of Plums as regards flavour, but being shy bearers, and the half-ripe fruit being so very liable to crack and split with a little wet, the whole crop is frequently destroyed. The Green Gage is not by any means a profitable variety to cultivate.

I have now noticed the Plums Mr. Dancer cultivates, and which have been proved to be the best suited for his particular district and soil—a deep alluvial loam, with gravelly subsoil. Of this, however, more hereafter. These are the Plums, which, although not perhaps the finest in quality, yet produce the largest and most constant crops, and find the most ready sale in the market. They are, consequently, the most profitable varieties to cultivate for market purposes, or for any other purpose where quantity, not quality, as dessert fruit is desired. The Plums, it may be noted, which find so ready a sale are almost always good culinary sorts, that being the chief purpose for which they are purchased. In other districts and other soils a few other varieties may, perhaps, be found equally well suited, or, again, these varieties in other soils and localities may not be found so desirable, not to speak of different methods of culture, which I shall not enter upon here, but leave for another paper. There are no sorts, however, which find a more ready sale in Covent Garden.

To make it quite clear which varieties I have been alluding to in this and the previous paper, I again enumerate them, and class them according to their season of ripening.

1st, Plums cultivated largely by Mr. Dancer and highly recommended.

- | | |
|------------------------------|----------------------|
| 1. G'sborne's Early | 4. Denyer's Victoria |
| 2. Chapman's Prince of Wales | 5. Poupart's |
| 3. Mitchelson's | 6. Sandalls |

2nd, Plums which promise well, but not yet sufficiently proved.

- | | |
|----------------------------|-----------------------|
| 1. Rivers's Early Prolific | 4. Autumn Compôte |
| 2. Prince Englebert | 5. Belle de Septembre |
| 3. Belgian Purple | |

—LEO.

VINES OUT OF DOORS.

In your number of December 3rd I read with much pleasure an article entitled "Out-of-doors Grapes" by your correspondent "ARCHAMBAUD," and his estimate of the different sorts of Grapes was useful and very interesting. He says that it was to discover which of the many varieties was most suited to open-air cultivation that Mr. Kemp offered his prizes at the Horticultural Society's Fruit Committee Meeting in October. Out-door growers will thank Mr. Kemp heartily, and your correspondent for giving them the result; but it appears to me that it should not stop here. Having decided which is the best sort to grow, the next thing is to teach people how to grow it; for there is not one amateur gardener in a hundred who has the most remote idea of the best method of cultivation

and I regret to say that professional gardeners as a rule are inclined to snub the matter altogether, as something below their dignity, and if called on to dress a Vine, do it, certainly, though not *con amore*, but rather in a well-if-I-must-I-must sort of way, and as they would their Vines under glass.

Is there none of your numerous and able contributors who will condescend to lay down the system best adapted for producing good and well-ripened Grapes, not in a season such as the last merely, but in four seasons out of five? Is there no second Hoare will arise to point out to the thoughtless the folly of allowing a dozen bearing rods to remain on a Vine out of doors, when if they made use of their eyes they would find one or two only left on those grown under more favourable circumstances under glass, and that they had better take a lesson out of their own books in their treatment of their Raspberries, and cut out the long rods that have borne fruit, and leave the new ones that have been growing during the time?

"ARCHAMBAUD" advocates the cultivation of the Vine it is true, but he is a very lukewarm advocate, and holds out but little hope of success or satisfaction from it. He appears to think that one can only aspire to the production of a "tolerably decent lot of Grapes" which can be obtained by a "little ordinary attention," but I should like to see some one teach us to aspire to much more than this, as I must maintain that with a little extraordinary attention, certain success and great satisfaction will be obtained.

I am an old disciple of Hoare of five-and-twenty years' standing, and some years ago was complimented by you for Grapes which I was bold enough to send for your opinion. The white Grapes everyone can ripen, but as a rule I ripen the Black Hamburg, although, I confess, not with what would be called "ordinary attention," for I bestow almost as much time on the stopping of the shoots, the removal of laterals, and the thinning of the berries as would any gardener in his vinery; but what a pleasant occupation! and how suited for ladies if they would but take a little trouble to acquire a knowledge of what is to be done. This year is, of course, exceptional, but I have been told by many of my friends that they have tasted no sweeter or finer-flavoured fruit than mine, whether grown in greenhouse, hothouse, or otherwise. I allowed some of the rods to remain on the Vine, covered with nets to protect them from birds, until ten days ago, when I cut them clean down, with the bunches attached, and I hope to have a few dishes for dessert during the Christmas week.

I hope that some one of your able correspondents will take this matter up.—H. S. WATSON, *Old Charlton*.

[We quite agree with our correspondent in thinking that the subject of ripening Grapes on open walls is deserving of more attention. Mr. Weaver, gardener to the Warden of Winchester College, ripens Black Hamburgs without any protection against the walls of his garden in Winchester. We wish that he, and any other of our readers who has been successful in this practice, would send us full details of their modes and times of pruning, &c. Why should not our present correspondent relate his successful mode of culture?—Eds.]

ROYAL HORTICULTURAL SOCIETY.

DECEMBER 15TH.

FRUIT COMMITTEE.—G. F. Wilson, Esq., in the chair. The list of the Committee was revised, and Mr. Rose, of Frogmore, Mr. Beale (Messrs. Carter & Co.), and Mr. Fenn, of the Rectory, Woodstock, were elected. A letter was read from Rev. George Kemp, offering two prizes of £3 and £2 for out-door Grapes grown in the open air against a wall without any protection whatever. Mr. Melville, of Dalmeny Park, sent plants of his new shrubby variegated Kale, which he obtained by crossing the old perennial Woburn Kale with the varieties of the biennial which he has grown for some years, his object being to obtain a variegated Kale of a shrubby character for the decoration of shrubberies in winter. By a prosecution of these experiments there is every appearance that Mr. Melville will succeed in his laudable object. Mr. Lee, of Clevedon, near Bristol, sent a noble head of Canliflower raised from plants which stood the severe winter of 1866-67, and it received a special certificate. Messrs. Catnash and Son, of Highbate, sent specimens of Catnash's Crimson Beet. Mr. Earley exhibited good specimens of Williams' Improved Matchless Celery, which was considered similar to Cole's Defiance. Mr. Earley also sent dishes of very handsome Mushrooms and of forced Sea-kale, which received a special certificate. He also exhibited a very fine dish of Bergamotte Esperen Pear, Fearn's Pippin, Cockle Pippin, and Sam Young, as well as a fine dish of Tangerine Oranges, which also received a special certificate. Mrs. Allen, of Notting Hill, sent a dish of the Crown or Mummy Pea.

Mr. Whiting, of the Deepdene, showed a bunch of a Black Grape

from Italy, grown at Bury Hill. It is of an oval shape, with a dense blue bloom, and agreeable flavour. He also exhibited dishes of very handsome Alfreton and Small's Admirable Apples, and Bergamotte Esperen and Dr. Bretonneau Pears, all of which were in good condition, and received a special certificate. Mr. Rivers, of Sawbridge-worth, sent a collection of Oranges grown in 10-inch pots, standing on slates on two hot-water pipes, the pots planged in cocoa-nut fibre, the heat constant and gentle. The trees blossomed in February and March. Since October the air of the house has been heated to 60° and 65° by two 4-inch surface pipes. The varieties were Bittancourt, Maltese Blood, Sustain, and two varieties of St. Michael's. To this collection a special certificate was awarded. Mr. Forsyth, of Gunnersbury, sent a large fruit of Smooth-leaved Cayenne Pine Apple, which received a special certificate. Mr. Jennings, of Shipston-on-Stour, sent a small seedling Apple, raised from Siberian Crab. Mr. Haines, of Rotherby Hall, Leicester, sent specimens of Bess Pool Apple, from a tree grafted on the Crab stock, and others from a tree double-grafted on a Pearmain. The effect of this double-grafting was to enlarge the fruit to nearly double the size of that grown on the Crab. Mr. Gilbert, gardener to the Marquis of Exeter, sent specimens of Lord Burghley Apple of very excellent quality, also a seedling kitchen Apple. Mr. Cox, of Redleaf, sent a dish of Winter Nelis Pear, grafted on the Chaumontel, the fruit of which partook of the flavour and character of both. Mr. Muir, of Oulton Park, sent specimens of Oulton Park Russet Apple, which was considered inferior in flavour. Mr. W. G. Praguell, gardener to G. W. Digby, Esq., Castle Garden, Sherborne, sent a White Celery, which proved of very poor flavour, inferior to others in cultivation.

FLORAL COMMITTEE.—This was the last meeting of the season, and by no means an uninteresting one. The Orchids were as good as in the summer months, though not quite so numerous. Mr. J. Hodges, gardener to E. Wright, Esq., exhibited a cut specimen of a variety of *Oncidium macranthum*; and Mr. C. Garland, gardener to Sir T. D. Acland, sent specimens of *Camellia Imbricata*, with white stripes, not an uncommon occurrence. Mr. C. Osman, gardener to R. Holland, Esq., Stanmore Hall, sent a cut specimen of *Dahlia imperialis*; a special certificate was awarded to it. Mr. J. Davidson, gardener to R. Ralli, Esq., Putney Heath, exhibited a small specimen of the same plant. Messrs. Veitch, of Chelsea, sent a fine collection of Orchids, among which were *Masdevallia candida*—first class certificate; *Lælia alba rosea*, a very pretty Orchid, *Dendrobium Fitchianum* (?)—second-class certificate; *Pleione homile*—first-class; *Pteris cretica albo-lineata angusta*—first-class; *Mormodes Skinneri*, and several others. A special certificate was awarded for the collection. Mr. Tanton brought cut specimens of his *Allamanda Wardleiana*, to prove its continuity of winter-blooming. Mr. A. Henderson, Pine-Apple Place, exhibited *Agnostus integrifolius*.

Mr. Weatherill, Finchley, exhibited a collection of his hybrid Solanums, the plants well covered with fruit, and many of them very showy and handsome; one was called *robustum*, but not sufficiently differing from the named sorts of last year. A special certificate was awarded the collection. From the same exhibitor came also *Primula einensis* Wonderful, a very large-flowering purplish white seedling, very distinct; this received a first-class certificate. Mr. Bull exhibited three varieties of *Dammara*. D. Moorei had received a first-class certificate; *D. hypoleuca* and *robusta* were not so good; *Bignonia erecta multiflora*; three small plants of *Begonia sagittata*, with beautiful spotted foliage, and *B. foliosa*, a useful plant for hanging-baskets. It was requested that the latter two should be sent again. The same exhibitor had in addition *Odontoglossum cristatum*; *Geonoma Seemannii*, a very handsome Palm—first-class certificate; *Ptychosperma lacerata*, another Palm—the plants too young to show their merit, requested to be seen again; *Richardia melanoleuca*, a curious form of Aroid with a small scape and dark centre—second-class certificate; a small seedling plant of *Alsophila atrovirens*, to be seen again.

Dr. Rogers, East Grinstead, sent a new species of *Oncidium*, named by the Rev. M. J. Berkeley *Oncidium Rogersii*, the largest and finest of its race, with beautiful large yellow flowers. Mr. Williams, of Holloway, received a special certificate for a large collection of Solanums, containing Mr. Weatherill's best seedlings of last year, and two fine Orchids, *Angræcum pellucidum* and *A. churruum*. A special certificate was awarded them. Mr. Pilcher, gardener to S. Rucker, Esq., exhibited two splendid specimens of Orchids, each of which received a special certificate—namely, *Epidendrum vitellinum*, with bright scarlet flowers, and *Lælia autumnalis*, very lovely.

Mr. Allen, gardener to Capt. Glegg, sent a box of cut Camellias and Roses. Among the Camellias was one exhibited last year, named after Miss Glegg, a very beautiful scarlet and white flower. The whole collection contained many good flowers. A special certificate was awarded. W. Marshall, Esq., brought a specimen of *Hemantus*, which was found to be *H. tenuiflorus*. Mr. Parker, Tooting, brought a specimen of *Ixora amabilis*, which had received a first-class certificate. There was also a very good collection of Orchids from the Society's gardens, containing *Cypripedium* and *Lycaste Skinneri*.

GENERAL MEETING.—James Bateman, Esq., F.R.S., in the chair. After the election of nine new Fellows, and the admission of the West Carbury Agricultural Society into union, the Committee awards were reported. The Rev. Joshua Dix next exhibited some artificial flowers manufactured by Mr. T. Robinson, which, though presenting a dried-up appearance, when dipped for a moment in water and then withdrawn,

expand and resemble natural flowers, like which they are variously scented.

The Rev. M. J. Berkeley then addressed the meeting, remarking that by far the most interesting part of the plants exhibited consisted of Orchids, but these, as Mr. Bateman was present, he would pass over. With reference to *Dahlia imperialis*, a small portion of a plant of which was exhibited by Mr. Osman, gardener to R. Holland, Esq., of Stanmore Hall, he might mention that the tubers which Mr. Bateman had communicated to the Society last year had germinated beautifully, but the buds did not come to perfection owing to the insufficient amount of heat given. Next year, however, more heat would be afforded, and the successful flowering of the plant might consequently be expected. The *Hæmanthus* exhibited by Mr. Marshall was next referred to, and Mr. Berkeley said he had no doubt that it was the true *Hæmanthus tenuiflorus*, a variety of which was figured many years ago in the "Botanical Magazine." *Stenocarpus Cunninghamii* was then noticed, and it was remarked that in the tertiary deposits leaves had been found very closely resembling those of the *Stenocarpus*, and therefore the notion had been mooted that the vegetation of the south of Europe at the period of the tertiary formation was similar to that of Australia at the present day. *Richardia melanoleuca* was the next plant to which attention was directed, and it was remarked that it was drawn up, probably, from having received more heat than it required, and that, grown in a cooler temperature, it would most likely have a very fine appearance. The large collection of Gourds exhibited by Messrs. Barr & Sugden at the last meeting, and which still remained in the room, was the next subject to which attention was drawn. Mr. Berkeley remarking that all the varying forms were referable to two types—namely, the varieties with the angular, deeply grooved stems to *Cucurbita Pepo*, and the large kinds to *Cucurbita maxima*. In addition to these two species there were two others, though not exhibited—namely, the *Portemanteau* Gourd, *C. moschata*, which, if our climate were warm enough, would completely supersede the Vegetable Marrow; and *C. melanoasperma*, with black seeds. *Cissus discolor*, of which some flowering shoots came from the Society's Garden at Chiswick, was next noticed; and Mr. Berkeley observed that a whole houseful of it was there in flower, the inflorescence having a delicate fragrance. The reason it did not produce its inflorescence generally in this country was, probably, that it was treated too much as a greenhouse plant. An extremely curious Fungus, from Mr. Beech, gardener at Castle Ashby, Mr. Berkeley considered to be an entirely new species; and in connection with this subject he mentioned that he had received a communication from the Cape of Good Hope relative to a Fungus which had attacked the *Pelargonium* there, and it was feared their cultivation would have to be given up. Now, though the common wild *Geranium* were attacked in this country by rust or *Uredo*, he had never heard of *Pelargonium* being affected by it; but the matter was of great importance, for it had been proposed to employ the Cape species for the purpose of hybridising and obtaining new varieties, and it would be a great misfortune—indeed, one of the greatest he could conceive—to gardeners, were such a result as that apprehended at the Cape to occur in this country. He therefore strongly advised that the imported plants should be watched, and if any showed signs of the disease they ought to be committed to the flames. The *Oidium* of the Vine and the Potato mould were, in all probability, introduced into this country from abroad, and everyone knew with what disastrous results. He had likewise received from Dr. Anderson, of the Calcutta Botanic Garden, a sample of Assam Tea said to be attacked by a parasitic growth, but he (Mr. Berkeley) could detect none. Still, it was known that in many cases Fungi were not fully developed till the leaves had fallen from the tree. At any rate, the tea made from the leaves was very bad-tasted, much worse than Mr. Bateman's Orchid Tea. Another sample of Tea leaves which he had received along with that just noticed appeared to be merely covered with smut consequent on the saccharine depositions of an aphid. He might mention, while on this subject, a disease of great consequence in Australia, known there as the "red rust." This was the infant state of the common Wheat mildew. There was yet another disease, known as "take all," but he had not sufficient evidence to say what it is. Those, however, who are acquainted with Australia had informed him that the rotation of crops was not practised, and that year after year Wheat was grown on the same land without intermission, and eventually the soil became exhausted, little but silica being left. Failure under such circumstances could not be wondered at.

Mr. Bateman observed, that before proceeding to notice the Orchids he would refer to the magnificent Oranges exhibited by Mr. Rivers who, not content with growing Apples, Pears, and similar fruits in the orchard house, had started the idea of a tropical orchard house. He (Mr. Bateman), had determined to attempt this mode of cultivation, and had fitted up a compartment of a house, and, though he had had beautiful Tangerine Oranges, he fortunately failed. He said fortunately, for he had found out that this division exactly suited the Mexican Orchids, which require to be kept cooler and drier than those from the East Indies. Till this important point in Orchid cultivation was discovered he had never had the pleasure of introducing to an English audience such a plant of *Lælia autumnalis* as that from Mr. Rucker's gardener. Two or three flowers were all that could be produced. He found the plant growing at Mr. Rucker's in a large, airy, warm greenhouse. It was called in Mexico *Flor de los Santos*, and is much used in the decoration of the churches at festival times. He

also found at Mr. Rucker's the *Epidendrum vitellinum*, which accompanied his magnificent *Lælia*. He (Mr. Bateman) had felt some doubt as to whether there was or was not a major variety of that plant, but it was now set at rest, for large as the flowers were in Mr. Rucker's specimen they were not so large as in some plants introduced by Messrs. Low. In the last number of the "Botanical Magazine" was figured what was supposed to be the largest-flowered of all the *Oncidium*s, *O. macranthum*, but it would seem as if there were a fate that as soon as he had named one thing an account of its superior size, there was sure to be something to beat it. It was thought that *Oncidium macranthum*, which was exhibited at one of the Society's meetings by Lord Lonsborough's gardener, Mr. Richards, was the largest in existence, but now, on the last day of the season, he (Mr. Bateman) had the pleasure of introducing one very much larger, in the new species worthily named after Dr. Rogers. It came from a very high and very cool part of Brazil, and would, no doubt, take its station among the Mexican Orchids. Whether, however, it were a variety of *Oncidium bifolium*, bearing the relation of *Ching to Chang*, remained to be seen. Specimens of *Cypripedium caudatum* and *Angrænum æquipedale*, were next pointed out as good, but of the latter the tail-like appendage was not so long as was sometimes seen. This plant, it was also remarked, should have the warmest position in the Orchid house.

Mr. Bateman then observed, with reference to *Dahlia imperialis*, that he had seen it in Mr. Woolfield's garden at Cannes last year, and had had the honour of introducing it to the notice of a meeting of the Society, exhibiting, at the same time, dried specimens of the flowers, which he again produced; but now they had the fresh flowers, though he was sorry to say, the Society's tubers had only produced buds. He would now leave the living flowers, and turn to flowers of another description—the artificial ones for Christmas decoration sent by Mr. Goodman, who had had the good fortune to secure the favourable notice of two of the leading church papers of opposite views—the only instance he ever knew of their agreeing. No one could fail to admire the Variegated Holly and some other things, but, on the other hand, there were productions which resembled nothing in nature, and he would recommend her as a copy for Mr. Goodman's future efforts. Living, said Mr. Bateman, 150 miles from London, he always received numerous applications for evergreens at Christmas for the decoration of churches, &c.; but about London, the demand was so great and the supply so small, that many persons had to put a guard over their evergreens lest they should be stolen. He thought, then, that these artificial decorations of flowers and foliage would be something in the interests of horticulture, or rather arboriculture.

Mr. Bateman, in his concluding remarks, said that he only hoped that in the coming year as much interest would be taken, and as much progress made, in horticulture as in that now passing away; and he was agreeably surprised to find that the meetings were so well attended at this dull season. He only wished that during the year more new Orchids had been introduced, but this was partly owing to two grievous losses—that of Mr. Wilson Saunders's collector, Mr. Bowman, who died when about to come home with a valuable collection; the other loss being that of Mr. Pearce. These were great drawbacks, but the Orchid mania must be fed with fresh fuel, and of such there was plenty waiting only to be conquered by the indomitable spirit and pluck of collectors. In accordance with an old Regent Street custom, which had been revived, he had to announce for distribution among those present the flowers of *Chimonanthus grandiflorus* from Chiswick, and, he would venture to add, Mr. Rivers's Oranges.

The next meeting will take place on the 19th of January.

A FEW WORDS TO GARDENERS ON EMIGRATION.

I, for one, hailed with exceedingly great pleasure the brief article in the Journal entitled "Gardening in the Far West," and also look forward with feelings of anticipated pleasure to the others promised by your correspondent "PENNSYLVANIA." I myself, after years of intimate knowledge of gardeners and gardening, have often thought that if gardeners could be induced to emigrate to some such land as Canada or the Western States of America, a substantial future in most cases would be in store for them. I know it would require a strong effort of determination on their parts, also great self-denial for some years in a new and strange land; but, in the majority of cases, the reward would amply repay any temporary inconvenience that would have to be endured by the energetic, intelligent, and mostly highly educated men before whom I desire, by your help, to lay these few and feeble words.

In the first place, I have a sad knowledge, a knowledge that has come close home to myself, that gardeners are far too numerous, and, at a modest but rough estimate, there are always from 800 to 1000 really good, capable, and able gardeners out of situations—men of unblemished characters, of high professional reputation, and capable, by their acquirements, of conducting the largest places in the kingdom in a proper and scientific manner. Anyone, too, who knows anything at all about the matter, knows that yearly a vast number of

clever young men are leaving our great places to seek for head gardeners' situations, thus swelling the number already too great.

I do not suppose that one gardener throughout the land would deny but that there are too many gardeners by one-half, and I think, looking to the matter in all its bearings, nothing holds out such an independent future as leaving this crowded country for the rich virgin lands of the West, which only await willing hands and rightly directed energies to return substance and plenty, and that which is to be as highly prized, personal independence, and the sweet and restful knowledge that our children may the more surely and easily obtain that competence and independence which they can never obtain in Britain, enter into the struggle keenly as they may, carry with them as high abilities as possible, and let their determination to succeed be as strong as need be; and this for the simple reason that the supply by far exceeds the demand. Look, as I have done, through all the great nurseries, and you will always find them full of clever men, waiting and waiting month after month, with bitter weariness, for the situation which, when it does come, is seldom equal to the man's deserts, and is often accepted out of desperation, and retained by the sacrifice of personal independence, by the suppression of natural inclinations, the swallowing of their real opinions, and the burden of daily injustice and contumely, which can only be remedied by their resigning the situation, and beginning again the weary waiting—for probably another similar place. I know that in a great number of places the gardener is treated as a man ought to be, setting aside the extra considerations of his ability, his intellectual capacity, and general excellence; but such places are few. I have been engaged in gardening all my life, and I know these things well, and I have serious thoughts of leaving it very shortly. I have tried it fairly, and borne quietly and uncomplainingly much injustice, and have seen much home by my brethren around me. Nor did I lay these things so much to heart until my little ones began to cluster about me; and, while they brought with them much affection, they brought also increased responsibility and care, and have—as has been the case with many others—stood between me and a situation, while, if things were regarded in their proper and Christian light, they should have been the means to have induced those who had the power to have regarded me, and many others, with more consideration.

It is for these reasons, then, that I am so pleased by the contribution of "PENNSYLVANIA," and the promise of more, and I hope he will be as explicit as possible, and lay before your readers some useful knowledge on this subject. And I trust that many will see the necessity of turning their attention to this highly important topic, for I feel the conviction that there is in the West a substantial future for those who have the courage to venture to a land where they may, by a few years' toil, and perhaps some privation, lay up for themselves and children a secure and lasting home.—KALMIA.

NOTES AND GLEANINGS.

On the 10th inst. Mr. Stevens sold by auction the splendid varieties of GOLDEN COLEUS raised at the Royal Horticultural Society's garden at Chiswick. The following is a descriptive list, and the prices realised:—

Queen Victoria.—This is the brightest in colour of the whole series, having the centre of the leaves of a rich bronzy crimson, with a bright yellow edge, somewhat broken with crimson veinings, so as to appear as if the borders were formed of a double row of golden beads. 5 plants, £7 7s.

Princess Royal.—This is of nearly the same colours as the variety named Queen Victoria, but the edging is narrower, rather resembling a single than double row of beads. 5 plants, £15 15s.

Princess of Wales.—This has still less yellow than either Queen Victoria or Princess Royal, but has instead a much more decided and deeper glow of purple. 1 plant, £4 1s. 6d.

Her Majesty.—This variety is of very free habit, and the broad leaves are of a deep bronzy red, with the narrow beaded edging somewhat less golden-tinted than in the preceding. It is, however, very effective. £6 6s.

Albert Victor.—This, like Her Majesty, is of a very free habit of growth, having the centre of the leaves bronzy red, stained with large blotches of a deeper purplish red, while the golden margin is broader than in any of the other sorts, the marginal teeth being also marked out by red lines. It is a very attractive sort, and distinctly tricolored. 7 plants, £15 15s.

Prince of Wales.—A free-growing variety, with leaves of a deep purplish red, marked with deeper-coloured blotches, and having scarcely any golden markings at the edge, so that it resembles Albert Victor minus the golden margin. 4 plants, £4 4s.

Duke of Edinburgh.—This is of a lighter shade of bronzy red than Prince of Wales, and almost whole-coloured, and is of a distinct contrasting hue. 6 plants, £5 5s.

Prince Arthur.—The leaves of this variety have a yellowish ground colour, while the base, the costa, and the principal veins are heavily marked with deep purplish red, the margin also being red. These markings give the plant rather a grotesque appearance. It has the close habit and general peculiarities of Colens Gibson. 3 plants, £3 3s.

Princess Beatrice.—This is of a golden green hue, less heavily marked than Prince Arthur, the main veins being partially, and the margin entirely defined by crimson lines. This variety belongs to the Gibson type. 2 plants, £5 15s. 6d.

— We have been requested by the Trustees of the LINDLEY LIBRARY to make public the following list of books which have been ascertained, during the formation of the Catalogue by Mr. Bennett, to be incomplete, as it may enable those contemplating donations to the Library to make good the deficiencies:—

- Agardh's Species Algarum. Vol. i., 1820. (Vol. ii., sectio prior 1828 wanting).
- Agricultural Society's Journal. Vols. i.—xxii., 1840—1861 complete; also first part of Vol. xxv., and Vol. i., Part 1. New Series, 1865.
- Annales des Sciences Naturelles. Complete to Vol. xvii. of Fourth Series, 1862.
- Annals of Natural History. Complete to Vol. xii. of Third Series, 1863, and one Number of 1864.
- Bentham and Hooker's Genera Plantarum. Vol. i., Part 1.
- Blume's Museum Botanicum Lugduno-batavum. Vol. i., and 3 Parts, Vol. ii.
- Blume's Collection des Orchidées de l'Archipel Indien. Vol. i.
- Blume and Fisher's Flora Javae. Loranthaceae wanting.
- Brongniat's Botanique du Voyage autour du monde. 200 pp. instead of 232.
- Cavanille's Monadelphicae Classis Dissertationes. Vol. i. only.
- Colla's Hortus Ripulensis. Appendix 1 only.
- Curtis's Botanical Magazine. Complete from commencement of Second Series, 1827, to September, 1865 (except Third Series, Vol. iv., and Part for December, 1863); also Vols. iv. and vi. of First Series.
- Decaisne's Jardin Fruitier du Museum. Vols. i.—vi., 1858—1864.
- De Candolle's Prodromus. Vols. i.—xvi. complete; also Vol. xv., sect. prior and sect. post, fasc. 1. and Vol. xvii., sect. post, fasc. 1.
- De la Marck's Encyclopédie Méthodique. Vols. i.—viii. complete; Supplement, Vols. ix.—xiii. absent.
- Endlicher's Genera Plantarum, and Mantissa. Mantissa altera wanting.
- Fée's Cours d'Histoire Naturelle Pharmaceutique. Vol. ii. only.
- Feuillee's Journal des Observations Physiques. Vols. i. and ii.; Vol. iii. absent.
- Florist and Pomologist. Parts 1—9, 11—24, 26, 28.
- Gardeners' Chronicle. 1841—1865 complete (except 1865 wants title and index).
- Gray and Sprague's Genera of the Plants of the United States. Vols. i., ii.
- Grisebach's Flora of the British West Indies. Section 1, and Parts, 5, 6.
- Harvey's Thesaurus Capensis. Vol. i., and Nos. 1—3, Vol. ii.
- Harvey and Sonder's Flora Capensis. Vols. i., ii.
- Haworth's Supplementum Plantarum Succulentarum (but not the Synopsis Plant. Succ.)
- Hogg's Supplement to Treatise on Florists' Flowera (not the Treatise).
- Hooker's Species Filicum. Vols. i.—iii.; also Vol. iv., Part 2, Vol. v., Parts, 1, 2.
- Hooker's British Ferns. Parts 1—3.
- Hooker's Garden Ferns. Parts 1—3.
- Horticultural Society's Journal. Vols. i.—ix., 1846—1855; also odd Nos. of Proceedings, 1863—1865.
- Horticultural Society's Catalogue of Fruits. Second and Third Editions, 1831, 1842, and Supplement to Third Edition, 1853.
- Horticultural Society's List of Fellows, 1862, and Supplement.
- Humboldt's Aspects of Nature, translated by Mrs. Sabine. Vol. ii.
- Kunth's Synopsis Plantarum. Vols. i., ii.
- Lemaire and Van Houtte's Flore des Serres et Jardins de l'Europe. Vols. iii.—ix., and 9 Parts, Vol. xv.
- Lindley's Folia Orchidacea. Vol. i.
- Link's Anatomia Plantarum. 1st Heft.
- Linnaea. Complete to Vol. xxxi., 1862; also four Parts, 1863.
- Linnaean Society's Proceedings. Vols. i., ii., 1838—1855.
- Linnaean Society's Journal. Vols. i.—vi., 1857—1862; also Nos. 25—35.
- Linnaean Society's Transactions. Vol. xxiv., Part 3, Vol. xxv., Part 1, 1864—1865.
- Loudon's Arboretum et Fruticetum Britannicum. Vols. i.—iv., wants the Plates, Vols. v.—viii.
- Lowe's Manual Flora of Madeira. Parts 1—3.
- Martius's Flora Brasiliensis (Svo). Vol. i., Part 1, and Vol. ii., Part 1.
- Meyer's Commentarium de Plantis Africae Australis. Vol. i. complete (wants title), and Vol. ii. to p. 400 (Lobeliaceae).
- Miers's Contributions to Botany. Vol. i. only.

- Miquel's Flora van Nederlandsch Indië. Vol. i., Part 1, Vol. ii. and Supplement.
- Mohl and Schlehtendal's Botanische Zeitung. Complete to end of 1863, except Nos. 9 and 10 for 1863.
- Moore's Index Filicium. Parts 1—11, 14, 15, 17, 18.
- Muller's Plants Indigenous to the Colony of Victoria. Vol. i., and 1 vol. lithographs.
- Muller's Fragmenta Phytographiæ Australiæ. Vols. i.—iv.
- Nees von Esenbeck's Genera Plantarum Floræ Germanicæ. Seven Vols., as far as Chamærops.
- Parlatore's Flora Italiana. Vol. ii., Part 2, Vol. iii., Parts 1, 2.
- Paxton's Flower Garden, by Lindley and Paxton. Vol. i., 1850—1851, Vol. iii., 1852—1853, and No. 18.
- Payer's Elements de Botanique. 1ro Partie, Organographie.
- Person's Synopsis Plantarum. Vol. ii. only.
- Pomological Magazine. Vols. i.—iii.
- Ramon de la Sagra's Histoire de l'Île de Cuba. Botanique, Vol. ii. only; Plantes vasculaires and Atlas.
- Reichenbach's Xenia Orchidacea. Vol. i., and three parts Vol. ii.
- Revue Horticole. Third and Fourth Series complete, 1847—1860, and Fifth Series, Vols. i.—iv., 1861—1864, except Nos. 10, 14, 22, for 1864, also Nos. 20—24, for 1865.
- Schleiden and Nageli, Zeitschrift für Wissenschaftliche Botanik. Heft. 1, 3, and 4.
- Schrader's Monographia Verbasci. Sectio 1.
- Scientific Memoirs, selected from the Transactions of Foreign Academies, edited by Hensley and Huxley. Parts 1—4.
- Scottish Gardener. Vol. v.
- Seringe's Floræ du Pharmacien. To p. 288.
- Sithorp's Flora Græca, pars Lindleyana. Wants the plates.
- Siebold's Flora Japonica. Vol. 1.
- Thunberg's Plantarum Brasiliensium. Decades, 2, 3.
- Thwaites' Enumeratio Plantarum Zeylanicæ. Parts 1—4.
- Torrey and Gray's Flora of North America. Vol. i., Vol. ii., Parts 1—3.
- Treviranus' Erscheinungen und Gesetzen des Organischen Lebens. Vol. i.
- Tulasne's Selecta Fungorum Carpologia. Vol. i., Erysiphei.
- Vol. ii., Xylariei, Valsei, Spheriei.
- Walper's Annales Botanices Systematicæ. Vols. i.—v., and Vol. vi., Parts 1—6.
- Warner's Select Orchidaceous Plants. Plate 36 deficient.
- Weddell's Chloris Andina. Vols. i.—ii.
- Wight's Icones Plantarum, Indiæ Orientalis. Plates 1565, 1566 deficient.
- Willkomm and Lange's Prodrromus Floræ Hispaniæ. Vol. i.

WORK FOR THE WEEK.

KITCHEN GARDEN.

At this season, with the constantly varying weather, little can be done in the kitchen garden. In light dry soils, however, a small sowing of the Early Frame *Pea* may be made. This will come in a little earlier than the crop sown in spring.

FRUIT GARDEN.

As there is comparatively not much of importance to attend to at this season, a good opportunity is afforded for renovating old borders, or forming new ones. The first work to be attended to, after removing unfavourable soil, is to render the border dry by forming a drain in front, the top of the drain being deeper than the bottom of the border, giving that border a good inclination from back to front, and then rendering it impervious to the roots of trees. Grouting with lime and gravel appears to be the best and cheapest means of effecting this object. A hard bottom may be dispensed with in favourable circumstances, particularly if there is no necessity for cropping the borders, as then by mulching the surface the roots would be encouraged to the top. From 1½ to 2 feet will be depth enough of good soil, where healthy fruit trees in opposition to mere luxurians, are the object, giving the greater depth to Pear and Plum trees, Vines, &c., and the less depth to Peach and Nectarine trees. The next proceeding is to obtain a good supply of hazel-coloured loam, if it can be procured. This will answer admirably of itself for the Apple and Pear, for the Plum if kept somewhat adhesive, for the Cherry, if sand or road drift be added for the more tender sorts, for the Peach and Nectarine with the addition of about one-third of road drift or sandy matter, and a little leaf mould if the soil is naturally adhesive, and for Apricots, with less sand than for Peaches, a greater depth of soil being afforded. For Figs it will be better to restrain the extension of the roots, to keep the tree growing from one stem instead of forming suckers, and to supply necessary nourishment by mulching. For Vines the same soil will suit well, but it must be mixed with calcareous matter, such as lime rubbish, &c., and well manured with broken and bruised bones in preference to helbed or other manure, as being more lasting

in their effects, and because the latter, when buried deeply, becomes useless, from being placed beyond the decomposing influence of the air. The addition of brickbats and large lumps of porous sandstone interspersed in the border, so as to keep it open, will be an advantage. Raspberries, and all kinds of fruit trees, may now be pruned. With regard to the former, which produce their fruit entirely on the previous year's wood, the old shoots should be removed, and four or five of the strongest of the young ones tied up in their places, cutting clean off to the root all the rest of the young shoots. After they are tied to the stakes shorten them to 4 feet in height. In exposed situations a good way of training Raspberries is to tie the points of one-half of the shoots on the stools to those of the next stool, thus forming arches, which have rather a neat appearance. This will also be found a favourable opportunity in case of very adhesive soil, for burning the most retentive part of it, using for this purpose the prunings of trees and any other rubbish. The scattering of the burned part will greatly ameliorate the working of the soil, or if it be deemed preferable, such prunings, along with Cabbage stumps, old tan, sawdust, &c., may be charred, and then the produce will be a useful top-dressing for Onions and other crops.

FLOWER GARDEN.

The tender varieties of Roses should be protected at once, otherwise it may be too late to save them. Also, obtain the stock of Briars for budding upon next year without delay, for unless these are planted before spring they seldom furnish strong shoots for early budding. Many persons object strongly to planting shrubs or trees in winter, believing that the roots, if injured at this season, are liable to rot, and certainly the early part of autumn is a preferable season; but in this favourable weather do not delay such work a single day, and if the soil is properly prepared by draining, &c., where necessary, as it should always be before planting, there will probably be fewer failures in planting now than if the work were delayed until March.

GREENHOUSE AND CONSERVATORY.

Although we have many beautiful plants which either bloom naturally at this season, or require but little artificial management to cause them to do so, a scarcity of flowers is, perhaps, more commonly experienced at this than at any other period of the year. Where the display is, to a large extent, dependant on what we term forced plants, considerable foresight and attention will be necessary for some time in order to maintain a regular supply, for plants are not so easily excited into bloom in the dead of winter as in spring; and in selecting plants for forcing, every possible care should be exercised to choose such as are not likely to prove failures, for of those which are suitable for forcing, many will bloom but poorly if they are subjected to a high temperature without being allowed a sufficient time to recruit their energies after making their growth. Next to Camellias, Indian Azaleas are the most showy plants that can be had in bloom at this season, and where there is a good stock of these to draw upon, some of the most forward varieties of the commoner sorts should be placed in heat at once, moistening them overhead two or three times a-day. Those Camellias which are now in bloom and opening their bloom buds should stand in the lightest, healthiest structure, and the house where they are should be kept free from cold evaporated moisture, as such, at this and the coming season for a time, is particularly injurious to the duration of the blooms, and the permanency of their colours, causing blotches and mildewed spots. Healthy strong plants which are loaded with a heavy crop of bloom buds, and are about commencing to bloom, may be greatly assisted by weak applications of clear tepid manure water. Dutch bulbs should be largely used for present forcing, and when hardy shrubs are forced for the decoration of this house they should be brought into flower as soon as circumstances admit, for although many of these are very showy when well bloomed, and acceptable enough when had in flower in winter, they hardly seem in place under glass in spring. Damp and insects at this season do irreparable damage to softwooded plants in the greenhouse, and these must be very carefully attended to if they are to be carried over the winter in first-rate condition. Pelargoniums should be kept rather cool and dry, giving whatever water may be necessary in the mornings of fine days, so that the superfluous moisture may be dispelled before evening, avoiding fire heat, except when necessary to prevent the temperature falling below 40°, or to dispel damp when this cannot safely be done by giving air. Keep the shoots thin, rubbing off such as can be spared, and if green fly is perceived on any of the plants, apply tobacco smoke at once. Cinerarias for late blooming must be kept cool

and airy, and should not be allowed to suffer from want of pot room; but these should not be trusted in cold pits after this period, for they are exceedingly impatient of frost. Forward plants of stock intended for flowering early should be encouraged with a gentle heat, keeping them near the glass, and admitting air at every favourable opportunity.

STOVE.

Although a kindly sweet atmospheric humidity is in this structure requisite to maintain vigorous health, the season is now arrived when it must be supplied very moderately, and so must heat. Clear days should be taken advantage of for any little extra application of either.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

LITTLE has been done here except slightly hoeing and forking among young crops to leave an open surface, and removing the withered leaves from old Cabbage stumps, Savoys, and Brussels Sprouts in bearing, as these, especially after frost, would be sure to emit anything but a pleasant odour.

FRUIT GARDEN.

Examined stores of Apples and Pears, and have found during the last month that many are likely to keep worse than usual. We were rather afraid of this, as after the dry summer they swelled so fast when the rains came, and then there seemed to be a deficiency of sunlight afterwards to dissipate the watery juices. Many of the Pears and Apples were more than usually well flavoured, but others were too juicy; and when they began to decay could scarcely be moved, turning to little else but juice. Some kinds of Apples, such as Margil and Cox's Orange Pippin, have kept extremely well, but they did not swell so much after the rains as many others. As a rule, most of the fruit that increased so rapidly after the rains have kept worse than usual, and even with the greatest care in looking over them some had to go to the rubbish heap.

The season has been so open, that planting, lifting, and root-pruning may still be proceeded with; but in the case of small bush or pyramidal trees but little of these processes will be needed when the tree arrives at a bearing state, if the roots are kept near the surface. One of the charms of a garden is, that chiefly by mere labour alone you can make an old garden look like a new one any day by changing and altering its prominent features. Even old proprietors are apt to weary at seeing things day after day and year after year in the same position; and old associations, however delightful at times, may become wearisome from their very monotony. A change may not always be an improvement, but nevertheless the change may be well worth making even for the sake of change, and to afford something fresh to engage the attention. In the little we have been able to notice of what is doing around us lately, we observe that there is a growing desire to do something in the way of opening up old places, by clearing away old trees, shrubs, &c., and throwing more into grass lawn—all very well if, in these days of economy, the future keeping of the lawn is taken into consideration. It would be well if proprietors and gardeners would bear in mind that a large lawn involves a large expense, for which there is little or no return except pleasing the eye. Other things may want attention now and then; but a lawn, to look well, will in general want weekly attention from April to November, and frequent rollings in winter. We know of some places where there is always a yearly attempt made to curtail the gardening expenses, and yet almost every year sees an addition made to the short grass, which, if it is to be kept ornamental, must involve the necessity of more labour. It is always well in such cases that a proper understanding should be come to between employer and employed, as in a case that a short time ago came under our cognisance. A gardener was very anxious to extend the dressed grounds in one direction. There could be little question as to its not merely being a change, but a great improvement. The gentleman saw it exactly in the same light, approved of the idea, which had often suggested itself to his own mind; but he added—"I can let you have extra help to make this change, but I cannot afford to give you more constant help to keep it up afterwards, and unless you can manage with the help you now have after the change has been made, we must let the matter alone." And it was let alone, though, no doubt, it will be done some day.

Years ago we attempted in a part of the enclosed grounds to combine the useful with the ornamental, and have a small

orchard in union with a bounding shrubbery, and a walk with the ideas much diversified, and the ground chiefly appropriated to low flowering plants, Alpines, &c. This place, from the great variety at all seasons, and especially in the spring months, used to be a favourite resort, but as the orchard trees grew, it became less and less an object of interest so far as the useful was concerned. Unfortunately we had not taken into account the proximity of the farm buildings and the thatched roofs of the buildings most contiguous. This, and the feeding of game in the immediate neighbourhood, encouraged such crowds of birds, that every season we had the mortification to see each tree made a perfect skeleton, so far as the fruit buds were concerned, and even the prominent wood buds would be picked out; and the place was too small, and the number of trees too limited, to give occupation to a boy or a man to watch them, and even to do so the watcher must have got up before the sun. From this space, less than an acre of ground, we have frequently not gathered so much as from a bush tree in the kitchen garden, which would have been served in the same way but for dressing and the presence of workmen.

It has been resolved to change the whole aspect of the place by making it into a separate lawn, studded chiefly with specimens of Cypress, Pinus, and other trees, and as such it will, with its evergreen boundary, be a pleasing change at last. Lots of the largest trees were grubbed-up, but some of the best, with heads from 20 to 25 feet in height, were worth transplanting to some back settlements, where they would be more under the observation of passers-by and the workmen, as though the birds are impudent enough to go anywhere and everywhere, they are more shy in committing their depredations on the buds where their human enemy can be frequently seen, and the report of a gun at times be heard.

In ordinary circumstances we should have raised these trees with less or more of a ball, and used a small timber gig and its pole for bringing them down and carrying them, but as for several reasons this could not be well done, we dispensed with the ball, traced out the roots for about 4 feet from the bole, saved all the fibres possible, and carried the tree to its destination by men, with the assistance of levers.

Here several things may be worth noting for the sake of beginners. These trees, though so thoroughly picked every spring, generally made fresh buds every summer, so that if we could have found a suitable place we would have transplanted more of them. As the trees had little or no ball, the first thing to do on getting the tree down was to lessen the head a little, not so much by cutting it in as by thinning-out many of the smaller branches. This we consider much the better plan, as it leaves the points or axes of growth untouched, and there is then, we believe, a quicker reciprocal action between the roots and branches. The next thing was to set the tree in the hole prepared for it, so that it would stand perpendicularly, and no higher in the ground than it did before, in order that the collar of the plant might not be at all buried. To keep the tree perpendicular some packing under the roots as well as over the roots would be required, doing what was wanted under them chiefly at first. The firming of the tree in its position we generally like to do before packing the roots; the firming is not of much consequence for trees of that size when a good ball is taken, but of great importance when little or no ball accompanies the roots. The most simple support for trees such as these is a pole or stake, and we have seen infinite trouble taken in getting steps, &c., to mallet such stakes into the ground, and then proving, after all, a very poor security against high winds. We do this matter much more simply. Two stakes, or rather poles—such as the top of a Larch tree, &c.—from 10 to 12 or more feet in length, will support a tree larger than these referred to, and require no pointing or malleting. Before the tree is set in the hole make a small hole beyond in the firm ground, say a foot in depth; in this place the base of each pole, and bring the point of each to meet at the bole of the tree, fasten them firmly there with straw bands and rope yarn, mallet the soil round the base of the pole, and a hurricane will hardly move the stem of the tree. We planted some trees in a high wind, and they never flinched a bit, even before the roots were covered. When we thus use these poles, they are generally placed almost east and west. When secured, we can pack the roots better, using the best surface soil amongst them; and, when all packed, we give from four to half-a-dozen pails of water, and when that has sunk in, we put on, and beat pretty firmly the rest of the soil, leaving a basin to catch the rain, and to receive another watering in the end of March if the

weather is mild. Wherever such posts or poles would be unsightly, we have used chains fastened to a collar round the stem, and taken these to strong posts driven obliquely under the surface. For large trees three chains are necessary.

ORNAMENTAL DEPARTMENT.

Besides attending to the general routine, as alluded to in preceding weeks, we have been employed in making changes, moving shrubs with and without balls, and, in the latter case, on the same principle as has been alluded to in regard to the Apple trees. Here we might have something to say on the principle of making changes in gardens, such as turning turf into beds and beds into turf, so as to give fresh soil to plants with the greatest ease. We might also have something to say on pruning Laurels rather freely; and though we would prefer doing that in spring there is no danger in doing it now, unless we have a very severe winter, and spring brings so much to do with it; but we must leave these, and say a word respecting

Fresh-planted Young Trees.—We would direct prominent attention to the importance, in the case of forest trees, of well treading the soil about them afresh a few weeks after planting, and choosing a day when the soil is rather dry for performing such an operation. They will rarely want such treading afterwards, and gales will be unable to dislodge them, or bend them from the perpendicular. It is very difficult to get extensive planting done by men taken on at random. They will either put the plant too deep, or not deep enough, and of the two the first is the worse. In planting young Gorae by the dibber, not one in ten, though holding gardens, has any idea that the one oblique stroke, and then bringing the dibber with soil in the front of it right up perpendicularly to the plant, firms it better and more thoroughly than half a dozen pudding strokes. We have hardly ever known a better season for planting than this has been up to the present, as the ground as yet is far from cold.

Heating by Gas.—A number of small places have been heated by our recommendation and that of our coadjutors and the Conductors, but in all the cases with which we are acquainted the places were small, and the great convenience of the gas rendered the plan on the whole the most economical. Some small places have been heated by our recommendation, using merely a ring of burners in an iron stove, with a small pipe from the stove to take the products of combustion into the open air. We think this is the simplest mode in which gas can be used, merely making the gas take the place of a charcoal or coke fire in a stove. We noted carefully at the time, and circumstances have made us carefully consider just now, the various plans of heating by gas, reproduced in pages 278 and 279, in the number for October 10th, 1867. We know that all the plans there given can be made to answer, whether hot water is used or pipes are taken from the gas stove through the house; but all this hot water and taking pipes through the house are often inconvenient, and are all so far a departure from the simplicity of a common fire stove. Now, we have had little to do with gas stoves, in comparison with common fire stoves; but our idea is, provided you put enough of jets or of argand burners in a gas stove, that that should be sufficient to heat a small place without any other help whatever, unless a small pipe—say 1 inch or less in diameter, going directly out of the house, not from the top but the side of the stove, to take off the products of combustion, whilst air would be supplied from the bottom of the stove to keep the gas burning.

One, and a chief point, is wholly omitted in the number referred to—namely, the expense of the gas, a matter of no importance in a small place as set against the great convenience and saving of labour; but a matter of importance when a large place is desired to be thus heated, and where it would be very inconvenient to have any pipes from the stoves, except the discharge pipes into the open air. For the place we are thinking about, we should judge that six rings of gas would be needed, enclosed in six plate-iron stoves, resembling *fig. 7* or *fig. 1* at the pages indicated, each ring containing at least fifteen jets. Now these jets would on an average consume a cubic foot of gas per hour, and though in mild weather four or five hours' burning might be sufficient, in severe weather the gas would have to burn almost constantly, and in twenty-four hours, therefore, about 2000 feet of gas would be used. To know the value and the quantity of gas consumed in given circumstances would, therefore, be most important, and so would all facts bearing on heating a stove, such as plate iron or galvanised iron with gas, without any pipes, except a small waste pipe into the open air; and the smallest size of such pipe found effectual, as the smaller the pipe, if sufficient for the purpose, the more will the heat be concentrated in and given off by the stove. Our present

belief is that heating by gas will only be found economical when used for small houses, and then it is of all others the most convenient. Ere long most gentlemen's places will have their gasometer, and if, after paying everything, gas can be obtained for about 3s. 6d. per 1000 feet, it may be used for many purposes of heat as well as light.—R. F.

COVENT GARDEN MARKET.—DECEMBER 16.

Very little business is being done, and prices are barely maintained at last week's quotations. Foreign produce presents no new features, the only thing worth notice is an importation of American Newtown Pippins of average quality. The Potato trade is very dull except in choice samples, which bring from 8s. to 12s. per ton.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½	sieve	1	6	to	2	0	0	0
Apricots.....	doz.		0	0	0	0	0	0	0
Cherries.....	lb.		0	0	0	0	0	0	0
Chestnuts.....	bush.		10	0	16	0	0	0	0
Currants.....	½	sieve	0	0	0	0	0	0	0
Black.....	do.		0	0	0	0	0	0	0
Figs.....	doz.		0	0	0	0	0	0	0
Filberts.....	lb.		0	9	1	0	0	0	0
Cobs.....	lb.		0	9	1	0	0	0	0
Gooseberries..	quart		0	0	0	0	0	0	0
Grapes, Hothouse..	lb.		3	0	6	0	0	0	0
Lemons.....	100		4	0	8	0	0	0	0
Melons.....	each		2	0	to	5	0	0	
Nectarines.....	doz.		0	0	0	0	0	0	
Oranges.....	100		2	0	6	0	0	0	
Peaches.....	doz.		0	0	0	0	0	0	
Pears (dessert) ..	doz.		2	0	8	0	0	0	
Pine Apples.....	lb.		3	0	5	0	0	0	
Plums.....	½	sieve	0	9	1	6	0	0	
Quinces.....	doz.		0	9	1	6	0	0	
Raspberries.....	lb.		0	0	0	0	0	0	
Strawberries..	per lb.		0	0	0	0	0	0	
Walnuts.....	bush.		10	0	18	0	0	0	
do.....	per 100		1	0	2	6	0	0	

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	doz.		3	0	to	6	0	0	0
Asparagus.....	100		10	0	0	0	0	0	
Beans, Kidney per hd.	2		0	3	0	0	0	0	
Beet, Red.....	doz.		2	0	3	0	0	0	
Broccoli.....	hands		1	0	2	0	0	0	
Brus. Sprouts ½ sieve	2		0	0	0	0	0	0	
Cabbage.....	doz.		1	0	2	0	0	0	
Capiscams.....	100		0	0	0	0	0	0	
Carrots.....	bunch		0	4	0	5	0	0	
Caulliflower.....	doz.		3	0	6	0	0	0	
Celery.....	hands		1	6	2	0	0	0	
Cucumbers.....	each		0	9	1	6	0	0	
Endive.....	doz.		2	0	0	0	0	0	
Fennel.....	bunch		0	3	0	0	0	0	
Garlic.....	lb.		0	8	0	0	0	0	
Herbs.....	bunch		0	8	0	0	0	0	
Horseradish..	hands		5	0	5	0	0	0	
Leeks.....	bunch		0	4	to	6	0	0	
Lettuce....	per score		2	0	4	0	0	0	
Mushrooms... potto	2		0	0	0	0	0	0	
Must. & Cress, packet	0		2	0	6	0	0	0	
Onions... per bushel	5		0	7	0	0	0	0	
Parsley..... per sieve	8		0	4	0	0	0	0	
Parsnips..... doz.	0		9	1	0	0	0	0	
Peas..... per quart	4		6	8	0	0	0	0	
Potatoes..... bushel	4		6	8	0	0	0	0	
Kidney..... de.	4		0	7	0	0	0	0	
Radishes doz. bunches	1		6	0	0	0	0	0	
Rhubarb..... hands	0		0	0	0	0	0	0	
Sea-kale..... basket	2		0	3	0	0	0	0	
Shallots..... lb.	0		6	0	0	0	0	0	
Spinach..... bushel	2		0	3	0	0	0	0	
Tomatoes..... per doz.	1		0	2	0	0	0	0	
Turnips..... bunch	0		6	0	0	0	0	0	

TRADE CATALOGUES RECEIVED.

Sutton & Sons, Reading.—*Suttons' Amateur's Guide and Spring Catalogue, 1868.*

R. Pennell & Son, Lincoln.—*Catalogue of Ornamental Trees and Shrubs, Forest Trees, Conifera, and Descriptive List of Fruits. Descriptive Catalogue of Roses.*

T. Cripps & Son, Tunbridge Wells, Kent.—*Wholesale Catalogue of Nursery Stock.*

W. Barron & Son, Elvaston Nurseries, Borrowash, near Derby.—*Catalogue of Ornamental Plants, Fruit Trees, &c.*

TO CORRESPONDENTS.

. We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

BOOKS (W. H. B.).—Hefrey's "Rudiments of Botany," price 3s. 6d. You can obtain it through any bookseller (A. N. Parson).—"How to Farm Two Acres Profitably," would suit you probably. You can have it free by post from our office if you enclose fourteen postage stamps with your address. (W. Miller).—If you enclose twenty-seven postage stamps with your address, and order "Greenhouses" and "In-door Gardening," they will be sent post free from our offices. They contain the directions you need.

NAME OF CORRESPONDENT (T. Williams).—We cannot state this, it causes far too much inconvenience. If any one offers in our columns to give away a few seeds he is deluged with applications.

BACK NUMBERS (E. S. F.).—You can have the back numbers if you specify them, and enclose their price in stamps with your direction. We cannot name plants from seeing their leaves.

ESPIRAN GRAPE (One Fond of Vine Culture).—The difference of opinion as to the merits of this variety probably arises from the Grapes being cultivated differently and in a different soil. We have eaten excellent Espiran Grapes grown under glass, and we have known that it ripens against a wall in the south of England, but we never tasted the produce. Do not remove your Vine until you have tried it, and we shall be obliged by your reporting to us the result.

GARDENERS' EXAMINATION (F. G.).—If you write to Mr. Richards, Assistant Secretary, Royal Horticultural Society's Offices, South Kensington, he will send you full printed particulars.

GROSS SHOOTS OF ROSES (C. W., Boston).—"It is difficult to say without seeing the trees what should be done with gross shoots as thick as a walking stick. If a tree were perfect in its wood without the gross shoot, I should cut it out altogether. If the form of the tree wanted perfecting where the gross shoot is, I should leave it in. If the wood of the tree is generally bad, I should either cut the whole of the old wood away, and cut the gross shoot to four or six eyes, so as to form a new head; or I would take a first series of flowers from the old wood, and then at once remove it. When I grew standards I practised both plans with success. It is a good plan where you have a gross shoot on a tree with inferior or decaying wood to cut the whole away in March, and form a new head from the gross shoot.—W. F. RADCLIFFE."

ROSE FUNGI AND GRUBS—PROTECTING AND PRUNING (Q. Q.).—"I have never used Gishurst Compound. I cannot say whether it would prevent mildew; but, from what I have read, I think it would be useful in subduing insects. The best cure for Rose grubs in spring is to catch and kill them. My Manetti-stocked Roses bear such crops of buds that I never trouble myself about them. They save me the trouble of removing superfluous buds. If you were to dissolve aloes and wash the dormant buds, I think the Rose grub would not touch them. I have bought some as an experiment, and intend in February to syringe my Peach and Nectarine trees with it. I never knew any creature that was fond of aloes. A gentleman had a monkey that gnawed his own tail. In vain did he try to stop this bad falling, till at last he tried aloes with complete success. Pug never repeated his offence after the first taste of this nauseous drug. The winter buds that will not develop may be taken off, or left on till pruning time. The wood and bark of my Roses are so hard and well ripened that I see no need of defending them further than I have already stated. The Tea Roses and Tea-scented are defended additionally with fern and Asparagus hadim, or straw. You have not, probably, 1853 Rose trees (my present stock), to defend. If you have only a few trees and the materials, it would be safe to wrap loosely about the ground line, and tie with bast the whole of the Rose plants—protection. We get a killing winter about once in six or seven years; ordinarily Hybrid Perpetuals, if the wood and skin are ripe, do not need such protection. As a rule, whether a Rose on a Briar is for a peal, wall, or standard, it is best on removal to prune closely in the following spring. Gloire de Dijon, which is a Tea-scented Rose, need not be pruned so closely as a Hybrid Perpetual. Try 12 inches. Never prune Roses closely at the time of planting, nor till the buds swell.—W. F. RADCLIFFE."

APRICOT CASTING ITS FRUIT (Y. Z.).—We think the cause of the fruit dropping soon after setting is the boards not affording sufficient protection. You would probably succeed if you were to protect the tree at night with canvas or with woollen netting, until the tree is well furnished with leaves. In frosty nights and even frosty days the canvas may remain over the tree. Boards do not absorb and give out so much heat as a brick wall, and to that cause we attribute the falling of the fruit.

FILBERT CULTURE (An Old Subscriber).—The "Garden Manual" contains full particulars on Filbert culture. It may be had post free from our office if you send twenty postage stamps with your address.

COMPOSITION FOR WOUNDS ON TREES (Idem).—We find nothing better than white lead paint, adding a little lamp black to render it less conspicuous. The edges of the wound where the branch is sawn off should be pared smooth with a knife, and the wound well coated with the paint.

AMERICAN BLIGHT ON FRUIT TREES (Idem).—Nothing equals paraffin oil for the destruction of American blight. It should be applied with a brush, rubbing it well into the parts affected, and it may be applied to every part of the tree. It will free the trees of moss, but for destroying this we recommend dusting the stem and shoots whilst wet with fresh-slaked lime, making them quite white. Gishurst Compound will not destroy the buds of fruit trees unless used after they have begun to swell or are too strong.

GRASS VERGES (T. J.).—We think you will find that the grass verges will become firm and close if you keep them well rolled, and allow them to grow for a year or two without cutting with the edging-knife. Unless the situation is away from the shade of trees or buildings, it is badly adapted for the growth of grass. We would not put down edging tiles, as a live edging is always preferable. Have you tried Box edging?

IVY ON TREES (Quercus).—Ivy growing on trees is very injurious, and entirely prevents the production of fine timber. It may be desirable for clothing the trunks and branches of old trees; but for those of the size you name (10 inches in diameter), no time should be lost in removing it. It is no protection to the bark, and may be as safely removed now as in spring.

APHELANDRA LEOPOLDI LEOPY (Aphelandra).—Your plant may be cut down in February, and should be placed in a mild bottom heat and moist top heat, and when it has made shoots a few inches long, repeat. You may cut every shoot back to within two eyes of the base, making cuttings of the tops of the shoots. These cuttings will strike freely in sandy peat, plunging the pots in a brisk bottom heat, and covering with a bell-glass.

FERNS DISFIGURED (C. P.).—We cannot detect any insects or traces of their attacks on the fronds of the Ferns that you sent us. The "red rust" is neither more nor less than the spores of the Ferns, which at this season are shed, the spore-cases bursting, and the dust or spores being distributed over the fronds, giving them a brownish appearance, which, though a disfigurement, is natural, and shows health. Its being noticed last year on one plant only, and now on the whole, is a consequence of the increased age of the plants; all are probably this year fruiting. You may free them of the "red rust" by sponging the fronds with clean water, or gently syringing them; but we should prefer to leave them as they are, for we enjoy the harvest of Ferns quite as much as the spring.

CINERARIA LEAVES CURLING (A Constant Reader).—The leaves are, no doubt, curling from the attacks of green fly or other insects. Your only remedy will be to fumigate the plants with tobacco, shutting the frame up closely when the foliage of the plants is dry. Then fill the frame with smoke so that a plant cannot be seen from the outside. To keep in the smoke, the lights may be covered with mats. A calm night should be chosen.

SULPHURING HOT-WATER PIPES (Idem).—The hot-water pipes in a Cucumber house may be coated with sulphur and it will do no harm; the fumes will act as a preventive of red spider. Sulphur may be placed in the evaporation troughs without injuriously affecting the plants.

PLANTING BORDERS (F.).—You do not state what you wish to plant—trees, shrubs, or what. If you state what you wish information about, we shall be glad to assist you.

CAMELLIA CULTURE (C. B.).—We think your young plants cast their buds from undue excitement. The buds, you say, were very small, and no doubt were not set until a late period. For flowering at Christmas the plants should be introduced into heat about the middle or end of March. Syringe them every evening and morning, and keep the atmosphere moist. Ainery at work is very suitable, as the temperature will be brisk, the atmosphere moist, and the shade of the Vines agreeable. If you have no vinery the temperature should be from 50° to 55° at night, and 65° by day, with a rise from sun heat. In this temperature the plants will push freely, and should have every encouragement by moisture, copious waterings, and slight shade from bright sun. Any pruning required should be performed before the plants are introduced into the house, the old plants being cut in rather closely, but the young plants should only have the straggling shoots shortened, so as to form plants of compact growth. If any potting be required it ought to be done, but the old plants, if cut back, ought not to be potted until they have broken, and made shoots a few inches long; then repeat shading from sun for a time until the plants have recovered from the potting. They should be kept in heat until the growth is complete and the buds formed, then give more air and harden them off, and the buds will be well formed. The plants should be kept in a cool airy house after the buds are set, and if partially shaded from powerful sun all the better, but avoid too great shade, which is apt to make the foliage sickly-looking. You may shake the plants out of the peat and pot them in torfy sandy loam. To bring them into bloom at Christmas the house should have a temperature from fire heat of 45° or 50°. Azaleas in 4-inch pots should be shifted in spring, when they begin to grow, into pots 6 inches in diameter, giving them the same treatment as the Camellias, but peat soil.

POTATOES FOR EARLY AND SECOND CROPS (S. H. L. W.).—There is no better Potato for an early crop than Rivers's Royal Ashleaf, though the Ash-leaved Kidney is a few days earlier. Myatt's Prolific is a good early Potato, more prolific than the Ashleaf, but a few days later. Lapstone is the best second early Potato, but requires to be grown in light soil.

PEARS FOR PYRAMIDS (F. F. S.).—Citron des Carmes, 2; Fondante d'Automne, 2; Williams's Bon Chrétien, 2; Comte de Lamy, 4; Alexandre Lambré, 4; Bauré de Capianmont, 2; Bauré Clairgeau, 2; Bergamotte Espérez, 3; and Louise Bonna of Jersey, 3.

FRUIT TREES FOR NORTH WALL (Idem).—The Morello Cherry succeeds admirably on a north wall or aspect, and Red and White Currants and Gooseberries may be so grown, and desirably, for hanging late. The trees may be planted during mild weather until the end of February.

VINE BORDER (J. W. K.).—We have no doubt that the border will repay you for the labour. We would cover in the autumn when early forcing was resorted to. For years we have been anxious to make some fresh borders, and air-shafts with us have been a settled idea. The communicating with the inside of the house is good, but even much may be done by opening the air-shafts out of doors in warm days, and shutting them at night. Your plan will always insure plenty of sweet, moist, fresh air in the house.

FLUE ARRANGEMENTS (C. B., a Young Gardener).—Your plan of obtaining bottom heat and top heat from a flue is very good, and so is the contrivance by means of a plate and damper, for securing instant draught by sending the smoke and flame up the chimney at once on lighting the fire, and then sending the heated air round the flue, when the air in the chimney is rarefied. Your plan, however, could only be put in operation when the chimney stands over the fireplace, and, therefore, in other cases where the chimney may be at the further end from the fireplace, the plans adopted by an engineer and "R. F." will be applicable. We agree with you that much may be done by small flues. We have one, the top of which forms part of the flooring, that answers admirably.

TREATMENT OF POTTED PLANTS (T. J.).—The plants will thrive all the better of having the surface soil stirred as you propose for three-quarters of an inch in depth. This stirring will keep out frost better than if the surface were hard and smooth; but plants in pots in general should be protected from frost by other means as well. When leaves begin to fade they may be cut off as a general rule, as, after fading begins, they take more from the plant than they return to it. In some exceptional cases even half of a sound leaf, however, is better than none. For your wall overshadowed by trees, we could advise nothing better than the different variegated Ivies, which will always look well. We have seen Cotoneaster microphylla do well in a shady place, but it will not cover the wall so soon as the Ivy.

PLANTING OUT VINES FROM POTS (T.).—If you had taken a heavy crop from the Vines we would have said throw them away; but as you have been moderate we would plant them out, reducing the head one-third or half, and spreading out the roots, instead of having them coiled round as in a pot.

PYRAMIDAL PEAR TREES PARTLY DEAD (C. A.).—We cannot tell without more particulars what is the matter with your pyramidal Pear trees, but should judge they are suffering from one of two causes—excess of moisture or starvation. If the first is the cause try what draining or raising the roots will do. If the second suggestion is the cause, as we suspect, fork the surface soil, and cover with two or three inches of rotten dung, and repeat the application in the summer.

FIRNS ATTACKED BY RABBITS (P. I. N.).—If your trees are not numerous tie a small handful of straw round each. It will keep all predators of that kind away. Dabbing the stems with dung, lime, and brine will keep the marauders off for a time. The most effectual safeguard is wire netting, 3 feet in height.

MIDSBROOM CULTURE.—A correspondent, "FAILURE," wishes "AOARICUS" to state the kind of structure his beds were made in. We can see nothing wrong unless "FAILURE" had bad spawn, and used too little of it. We do not know the size of his bricks, but eight of them do not seem much for four large beds. He ought to have succeeded with beds spawned in April; but, unless coolness could be ensured, we should be less surprised at the not succeeding when spawning in June.

WINTERING COLEUSES (R. J. S.).—They will be best wintered in the conservatory, assigning them the warmest situation. Only a little water should be given occasionally to keep the foliage from flagging. The situation should be light and airy, and free from damp or drip. In a

dwelling-house Colenuses do not winter; indeed, to winter them safely a house with a temperature of 45° or 50° is necessary.

GRAFTING RHODODENDRONS (*A Constant Reader*).—The best time for grafting Rhododendrons is at the end of August or beginning of September, after growth is complete. Whip or side grafting is the mode employed. The stocks should be placed in a cold frame as worked, and kept close, moist, and shaded from powerful sun until the grafts have taken. Grafting may also be very successfully performed in April, just before the plants begin to grow, the stocks being placed in a frame over a mild bottom heat of about 70°. Keep close and shaded until the grafts begin to grow, then gradually harden off.

PRUNING IRISH YEW (*A. P.*).—We do not advise cutting Irish Yews for they are so slow-growing that a very long time must elapse before the gaps are filled up, and until then the trees will be very unsightly. If you can, by shortening this long shoots and other pruning, preserve the symmetry of the trees, by all means prune, for they will bear any amount of pruning. Could not the branches be tied with tarred rope not very closely together, so as to improve their appearance? They will then become more compact, but do not crowd the branches very closely, but leave room between for the young shoots.

SOWING WALLFLOWERS FOR SPRING FLOWERING (*North Yorkshireman*).—The best time to sow Wallflowers for planting in flower beds for winter and spring flowering is from April to June. Sow in light rich sandy soil, and in an open situation. When the seedlings are large enough to handle they should be pricked off in beds, allowing each plant a space of about 3 inches. In October take up with good balls, and plant in the flower beds, or planting may be deferred until the beds are cleared of the summer-flowering plants. There are several colours; the best are the blood red, brown, purple, and yellow. We prefer and employ Cheiranthus Marshallii (yellow), which is propagated by cuttings or slips. We also use the common garden Wallflower seedlings for borders; but they vary so much in colour that for beds they cannot be depended on, otherwise they are of the sweetest and most useful of winter and spring-flowering plants. The flowering will be over by the time the beds are required for bedding plants.

CUCUMBER FRONCO (*Item*).—Your proposed plan of a tan bed enclosed by a sort of wicker-like frame to keep it up will answer very well; but the frame must not rest on the stakes, but be set on the tan, placing a brick under each corner. If you set the frame on the stakes the tan will sink, leaving the frame too high, and the soil and plants settling with the tan will be at too great a distance from the glass; the soil, too, will most likely crack, and there will be a space between the soil and frame through which air will pass; and though that might be prevented by the dug lining, yet steam from the latter cannot be kept from entering, and in a single night a part, or the whole, of the plants may be destroyed. The dug linings will be excellent for keeping up the heat. We should not begin until February, and we think a better result will follow than by commencing in January.

POTTING HEATHS (*Item*).—The best time to pot Heaths is early in March, and, if the plants are young, again in June, but the shifts should be small.

CLARKE'S COMPOUND (*W. H. H.*).—The places where it can be purchased are stated in his advertisement in our Journal of December 6th.

STOCKS FOR EPIPHYLLUMS (*H. D.*).—*Pereskia aculeata* is the stock most commonly employed, and it answers very well. *P. portulacacolia* is sometimes used, and is good for the purpose. We do not know where you can obtain the stocks, but if you were to write to the principal nurserymen they would probably be able to serve you. The stocks are usually raised from cuttings, which strike freely in sandy soil, and in one or two years make plants fit for grafting. They should be trained with one shoot until of the height required; then cut off the head of the stock

and put upon it a scion or graft of the *Epiphyllum* in the manner of tongue or whip-grafting, securing with matting, and placing a little moss over the junction.

SOIL FOR SANCHEZIA NOBILIS VARIEGATA (*Item*).—It succeeds in a compost of equal parts of turfy loam, sandy fibrous peat, with one-sixth of old dry cow dung and silver sand.

ELEPHANT'S FOOT (*TESTUDINARIA ELEPHANTIPES*) *CULTURE* (*W.*).—The preceding is the proper name of the plant called Elephant's Paw or Foot. It does not require any peculiar treatment beyond that of a greenhouse climber. It dies down in winter, and should then be kept dry. A compost of two-thirds sandy turfy loam, and one-third sandy peat, with good drainage, will grow it well. The shoots should be trained near the glass, and the plants well supplied with water when growing.

WINTERING PELARGONIUMS IN SPARE ROOM (*S. E. C.*).—Your mode of treatment is right. The plants will winter safely without water, though you may give a little to prevent the wood shrivelling. Those in the frame should not be watered, but must have all the air possible. Pick off all dead yellow leaves, and cut away any stems that are damping off. The *Fuchsias* will do well if kept from frost. The soil should be kept dry. *Camellias* and *Azaleas* should have the soil moist in winter, but they will not then require water so often as in summer, the soil, however, ought to be moistened through. You should have the stove made to draw so as to prevent the smoke coming into the house, and dust may be avoided by sprinkling water over the ashes or fire before raking it out. The *Roses* in pots should be removed to the greenhouse before severe frost, and placed in the coolest and most airy situation that is well exposed to the light.

GROUND VINERY (*St. Denis*).—If it is span-roofed and its ends placed north and south, and two Vines planted at each end, it would be possible, as it is 34 feet wide, to ripen Grapes in it on the four Vines for one year. The Early Black Bordeaux, Chasselus Vibert, and Black Hamburg are suitable. Of the other we know nothing.

COCKSCOMB STRAWBERRY (*W. B.*).—The Rev. Mr. Radclyffe's testimony to the large size of the Cockscomb Strawberry was published in our Journal on August 27th. Of the statement's truth there is not a shadow of doubt. We cannot republish it, and any one wishing to see the account can have the number by enclosing four postage stamps with his address.

HEATING APPARATUS (*A Constant Subscriber*).—We have not tried the apparatus you mention. The Index will not be ready until the second week in January.

NAMES OF FRUITS (*A Lover of Fruit*).—The Cockscomb Strawberry was described in our last number. *Semper fidelis* Raspberry is not known to us by that name. There being hundreds of named Gooseberries no one can identify any by mere description. We do not think that Walnuts could be bush-grown.

NAMES OF PLANTS (*D. H.*).—*Atriplex portulacoides*. (*G. P.*).—1, *Selaginella Martensii*; 2, *Aspidium coriaceum*; 3, *Adiantum affine*. (*J. Blackburn*).—*Maxillaria crocea*. (*A Constant Reader*).—4, *Euphorbia splendens*; 5, *Lavandula santolinifolia*; 3, *Aloe spinulosa*; 4, *Opuntia microdasys*; 5, *Gasteria angulata*. (*Greenhouse*).—*Abelia floribunda*. May probably stand a mild winter in Devonshire, but is rather tender. (*Amateur*).—1, 2, and 4, Not recognised; 3, *Asplenium trichomanes*; 5, *Asplenium flaccidum*; 6, *Pteris serrulata*; 7, *Asplenium adiantum-nigrum*; 8, *Neprolepis* sp.; 9, *Polypodium vulgare* (a crested variety); 10, *Davallia pulchella*; 11, *Cystopteris alpina*?; 12, *Selaginella Martensii*; 13, *Pteris cretica*; 14, *Doodia caudata*; 15, *Polypodium dryopteris*. (*R. H.*).—1, *Selaginella Braunii*; 2, *Gymnogramma tartarea*; 3, *Asplenium ruta-muraria*. (*W. T.*).—1, *Echites melleocra*; 2, *Asplenium esculentum*; 3, *Platyloma cordata*; 4, *Cheilanthes odora*; 5, *Adiantum concinnum*.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending December 15th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 9	30.172	30.011	49	39	50	49	N.E.	.00	Fine, cloudy; densely clouded; overcast.
Thurs.. 10	29.837	29.546	53	45	50	49	S.E.	.02	Overcast, brisk wind; fine, overcast; clear and fine.
Fri. . 11	29.831	29.753	57	24	50	49	S.W.	.00	Boisterous with rain; overcast; densely overcast.
Sat. . 12	29.821	29.763	45	37	48	49	S.E.	.00	Fine and frosty; buzzy, fine; overcast, fine.
Sun. . 13	29.651	29.552	53	41	47	48	S.E.	.00	Overcast; very dull; clear and fine at night.
Mon. . 14	29.510	29.319	54	49	50	48	S.	.12	Fine; brisk wind; densely overcast; showery and boisterous.
Tues.. 15	29.404	29.172	53	45	51	48	S.	.35	Fine, very mild; overcast; showery and very boisterous.
Mean	29.755	29.583	52.71	40.14	49.43	48.57	..	0.50	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

GAME FOWL CHARACTERISTICS.

HAVING just returned from the Poultry Show at Birmingham, I am impelled, as a fervent admirer and tolerably experienced breeder of the noblest of domestic fowls, the English Game cock, to offer some remarks on the general character of the birds exhibited in the Game classes at Bingley Hall. It may be necessary for me to premise that I had no interest whatever in the Judges' decisions—that I was not an exhibitor, nor concerned in any of the exhibits. This is the first great show I ever saw in England, and probably for that very reason some of your readers may be interested in this record of my impressions.

In the first place, I am bound to bear witness that the show

of Game fowls was in one respect far beyond my expectation. A finer collection of high-bred and well-conditioned fowls had, probably, never been brought together. There could not be a more striking evidence of the favour in which these beautiful birds are held, than the appearance of the Game department as compared with any other in the Show. To pass from the graceful, sprightly, and intelligent occupants of the Game pens to the uncouth Cochin and the hideous Houdan, was indeed to exchange good company for bad—to descend from civilisation to savagery. It was Hyperion to a satyr—Blair Athol to a jackass—the last beauty at Almack's to the Hottentot Venus. However, *chacun a son goût*. I do not quarrel with those whose tastes are for the fluffy-sterned Cochin-China, the ghost-like Crève Cœur, or the squat Dorking. I have only to say, on behalf of my own favourites, that never was so grand a display of perfect form, breeding, and

condition, as was exhibited by the Game classes in the Birmingham Poultry Show. I can but admire, not envy, the Judges who had to decide among individual specimens so nearly equal in beauty and in goodness. To one or two of their judgments I might be disposed to demur, but on the whole, having regard to the difficulties of their task, and also to the fact that they are necessarily in a better position to judge of the merits of the birds than any of the spectators—from having the privilege of handling the specimens, without which handling no Game fowl can be truly judged—I am forced to admit that the awards were very fairly made.

While, however, almost all the birds that were exhibited were good of their kind, I could not help observing that some kinds seemed to be better developed and of higher excellence than others. The Brown Reds, especially the cocks, were a wonderfully good class, and perhaps the best in the Show. The Black Reds were scarcely at all inferior, and the Duckwings were almost perfect. I was struck, however, by the fact that these three kinds seemed to have monopolised all the attention of the breeders and the favour of the Judges. Not only this, I could not help remarking on the general sameness of all the specimens in each class, in every point. Every Black Red was like his neighbour almost in every feature and in every shade of colour. Now, this may be the perfection of breeding, but does it not become a little monotonous? Is it even true that the type of Game cock preferred by the Judges is the highest in each kind? What have the old cockers to say on this point, who, after all, have some claim to be heard on the subject?

Is it admitted, for instance, that Black Red cocks should have legs of no colour but willow green? Willow green may be a very pretty colour, but I refer to all the authorities, and I find that a Black Red cock may have legs of any colour but black. Yellow, white, blue, and slate, used to be once, at least, as common a hue for a Game cock's leg as willow. Why are these colours shut out altogether as though they were disqualifications? Anybody looking over the Black Red classes at Birmingham, who was not previously acquainted with the subject, would naturally come to the conclusion that the one correct colour for a Black Red fowl's legs is willow. But is it true that willow is even the best colour? and if not true, is it wise to encourage none but willow legs? All the old-fashioned professional cockers will tell you that willow-legged cocks are by no means the best in the pit—that they have not, in fact, the highest qualities required in a Game cock, which are, courage and endurance.

The object of a show is surely to develop the highest type in its kind of the bird exhibited, to encourage the growth of the best, and not only the most beautiful animals. A Game cock not pre-eminent in courage is worthless. I will not venture, in this place, to offer a word in favour of cock-fighting, although I have much to say on that subject; yet it will be universally admitted that a Game cock that cannot fight is untrue to his nature. He has no *raison d'être*. He is worse than an orator without speech, a horse that cannot run, or a pig that cannot yield bacon.

It may be difficult, I admit, for the judges at a show to determine what are the moral qualities of the animals submitted to their judgment; yet it is only fair to ask that they should concede something to the opinion of those practically acquainted with the subject. That opinion is founded on many years' experience, and the tradition that a Game cock with willow legs is not to be relied upon for his conduct in war is worthy of some respect. There must have been some foundation in the general theory which held that the highest courage in a Game cock was always found associated with legs of a certain colour. At least, there is no reason why any special favour should be shown to willow legs. In my opinion a bright yellow leg is more in harmony with the general colour of a Black Red cock than a green leg. Black Red cocks with white legs, it is well known, are among the highest-bred of their kind, and certainly the best bird I ever knew in my life, for all practical purposes, was one of this breed, descended from the famous Derby strain. I do not desire that any pre-eminence should be given to one colour over another. All I contend for is, that all colours should be equally judged; that, other things being equal, no preference should be given to the willow leg over the yellow, the white, or the blue.

In the case of the Duckwings, I observed at Birmingham the same disposition to narrow the varieties of colour. Most of the birds shown were, in the first place, clearly not pure Duckwings—that is to say, they had not been bred by Duck-

wing cocks out of Duckwing hens. I missed the beautiful old-fashioned Silver Duckwings. The modern style of Duckwing, though unquestionably handsome in appearance, shows in his predominance of red, yellow, and chestnut, that he has been crossed with the Black Red. In this class, again, it seems that the Judges will allow only one colour of leg, although Duckwings have naturally as many varieties of colour in the leg as any other breed. In my opinion, a bronze or yellow-green leg looks best under a Duckwing cock.

Of the Brown Reds I have nothing to say, except that they seemed to me to be as near perfection as possible. I can remember, however, when the Brown Red cock was lighter on the breast, without derogation from his beauty, than he is now. The Piles were but an indifferent class, and seem to suffer from the discouragement of the Judges. Here, again, the willow leg appears, although singularly out of harmony with the red and white feathers. Surely it is manifest to every properly educated eye, that no colour in the leg can match the body of a Pile cock so well as either yellow or white.

And now I come to my principal complaint of this Birmingham Show, which is, not only that the birds in each class are bred too narrowly after one type and one colour, but that the classes themselves do not fairly represent the breed of English Game fowls. Considering how the present breed of Game fowl has been obtained—by a process of artificial selection through many centuries, the object throughout which was to rear only the best, that is, the most courageous and the most warlike in their kind—there is, I fear, too much danger that the breed will degenerate under the new influences which are brought to bear upon its perpetuation. If we breed only for beauty and for colour, we shall obtain beauty and colour, but at the certain sacrifice of all those other qualities for which the English Game cock has hitherto been famous. There is no reason, of course, why we should not have both the highest moral and the highest physical qualities combined; but that can only be by our attending equally to the signs of courage and endurance in the Game cock as to his appearance and condition at a show. I do not mean to say, of course, that there should be a series of mains fought on the floor of Bingley Hall to determine which are the best birds. I simply contend that the Judges should pay a little more respect than they appear to do to the opinions and the traditions of the "pit," and that they should not be influenced by any arbitrary views of their own as to what should be the right colour of a cock's leg, the correct hue of his hackle, or the proper carriage of his tail. If the Judges have no right to make new laws of their own upon the chief points requisite in each breed, still less are they justified in restricting the number of breeds, and in favouring one or two fashionable varieties at the expense of others. The use and value of such shows are, or ought to be, not to diminish but to increase the number of all distinct and true varieties—even to encourage the production of new varieties. One would imagine from a glance at the pens in Bingley Hall, that the only pure Game fowls in the world are the Black Reds, the Brown Reds, the Duckwings, the Piles, and the Black. But is there no other variety deserving encouragement? What have become of the Duns? Is the ancient race of Smocks extinct? Are there no Birchen Yellows surviving? Is the henny cock a fossil like the Dodo, of which the memory is borne only in the apocryphal chronicle of Tegetmeier? Surely all these are distinct and interesting varieties, which deserve the attention of the managers of the Birmingham Show. I only saw one Dun cock at Bingley Hall, and he, with his undubbed crest, seemed to be ashamed of being in that proud company. Yet the Duns, in all their sub-varieties, are beautiful and interesting birds, as true Game as any other.

The Birchen Yellows, again, were famous in the olden time, and ought to have their representatives in any collection of Game fowl. They are at least as distinct a variety as the Piles, and certainly not less beautiful. The henny cocks, of which some ignorant writers speak as though they were abortions or *lusus naturee*, are a true variety, as I can testify of my own experience. They can reproduce their kind with perfect certainty, if matched with hens of their own breed, and I have no doubt they are still to be found in Cornwall and the western counties, where they were once celebrated for their prowess on the battle field. Considering the magnitude to which this Birmingham Show has reached, the extent of its resources and its popularity, and the influence it exercises on the breeders, I do not think that it is too much to ask that the managers should give encouragement to every known variety of Game fowl, by establishing distinct classes for each kind. I do not know why even the Tassels and the crested varieties should no

be revived, although the "Muffs," as perpetuating an offence to symmetry of form, and the "Cuckoos," as being a violence to harmony of colour, may be suffered to die away.

To sum up, my principal objection to these large shows is, that they tend to narrow instead of to enlarge the field of fowl culture. They are too exclusive in their preference of certain few varieties. They make all the breeders run in the same groove. In the special case of the Game fowls, they favour certain arbitrary ideals of form and colour, without sufficient regard to the true character and normal type of the breed.—H. E. W.

FRAUDULENT ARTIFICES IN PREPARING BIRDS FOR EXHIBITING.

MANY thanks are due to "NEMO" for the active measures he is taking to suppress the disreputable practices of trimming and plucking poultry for exhibition; may he never grow weary until a trimmed fowl at any show shall indeed be a *rara avis*. To accomplish such a desirable condition in all classes is no mean task, and may require the countenance and support of all right-minded exhibitors, which we may hope will be readily and continuously granted.

When looking at poultry exhibited I have often wondered at the supineness of judges on the matter, and the favouritism shown to birds evidently tampered with. Last spring I purchased (without seeing her), a Brahma hen, upon the recommendation that she was believed by the vendor to have won more prizes than any hen ever bred; she is now nearly through her moult, and, as may be expected from so successful a winner, has thrown out an ornamental pair of vulture hocks, too profuse for further exhibition, which I shall be happy to show to "NEMO," or any of the judges who may like to see their pet hen in her natural condition.—J. H. CURF, *Metropolitan Cattle Market*.

MUCH pleased ought all honest exhibitors to be with the action taken by "NEMO" at the Birmingham Show, towards putting a stop to the most unfair practice of trimming Brahma Pootras—a practice that, if not checked, would bring poultry exhibitors to the level of turf-sharpeners, and drive respectable people with disgust from a fancy where success could only be obtained by cheating.

Let exhibitors now vigorously follow up the step that has been taken, and we shall quickly have the satisfaction of observing the discontinuance of these frauds.—BRISTOL.

LONGTOWN POULTRY SHOW.

THE Show held at Longtown, near Carlisle, on the 9th and 10th inst., proved a decided success, there being upwards of two hundred entries of Poultry, Pigeons, and Canaries. For the latter two, however, there being only one class for each, the competitors were not numerous. Game fowls and Golden-pencilled Hamburgs were well represented. The following is a list of the awards:—

GAME COCK.—First, Joseph Brough, Carlisle. Second, R. Little, Dick's. Third, J. H. Wilson, St. Bees. Highly Commended, G. Hall, Kendal. John Brough.

GAME.—First, John Brough. Second, Joseph Brough, Carlisle. Highly Commended, J. H. Wilson. Commended, R. Fawkes, Bush Crossings. **CHICKENS.**—First and Second, Joseph Brough. Highly Commended, T. Maxwell. Commended, John Brough.

GAME (Duckwings).—First, Joseph Brough. Second, T. Maxwell. Highly Commended, J. Barrow, jun., Kendal. Commended, T. Davidson, Longtown.

HAMBURGHS (Golden-spangled).—First, G. Holmes, Bedlington Station. Second, J. Walker, Knaresborough. Highly Commended, A. Hatfield, Selkirk; R. Dickson, Selkirk. **CHICKENS.**—First, R. Tyson, Longtown. Second, W. Smith, Ainderby Steeple, York. Highly Commended, A. Hatfield; R. Dickson.

HAMBURGHS (Golden-pencilled).—First, T. Musgrave, Longtown. Second, R. Burrow, Longtown. Highly Commended, J. Walker; W. Bowe, Carlisle. **CHICKENS.**—First, F. Johnson, Walton House. Second, J. Armstrong, Longtown. Highly Commended, R. Little; R. Irving, Dickstree; J. Armstrong. Commended, B. Bec, Goornough, Preston.

HAMBURGHS (Silver-spangled).—First, G. Holmes. Second, W. Bows. **CHICKENS.**—First, W. Bowe. Second, G. Dobson, Longtown.

HAMBURGHS (Silver-pencilled).—First, J. Walker. Second, J. Musgrave. **CHICKENS.**—First and Commended, J. Musgrave. Second, J. Walker.

DORKINGS.—First and Second, G. F. Lyon, Kirkcubrecht, Dumfries. **CHICKENS.**—First, J. H. Wilson. Second and Highly Commended, G. F. Lyon. Commended, R. Reid, Moat.

SPANISH (Black).—First, H. Wilkinson, Earby, Skipton. Second, Miss J. A. Musgrave, Longtown. Highly Commended, Miss J. Nelson, Eaglesfield; Bowman & Fearon, Whitehaven.

ANY OTHER VARIETY.—First, Miss J. Nelson (White Cochins). Second, Bowman & Fearon. Highly Commended, Mrs. Thomson (Buff Cochins); F. Johnson (Houdans); J. J. Walker, Kendal (Houdans).

GAME BANTAMS (Any colour).—First, Dalzell & Armstrong, White-

haven. Second, Bowman & Fearon. Highly Commended, J. Wallace, Ravenwood; B. Bes. Commended, R. A. Allison, Scaley Hall.

GREENE.—First, Mrs. Birkett, Broom Rigg, Ainstable. Second, Mrs. McBurnie, Fauld Mill. Highly Commended, R. Reid. Commended, T. Boyd, Gilger Burn; Miss M. Morton.

DUCKS (Aylesbury).—First, G. F. Lyon. Second, R. Lattimer, Cannobie. Highly Commended, J. Little, Woodhouses; Mrs. Thompson.

DUCKS (Rouen).—First and Second, G. F. Lyon.

DUCKS (Any other variety).—First, Mrs. Thompson (American). Second, I. Fawkes, jun.

SELLING CLASS.—First, H. Wilkinson (Spanish). Second, J. H. Wilson. Highly Commended, R. Lattimer (Aylesbury); Rowman & Fearon; R. Reid, Moat; F. Johnson (Silver-spangled Hamburgs); T. Davidson. Commended, R. Reid; J. Armstrong, Longtown (Golden-pencilled Hamburgs).

ANY VARIETY (Confined to Arthuret and Kirkcandrews).—First, Miss J. A. Musgrave. Second, R. Reid. Highly Commended, F. H. Musgrave, Longtown; F. Hayton; R. Reid.

PIGEONS.—Any variety.—First and Second, F. Graham, Birkenhead. Highly Commended, G. R. Sibson, Carlisle (Red and Blue Croppers); F. Graham, Birkenhead; J. Chambers, Longtown; J. N. Harrison (Owls); R. Whittaker, Bolton; J. & W. Towerson, Egremont. Commended, R. Pickering, Brampton; W. Cullen, Longtown (Owls).

CANARIES.—First, W. Hutton, Pardon's Crook. Second, J. N. Harrison (Norwich). Highly Commended, R. Irving, Dickstree; J. Chambers, Longtown; Miss E. Jackson, Longtown.

SWEETBARES FOR TWO HENS.—Dorkings.—Prize, W. Bearpark, Ainderby Steeple. Highly Commended, Mrs. Thompson. **Hamburgs.**—Prize, T. Musgrave, Longtown. Highly Commended, Miss M. Jackson. **Game.**—Prize, J. Armstrong, Cannobie. Highly Commended, Mrs. Thompson.

The Judge was R. Teabny, Esq., of Falwood, Preston.

LEIGHTON BUZZARD POULTRY SHOW.

THIS year's meeting very far surpassed its predecessors both as to the number of entries and the excellence of the generality of the specimens exhibited. There was a near approach to three hundred entries; but unfortunately, from that well-known error so much indulged in by owners, and which we have so frequently exposed, of leaving the dispatch of birds to the last possible train, more than forty pens proved empty at the time of judging, though almost all of them, it appears, arrived some time the same evening.

Of *Bantams* alone there were upwards of fifty entries, and the specimens were of excellent quality. Eight pens of Golden and Silver *Pheasants* added much to the beauty of the Show, and their plumage was excellent. About fifty pens of first-rate *Pigeons* were exhibited, and the arrangements of the Show generally were excellent. As the weather was fortunately most favourable the number of visitors was very satisfactory, and no doubt the support of numerous new subscribers to this Show would be secured.

GAME (Black-breasted and other Reds).—First, S. Matthew, Stowmarket (Brown Reds). Second, J. Laming, Cowburn, Spalding (Black Reds) Third, R. Hall, Cambridge. Highly Commended, Capt. Wetherall, Loddington; Rev. C. Mayor, Wavendon.

GAME (Any other variety).—First and Cup, S. Matthew, Stowmarket (Duckwing). Second, Withheld. Third, E. S. Lowndes, Stony Stratford (Duckwings).

GAME (Any variety).—*Hen or Pullet.*—First, S. Matthew (Brown Reds). Second, R. B. Stafford, Fenlake, near Bedford.

DORKINGS (Any variety).—First, Mrs. Seamons, Hartwell, Aylesbury. Second, Rev. J. S. Lowndes, Hartwell, Aylesbury. Third, J. Longland, Grandon, Northampton. Commended, W. H. Denison, Woburn Sands; Mrs. Seamons; J. H. Roper, Barham, Ipswich.

COCHIN-CHINA (Cinnamon or Buff).—First and Cup, J. Cattell, Birmingham. Second, F. W. Rust, Hastings. Third, J. N. Beasley, Brampton.

COCHIN-CHINA (Any other colour).—First and Second, G. Shrimpton, Leighton Buzzard (White). Third, E. S. Lowndes (Partridge). Commended, E. S. Lowndes (Partridge); E. Shaw, Plas Wilmot, Oswestry (Partridge).

BRAHMA POOTRA (Any variety).—First, Hon. Miss E. Douglas Pennant, Penrhyn Castle, Bangor. Second, Mrs. Farquharson, Towcester (Pencilled). Third, Mrs. Burrell, Stoke Park, Ipswich. Highly Commended, P. H. Jones, Fulham. Commended, Hon. Mrs. A. Baillie, Hamilton-Ridgmont, Woburn. **Pullets.**—First, Hon. Miss E. Douglas Pennant, Second, J. K. Fowler, Aylesbury. Third, U. Spary, Danstable.

CRÈVE-CŒURS, HOUDANS, and LA FLÈCHE.—First and Cup, R. Hurman, Cowley, near Oxford (Crève-Cœurs). Second, Lady L. Charteris, Eccles Hall, Attleborough (Houdans). Third, J. K. Fowler (La Flèche). Highly Commended, Capt. Wetherall (Crève-Cœurs); D. T. Willis, Leighton Buzzard (Crève-Cœurs);—Barford, Aylesbury, Bucks (Houdans). Commended, Col. Stuart Wortley; J. K. Fowler (Crève-Cœurs).

SPANISH.—First and Second, W. R. Bull, Newport Pagnell. Third, E. Brown, Sheffield. Highly Commended, W. B. Jeffries, Ipswich. Commended, J. R. Rodbard, Wrington, Bristol; P. H. Jones. **Hens or Pullets.**—First and Cup, F. James, Peckham Rye. Second, P. H. Jones. Highly Commended, Hon. Miss E. Douglas Pennant.

HAMBURGHS (Golden or Silver-pencilled).—First, W. K. Tickner, Ipswich (Golden-pencilled). Second and Third, U. Spary, Dunstable (Golden-pencilled).

HAMBURGHS (Golden or Silver-spangled).—First, S. & R. Ashton, Roe Cross, Mottram, Cheshires (Golden-spangled). Second and Third, Rev. F. Tearle, Gazeley Vicarage, Newport (Silver-spangled).

POLISH (Any variety).—First, Second, and Third, G. W. Boothby, Louth (Golden). Highly Commended, Lady L. Charteris (Buff Padrono Chamois).

ANY DISTINCT VARIETY NOT BEFORE MENTIONED.—First, Rev. J. S. Lowndes, Hartwell, Aylesbury (Andalusian). Second, J. K. Fowler (Friedled Niggers). Highly Commended, Mrs. E. Terry, jun., Aylesbury (Niggers).

DUCKS (Rouen).—First, J. K. Fowler. Second, Rev. J. S. Lowndes.

Third, Hon. Mrs. A. Baillie Hamilton. Highly Commended, Mrs. Farquharson, Tweester.

DUCKS (Aylesbury).—First and Second, Mrs. Seamons. Third and Highly Commended, J. K. Fowler.

DUCKS (Any other variety).—First, T. C. Harrison, Hull. Second, J. N. Beasley, Brampton, Northamptonshire (Pucos Ayres). Highly Commended, J. H. Roper (Mandarin); C. N. Baker, Chelsea, (Mandarin). Commended, J. H. Roper (Carolina).

TURKEYS (Any variety).—First, J. N. Beasley. Second, J. Tompkins, Southcote, Leighton Buzzard.

GEESSE (Any variety).—First, Mrs. Seamons. Second, J. K. Fowler.

PHEASANTS (Any variety).—Prize, J. K. Fowler (Gold). Highly Commended, B. S. Lownds (Gold); F. Bassett, Leighton Buzzard (Silver); M. Leno (Golden); R. Richmond. Commended, J. K. Fowler (Silver); Rev. H. C. Russell, Wentworth Vicarage, Rotherham (Golden).

GAME BANTAMS.—First, Cup, and Second, W. B. Jeffries (Black Reds). Third, C. H. Raynor. Highly Commended, F. Gotto; W. Thurnall, Bedford (Black Reds); J. Allen, Amptill. Commended, J. Laming, Cowharn, Spalding (Black Reds); T. C. Harrison; W. G. Johnson, Bedford (Duckwing).

BANTAMS (Any variety).—First and Second, M. Leno (Laced). Third, S. & R. Ashton (Black). Highly Commended, T. C. Harrison; U. Spary (Gold-laced). Commended, J. N. Beasley (Japanese Frizzled); Rev. F. Tearle, Newmarket (White).

SINGLE COCKS.

GAME (Any variety).—First, R. Hall. Second, A. C. Swain, Radeline, Buckingham. Highly Commended, E. Shaw, Plas Wilmot, Oswestry.

DORKINGS (Any variety).—First, J. H. Roper, Barham. Second, Rev. E. Bratton, Great Berkhamstead. Highly Commended, Rev. E. Bartrum; J. Longland. Commended, F. Gotto, Leighton Buzzard.

COCHIN-CHINA (Any variety).—First, J. H. Beasley, Brampton. Second, J. K. Fowler. Commended, H. Deau, Southam, Warwickshire (White); J. Longland.

BRAHMA POOTRA (Dark or Light).—First and Second, Hon. Miss E. Douglas Peonant. Commended, H. Dean, Southam, Warwickshire (Light); J. K. Fowler.

BANTAMS (Any variety).—First, U. Spary (Silver-laced). Second, M. Leno. Highly Commended, W. B. Jeffries (Black Reds); G. Shrimpton (Black Reds); Rev. F. Tearle; J. K. Fowler; G. H. Raynor, Tonbridge; J. Allen, Amptill; M. Leno.

PIGEONS.

CARRIERS (Any colour).—First, H. Yardley, Birmingham. Second, J. W. Edge, Birmingham.

POUTERS (Any colour).—First and Second, F. Gresham, Shefford (White and Red). Highly Commended, E. Brown, Sheffield; F. Gresham (Red and White). Commended, F. Gresham (Black).

TUMBLERS (Almond).—First, E. Brown. Second, H. Yardley.

TUMBLERS (Any other variety).—First, J. W. Edge. Second, H. Yardley. Highly Commended, W. H. Denison, Woburn Sands (Kite).

JACOUBS (Any colour).—First, W. H. Denison (Yellow). Second, E. Brown (Red). Highly Commended, J. W. Edge. Commended, H. Yardley.

PANTAILS (Any colour).—First, H. Yardley. Second, Mrs. Seamons. Highly Commended, W. H. Denison; J. W. Edge.

TRUMPETERS (Any colour).—First, W. H. Denison (Mottled). Second and Third, Rev. H. C. Russell (White).

TURBITTS (Any colour).—First, J. W. Edge. Second, T. P. Willis, Winslow. Highly Commended, E. Brown.

BARBS (Any colour).—First, H. Yardley. Second, E. Brown. Highly Commended, W. H. Denison. Commended, J. H. Roper.

MACPIES (Any colour).—Prize, J. W. Edge.

JUDGE.—E. Hewitt, Esq., Sparkbrook, Birmingham.

NORTH BRITISH COLUMBIAN SOCIETY'S SHOW.—DEC. 10TH AND 11TH.

"WILTSHIRE RECTOR" informs us that this Exhibition is, when compared to other Pigeon shows, what the poultry Exhibition of Birmingham is to other poultry shows. We are promised some relative notes by him, so this week only publish the list of awards.

EXTRA PRIZES.

The Members' Challenge Cup (value £30) presented by the Society to the most successful Exhibitor in 1866, 1867, and 1868. Gained in 1866 by J. Montgomery, Belfast; in 1867 and 1868 by R. Fulton, Deptford; finally awarded to J. Montgomery, being the most successful Competitor during the three-years contest.

A Silver Medal presented by W. Volckman, Esq., as a Special Prize, for excellence of form and carriage, open to all the Cock Pouters in the standard Pied Classes, of not less measurement than 18½ inches in feather, and 6½ inches in limb. Fair colour and markings indispensable.—R. Fulton.

A Silver Medal presented by W. Volckman, Esq., for excellence of colour and marking; open to all the Cock Pouters in the standard Pied Classes, of good form and carriage, and of not less measurement than 18½ inches in feather, and 6½ inches in limb.—James Montgomery.

A Silver Medal presented by George Ure, Esq., as a Special Prize, to the best Pouter Ben in the Exhibition.—R. Fulton.

EXTRA CLASSES.

POUTERS (Black Pied).—*Young*.—Silver Medal presented by J. Muir, Esq., R. Fulton, Deptford. Second prize given by a Member, J. Macfarlane, Tolleross. Very Highly Commended, J. Macfarlane. Highly Commended, J. Montgomery. Commended, R. Fulton.

POUTERS (White).—*Young*.—Silver Medal presented by M. Sanderson, Esq., R. Fulton. Second Prize given by a Member, D. Stewart, Perth. Very Highly Commended, J. Montgomery. Highly Commended, R. Fulton. Commended, A. Heath, Calce.

POUTERS (Blue Pied).—*Young*.—Silver Medal presented by W. Geddes, Esq., and Mr. Volckman's Silver Medal for excellence of colour and marking, J. Montgomery. Second prize given by a Member, R. Fulton. Very Highly Commended and Highly Commended, R. Fulton. Commended, E. Horner, Harewood, Leeds.

POUTERS (Red Pied).—*Young*.—Silver Medal presented by J. A. Thomas,

Esq., H. Brown, Walkley. Second and Very Highly Commended J. Montgomery. Highly Commended, R. Fulton. Commended, G. Ure, Dundee.

POUTERS (Yellow Pied).—*Young*.—Silver Medal presented by H. Hutchinson, Esq., R. Fulton. Second prize given by a Member G. Ure. Very Highly Commended and Commended, R. Fulton. Highly Commended, J. Montgomery.

POUTERS (Mealy Barred).—*Young*.—Silver Medal presented by W. Lightbody, Esq., R. Fulton. Second prize given by a Member, J. Macfarlane. Very Highly Commended, D. Stewart. Highly Commended, J. Montgomery.

CARRIERS (Black).—*Young*.—Silver Medal presented by J. Wallace, Esq., Glasgow, R. Fulton. Second prize given by a Member, J. Montgomery. Very Highly Commended, W. Massey, Spalding. Highly Commended, R. Fulton. Commended, J. Wallace, Ennorbank.

CARRIERS (Dun).—*Young*.—Silver Medal presented by C. M. Roys, Esq., Roebdale, G. C. Holt, Lawton, Cheshire. Second prize given by a Member, R. Fulton. Very Highly Commended, J. Montgomery. Highly Commended, S. Harding, Fareham. Commended, R. Fulton.

CARRIERS (Any age).—Silver Cup presented by F. T. Wiltshire, Esq., Croydon, R. Fulton. Second, G. C. Holt. Very Highly Commended, Highly Commended, and Commended, R. Fulton.

TUMBLERS (Short-faced).—*Young*.—Silver Medal presented by J. H. Frame, Esq., Overton, R. Fulton. Second prize given by a Member, R. Fulton. Very Highly Commended, J. Montgomery. Highly Commended and Commended, R. Fulton.

BARBS (*Young*).—Silver Medal presented by M. Stuart, Esq., Glasgow, J. Montgomery. Second prize given by a Member, J. Montgomery. Very Highly Commended and Commended, R. Fulton. Highly Commended, E. Horner.

POUTERS (Black).—*Cocks*.—First and Highly Commended, R. Fulton. Second, J. Macfarlane. Third and Commended, J. Montgomery.

POUTERS (Black Pied).—*Hens*.—First and Commended, R. Fulton. Second, Third, and Highly Commended, J. Montgomery.

POUTERS (White).—*Cocks*.—First, D. Stewart. Second and Commended, R. Fulton. Third, J. Montgomery. Highly Commended, J. Grant, Edinburgh. *Hens*.—First, and Mr. Ure's Silver Medal for best Pouter Hen, R. Fulton. Second, G. Ure. Third, G. Montgomery. Highly Commended and Commended, A. B. Boyd, Edinburgh.

POUTERS (Blue Pied).—*Cocks*.—First, Second, and Third, and Mr. Volckman's Silver Medal for excellence of form and carriage, R. Fulton. Highly Commended, J. Montgomery. Commended, D. Stewart. *Hens*.—First and Highly Commended, J. Montgomery. Second and Commended, R. Fulton. Third, J. Huie, Crosshill, Glasgow.

POUTERS (Red Pied).—*Cocks*.—First, Second, Third, Highly Commended, and Commended, J. Montgomery. *Hens*.—First, Second, and Highly Commended, J. Montgomery. Third, G. Ure. Commended, R. Fulton.

POUTERS (Yellow Pied).—*Cocks*.—First, Third, and Commended, J. Montgomery. Second, R. Fulton. Highly Commended, W. Volckman. *Hens*.—First, G. Ure. Second, Highly Commended, and Commended, J. Montgomery. Third, R. Fulton.

POUTERS (Mealy Barred).—*Cocks*.—First, Second, and Highly Commended, J. Montgomery. Third, J. Ruthven, Pollockshields, Glasgow. Commended, R. Fulton. *Hens*.—First, Second, and Highly Commended, J. Montgomery. Third, R. Fulton. Commended, W. R. Rose, Cransley Hall, Kettering.

POUTERS (Irregular in colour and Marking).—*Cocks*.—First and Second, J. Montgomery. Third and Commended, F. Keir, Edinburgh. Highly Commended, J. McGill, Elie. *Hens*.—First, Highly Commended, and Commended, J. Montgomery. Second and Third, R. Fulton.

CARRIERS (Black).—*Cocks*.—First, Second, Third, Highly Commended, and Commended, R. Fulton. *Hens*.—First, Second, Third, and Commended, R. Fulton. Highly Commended, J. Montgomery.

CARRIERS (Dun).—*Cocks*.—First, J. Montgomery. Second, Third, Highly Commended, and Commended, R. Fulton. *Hens*.—First and Highly Commended, J. Montgomery. Second, Third, and Commended, R. Fulton.

CARRIERS (Any colour, Black and Dun excepted).—First and Highly Commended, R. Fulton. Second, Third, and Commended, J. Montgomery.

SHORT-FACED TUMBLERS (Almond).—First, Second, Highly Commended, and Commended, R. Fulton. Third, J. Montgomery.

SHORT-FACED TUMBLERS (Mottles, Agates, Kites, and Self-colours).—First, Second, and Third, R. Fulton. Highly Commended, J. Montgomery. Commended, F. Graham, Birkenhead.

BARBS (Black).—Silver Medal, presented by J. Ruthven, Esq., Glasgow, R. Fulton. Second and Third, R. Fulton. Highly Commended, J. Montgomery. Commended, W. B. Van Haansbergen, Newcastle-on-Tyne.

BARBS (Any colour, Black excepted).—Silver Medal, presented by G. White, Esq., Paisley, R. Fulton. Second, R. Fulton (Yellow). Third, E. Horner. Highly Commended and Commended, J. Montgomery.

PANTAILS.—Silver Medal, presented by F. Else, Esq., London, J. Montgomery. Second, R. Fulton. Third, A. Smith, Boughty Ferry. Highly Commended, W. R. Park, Melrose. Commended, J. Sharp, Johnstone.

JACOUBS (Red or Yellow).—Silver Medal, presented by J. Huie, Esq., Glasgow, E. Horner. Second and Third, E. Horner. Highly Commended, J. Montgomery. Commended, A. B. Boyd (Red).

JACOUBS (White or Black).—Silver Medal, presented by J. Sharp, Esq., Johnstone, E. Horner. Second and Third, J. Montgomery. Highly Commended, R. Fulton (Black). Commended, J. Montgomery.

TRUMPETERS (White or Black).—Silver Medal, presented by Capt. Heaton, Manchester, J. Montgomery (Black). Second, J. Montgomery. Third, A. B. Boyd (White). Highly Commended, J. Wallace. Commended, G. White (Black).

TRUMPETERS (Mottled).—Silver Medal, presented by A. B. Boyd, Esq., Trinity, E. Horner. Second, Third, and Commended, J. Montgomery. Highly Commended, W. H. Johnson.

TURBITTS.—Silver Medal, presented by J. R. Rennards, Esq., Helensburgh, R. Fulton. Second, R. Fulton. Third, J. Montgomery. Highly Commended, H. Yardley, Birmingham. Commended, E. Horner.

OWLS (English).—Silver Medal, presented by Capt. Heaton, Manchester, F. Sale. Second, C. Balpin, Bridgewater. Third, J. Crosland, jun., Wsfield. Highly Commended, J. Firth, Webster Hill, Dewsbury. Commended, W. R. Park.

OWLS (Foreign).—First and Second, R. Fulton. Third and Highly Commended, J. Montgomery. Commended, Miss F. Easton, Hull.

DRACOONS.—First, J. Montgomery. Second and Third, R. Fulton. Highly Commended, H. Yardley. Commended, J. Wallace.
NUNS.—First, J. Montgomery. Second, E. Horner. Third, J. Sharp. Highly Commended, W. B. Van Haansbergen. Commended, H. Yardley.
TUMBLERS (Beard or Balds).—First, W. H. C. Oates, Besthorpe, Newark. (Blue Beards). Second and Highly Commended, R. Fulton. Third, F. Graham (Beards). Commended, J. Ruthven (Balds).
FANCY, NOT OTHERWISE CLASSED.—First and Highly Commended, J. Montgomery (Magpies and Lace Pantalons). Second, H. Yardley. Third, J. Wallace (Labores). Commended, E. Horner.
JUDGES.—Dean Wolstenholme, Esq., London; F. Esquilant, Esq., London; James Miller, Esq., Glasgow.

ROYAL DUBLIN SOCIETY'S POULTRY SHOW.

DECEMBER 8TH, 9TH, AND 10TH.

THE Show of poultry far exceeded, both in the number and quality of birds exhibited, any of its predecessors. 330 pens in all were shown, and, as will be seen from the prize list, a considerable number came across the water to compete for the laurels in the Green Isle.

In *Silver-Grey Dorkings*, Mrs. Warburton stood first with a pen that could hold their own anywhere; the same may be said of her prize pen in the Coloured class, while in chickens she had it all her own way; the second-prize pen in the old Coloured class was also very good. In the single cocks the competition was very close, sixteen birds of first-rate quality being shown, but the honours were fairly won by Mr. Barlow, with a most promising young bird.

In *Spanish*, Miss Douglas Pennant heads the list; the quality of her birds is too well known to require comment. In the old class Mr. Cooper stood a good second; while in both the chicken classes Miss Drevar showed birds which, if they had seen as many months as Miss Pennant's, might have wrested their honours from them.

The *Brahmas* came to the front in great force—forty-one pens in all. Mrs. Barrell gained most honours; next came Mrs. Warburton and Mr. Boyle. This class was of first-rate quality, and by its numbers augurs well for the prospects of these deservedly popular birds in this country.

Mrs. Burrell took all the firsts in *Cochins*. The cock in her old pen was notably one of the best Buff Cochins we have ever seen. The title to second honours in this class was so evenly balanced between Mr. Staunton's Partridges and Mr. Zurhorst's Whites that the Judges determined to award them equal seconds.

In *Game*, some birds of the true type were shown. Mr. Staunton stood first with a beautiful pen of Black Reds; while Mr. McClintonck showed a nice pen of chickens. In both classes of *Hamburghs* the prizes were won by birds of real merit; but, on the whole, there was a great deficiency in the markings, &c., which leaves decided room for improvement.

Of Miss De Courcy Drevar's White-crested fowl we cannot speak too highly; they could hold their own anywhere.

In French fowl, the La Flèche were but poorly represented, although the winners were of fair quality. In *Crève-Cœurs* the real contest lay between Mr. Cooper and Mr. Zurhorst; and, although the Judges decided in favour of the former gentleman, the birds of the latter were by most thought superior; however, they were both exceedingly fine. The *Hondans* were well represented; Mr. Pim taking first with a very fine pair.

In the Variety class the first prize went to a good pen of Silver-crested Polands; the second to a nice lot of Saltans.

Bantams showed pretty fairly, considering that this is the first time they have been favoured with a class; but the strong points of the Show were the Geese and Ducks; of the former there were twenty entries, all good; in the latter, thirty-six. Mr. Williams carried off the palm for Geese and Rouen Ducks, while Mrs. Burrell stood first in Aylesbury. The Turkeys, with the exception of the cock in the first-prize pen, were only of average quality.

The show of *Pigeons* was small, and included nothing noteworthy, except perhaps a pen of Ice Pigeons and one of Isabels belonging to Mr. McCrea.

The arrangements, &c., were carried out by Mr. Andrew Corrigan, the Agricultural Superintendent, and were exceedingly good, especially when we consider that the entries only closed six days before the Show. Subjoined is the prize list:—

DORKINGS (Silver-Grey).—First, Third, and Commended, Mrs. Warburton, Kill, Naas. Second, S. Mowbray, Killesay, Mountrath. Highly Commended, J. C. Cooper. *Chickens*.—First and Second, Mrs. Warburton. Highly Commended, T. Franks, Mallow. Commended, Mrs. Warburton; S. Mowbray.

DORKINGS (Coloured).—First, Mrs. Warburton (Dark). Second and Third, R. P. Williams, Glaslinc, Clontarf. Highly Commended, Mrs. Hay, Co. Cork. Commended, J. C. Cooper. *Chickens*.—First, Mrs. Warburton (Dark). Second and Highly Commended, J. C. Cooper, Limerick. Commended, R. P. Williams.

SPANISH.—First, Hon. Miss Douglas Pennant, Pearbyn Castle, Bangor. Second, J. C. Cooper. Commended, G. A. Stephens, Dublin. *Chickens*.—First, Hon. Miss Douglas Pennant. Second, Miss De Courcy Drevar, Rose Hill, Blackrock, Co. Dublin. Commended, R. P. Williams.

BRAHMA POOTRA.—First, Mrs. Warburton (Dark). Second, Hon. J. Massey, Limerick (Dark). Highly Commended, Mr. Warburton; Capt. Downham. Commended, J. C. Cooper. *Chickens*.—First, Mrs. Burrell, Stoke Park, Ipswich. Second, R. W. Boyle. Highly Commended, Hon. Miss Douglas Pennant. Commended, R. W. Boyle.

COCHIN-CHINAS.—First, Mrs. Burrell. Equal Second, F. W. Zurhorst; C. F. Staunton, Clondalkin (Partridge-coloured). Highly Commended,

F. W. Zurhorst. Commended, J. C. Cooper. *Chickens*.—First, Mrs. Burrell. Second and Highly Commended, F. W. Zurhorst (White). Commended, C. F. Staunton.

GAME.—First, C. F. Staunton (Black-breasted Red). Second, J. C. Cooper. Highly Commended, C. E. McClintonck. Commended, J. C. Cooper; Hon. J. Massey, Limerick. *Chickens*.—First, C. E. McClintonck; Randallstown, Co. Antrim. Second, F. W. Zurhorst.

HAMBURGH (Pencilled).—First, Mrs. Burrell. Second, J. C. Cooper. Highly Commended, Hon. J. Massey. Commended, C. E. McClintonck.

HAMBURGH (Spangled).—First, C. F. McClintonck. Second, S. Mowbray. Highly Commended, W. Helm, Dublin. Commended, F. Zurhorst; S. Mowbray.

WHITE-CRESTED BLACK, OR BLACK-CRESTED WHITE.—First and Second, Miss De Courcy Drevar (White-crested Black). Highly Commended, R. P. Williams; J. K. Milner, Dublin.

LA FLECHE.—First, J. C. Cooper. Second and Highly Commended, G. A. Stephens.

HOUDANS.—First, F. W. Pim, Greenmount, Harold's Cross, Dublin. Second, J. C. Cooper. Highly Commended, Hon. J. Massey. Commended, Mrs. Burrell; J. C. Cooper.

CRÈVE-CŒUR.—First, J. C. Cooper. Second, F. W. Zurhorst. Commended, J. C. Cooper.

ANY OTHER VARIETY NOT COMPETING IN THE FOREGOING SECTIONS.—First, Mrs. Burrell (Silver-spangled Polands). Second and Commended, J. C. Cooper (Saltans and Coarls Pates). Highly Commended, F. W. Pim (Silver Polands); Countess of Charlemont, Fairview (Golden Pheasants).

GAME BANTAMS (Any variety).—First, F. W. Zurhorst. Second, G. F. D. Sutherland (Black Red). Highly Commended, F. W. Zurhorst.

ANY OTHER VARIETY.—First, Mrs. Staunton (Black Bantams). Second, Mrs. G. Perrin, Loughlinstown (Nankin Bantams). Highly Commended, Mrs. Clay (White Rose-combed Bantams). Commended, F. W. Zurhorst (Black Bantams).

TURKEYS.—First, F. W. Zurhorst. Second and Third, J. C. Cooper. Highly Commended, L. King, Geashill. Commended, J. C. Cooper.

POULTS.—First and Second, J. C. Cooper. Commended, S. Mowbray. *Cock*.—First, J. C. Cooper. Second, F. W. Zurhorst. Commended, J. C. Cooper; Hon. J. Massey.

GEESE.—First, R. P. Williams (Tonlouse). Second and Third, Mrs. Warburton. Highly Commended, J. C. Cooper. Commended, J. Burke; Hon. J. Massey.

DUCKS (Rouen).—First and Second, R. P. Williams. Highly Commended, R. W. Boyle; H. M. Barlow, Dundrum. Commended, S. Mowbray; J. Barlow.

DUCKS (Aylesbury).—First, Mrs. Burrell. Second, R. P. Williams; Highly Commended, Mrs. Warburton. Commended, W. Magrath; Mrs. Warburton.

SINGLE COCKERELS.

DORKING.—First, J. Barlow, Chapelizod (Grey). Second, W. Magrath, Blessint (Silver-Grey). Highly Commended, Mrs. Warburton; S. Mowbray. Commended, J. C. Cooper; T. Felton, Fairview.

SPANISH.—First, Hon. Miss Douglas Pennant. Second, Miss De Courcy Drevar.

COCHIN-CHINA.—First, Mrs. Burrell. Second, J. K. Milner, Cherbury, Blackrock, Co. Dublin.

BRAHMA POOTRA.—First, Mrs. Burrell. Second, J. Bourke, Stapolin, Beldoyle. Highly Commended, Mrs. Warburton; G. A. Stephens; Hon. Miss D. Pennant; Major Bacon, Dublin.

LA FLECHE.—First, G. A. Stephens, Dublin. Second, J. C. Cooper.

HOUDAN.—First, Mrs. R. Clay, Anglesey. Second and Highly Commended, J. C. Cooper.

CRÈVE-CŒUR.—First and Second, J. C. Cooper. **GAME**.—First, J. W. Sutherland, Carrickmeena, Co. Dublin. Second, F. W. Zurhorst. Highly Commended, J. C. Cooper. Commended, C. E. McClintonck.

PHEONS.—*Carriers*.—Cock.—Prize, E. McCrea, Stillorgan. *Hen*.—Prize, E. McCrea. *Tumblers* (Any breed).—First, E. McCrea (Kite). Second, Mrs. G. Perrin. *Fantails*.—First, N. Evans, Dublin. Second, Miss Arthur. Commended, E. McCrea. *Any other variety not before mentioned*.—First, Second, and Third, E. McCrea (Siberian Ice). Commended, J. Lloyd, Cork; E. McCrea.

The Judges were Messrs. P. H. Jones, of Fulham, London; W. G. Merry, of Blessint; and A. Comyns, jun., of Glenageary, Co. Dublin; and we may add that their awards gave, with few exceptions, entire satisfaction.

LEEDS POULTRY SHOW.

THIS was held on the 12th, 14th, and 15th inst. The following is the prize list:—

GAME (Black-breasted Red).—First, E. Aykroyd, Bradford. Second, R. Booth, Halifax. Third, T. Lambert, Silsden. *Chickens*.—First, S. Moore, Keighley. Second, E. Aykroyd. Third, J. Rollinson, Otley.

GAME (Brown-breasted and other Red, except Black-breasted).—First, M. Graham, Kendal. Second, W. Bentley, Scholes, Cleckheaton. Third, A. K. Briggs, Bradford. *Chickens*.—First and Cup, F. Sales, Crowle. Second, H. Jowett, Idle. Third, R. Payne, Erierfield.

GAME (White and Piles).—First, E. Butcher, Chesterfield. Second, R. Turner, Drighlington. Third, T. I. Sunderland, Halifax. *Chickens*.—First, H. C. & W. T. Mason, Drighlington. Second, E. Butcher. Third, G. Pounder, Kirby Moorside.

GAME (Any other variety).—First, W. Boyes, Leverley. Second, E. Aykroyd. Third, J. Fortuna, Keighley. *Chickens*.—First, H. Jowett, Leeds. Second, H. C. & W. T. Mason. Third, D. Ashworth, Halifax.

DORKINGS (Silver Grey).—Third, H. Beldon, Bingley. *Chickens*.—First, J. Stott, Rochdale. Second, Rev. E. S. Tiddeman, Brentwood.

DORKINGS (Any other variety).—First, H. Beldon. Second, T. Rogers, St. Helen's, Lancashire. Third, J. Elgar, Newark. *Chickens*.—First and Cup, J. White, Northallerton. Second, J. Stott. Third, H. Beldon.

SPANISH.—First and Cup, Hon. Miss Douglas Pennant, Bangor. Second, H. Beldon. Third, W. A. Taylor, Manchester. *Chickens*.—First, H. Beldon. Second, Birch & Boulter, Sheffield. Third, W. & F. Piekard, Thorne.

COCHIN-CHINA (Cinnamon and Buff).—First, W. A. Taylor. Second, G. H. Proctor, Durham. Third, J. H. Dawes, Birmingham. *Chickens*.—

First, W. A. Taylor. Second, R. White, Sheffield. Third, C. Sedgwick, Keighley.

COCHIN-CHINA (Any other variety).—First, T. M. Derry, Wisbeach. Second, C. Sedgwick. *Chickens*.—First and Cup, W. A. Taylor. Second, E. Shaw, Oswestry. Third, R. White.

BRAHMA POOTRAS.—First, E. Leach, Rochdale. Second, W. Whiteley, Sheffield. Third, J. Walker, Knarborough. *Chickens*.—First and Cup, E. Leach. Second, Hon. Miss Douglas Pennant. Third, W. Whiteley.

HAMBURGERS (Golden-pencilled).—First, W. Harker, Allerton, Bradford. Second, H. Beldon. Third, S. Smith, Northowram. *Chickens*.—First, H. Beldon. Second, W. Harker. Third, S. Smith.

HAMBURGERS (Silver-pencilled).—First and Third, H. Beldon. Second, J. Walker, Knarborough. *Chickens*.—First, H. Beldon. Second, W. Pitts, Bingley. Third, B. Bee, Preston.

HAMBURGERS (Golden-spangled).—First, G. Ponder, Kirby-Meorside. Second, H. Beldon. Third, J. S. Senior, Dewsbury. *Chickens*.—First and Cup, J. Ogden, Manchester. Second, F. Greenwood, Rochdale. Third, T. May, Wolverhampton.

HAMBURGERS (Silver-spangled).—First and Second, H. Beldon. Third, J. Walker. *Chickens*.—First, H. Beldon. Second, T. Robinson, Baildon. Third, J. Walker.

HAMBURGERS (Black).—First, C. Sedgwick, Keighley. Second, H. Beldon. Third, S. Butterfield, Keighley. *Chickens*.—First, Mason & Walker, Manchester. Second, H. Beldon. Third, F. Fitton, jun., Oldham.

POLANDS (Any variety).—First, J. S. Senior. Second and Third, H. Beldon. *Chickens*.—First and Third, H. Beldon. Second, J. S. Senior.

FARMYARD CROSS, OR ANY OTHER VARIETY NOT PREVIOUSLY CLASSED.—First, H. Beldon. Second, R. Loft, Beverley. Third, J. J. Waller, Kendal.

SELLING CLASS.—First, J. Berry, Silsden. Second, W. A. Taylor. Third, C. Sedgwick.

BANTAMS (Black).—First, R. B. Riley, Halifax. Second, H. Beldon. Third, Tomkins & Tuckey, Bristol.

BANTAMS (White).—First, W. A. Taylor. Second, S. & R. Ashton, Obeshire. Third, W. H. Tomlinson, Newark.

GAME BANTAMS.—Cup, First, and Third, J. Crosland, jun., Wakefield. Second, W. J. Bamber, Accrington.

BANTAMS (Any other variety).—First, T. C. Harrison, Hull. Second, T. Burgess, Brighouse. Third, J. Wilkinson, Tyersall Hall.

TURKEYS.—First and Second, J. B. Braithwaite, Northallerton. Third, Col. St. Legor, Rotherham.

GEESSE (White).—First, E. Leach, Rochdale. Second, J. B. Braithwaite. Third, S. H. Stott.

GEESSE (Grey and Mottled).—First, E. Leach. Second, Lord Wenlock, Esrick Park. Third, S. H. Stott.

DUCKS (Aylesbury).—First, E. Leach. Second, G. A. Crewe, Derby. Third, J. Hutchinson, Cowling, Crosshills.

DUCKS (Rouen).—First, J. Dixon, Bradford. Second, J. J. Waller. Third, J. White, Wakefield.

DUCKS (Any other variety).—First, J. Dixon. Second, T. C. Harrison, Hull. Third, H. Beldon.

COUPLE OF DRESSED FOWLS FOR THE TABLE.—First, H. Dowsett, Chelmsford. Second, W. Ward, Leeds.

DRESSED TURKEY.—First, W. Ward. Second, W. Hobson, Leeds.

SINGLE COCKS.

GAME (Any description).—First, W. Spencer, Haworth. Second, R. Payne, Burnley. Third, W. Boyes, Beverley.

DORKING (Any description).—First, Rev. G. Hustler, York. Second, J. White. Third, J. F. Newton, Kirby-in-Cleveland.

SPANISH.—First, M. Turnbull, jun., Melrose. Second, J. Newton. Third, H. Beldon.

COCHIN-CHINA.—First, W. A. Taylor. Second, C. Sedgwick. Third, J. H. Dawes, Birmingham.

BRAHMA POOTRA.—First, E. Leach. Second, Hon. Miss Douglas Pennant, Bangor. Third, J. F. Newton.

HAMBURGERS (Any variety).—First, Hepworth & Coldwell, Holmfirth. Second, B. Bee, Preston. Third, W. H. Bentley.

PIGEONS.

CARRIERS.—First and Cup, E. Walker, Leicester. Second, E. Horner, Harewood. Highly Commended, E. Walker; G. Charnley, Preston; F. J. Leach, Middletonborough; J. Chadwick, Bolton.

POUTERS.—First, C. Cowburn, Leeds. Second, E. Horner. Highly Commended, J. Hawley, Bingley; W. C. Dawson, Otley; J. T. Lishman, Bradford.

TUMBLERS (Short-faced).—First, J. Hawley. Second, F. J. Leach. Highly Commended, J. Hawley; C. Cowburn; T. C. & E. Newbitt, Epworth; T. Rule, Darham; F. J. Leach.

TUMBLERS (Any other variety).—First, J. Fielden, Rochdale. Second, J. Hawley. Commended, W. Lund, Shipley; F. J. Leach.

OWLS.—First, J. Fielden. Second, W. C. Dawson. Highly Commended, J. Fielden; J. Chadwick; J. T. Lishman.

FANTAILS.—First and Second, T. C. & E. Newbitt. Highly Commended, J. Hawley; H. Draycott, Leicester; J. Hawley. Commended, W. R. Park, Melrose.

BARBS.—First, F. J. Leach. Second, E. Horner. Highly Commended, E. Horner; J. Firth, Dewsbury.

TURBITS.—First, R. Patterson, Melrose. Second, W. R. Park. Highly Commended, J. Thompson, Bingley; J. A. Naylor. Commended, J. Thompson; J. Hawley; S. S. Simpson.

JACOBS.—First and Second, C. Cowburn. Highly Commended, J. Thompson. Commended, J. Hawley.

TRUMPETERS.—First, E. Horner. Second, S. Robson, Brotherton. Highly Commended, J. Firth; E. Horner; F. J. Leach.

NUNS.—First, F. J. Lishman. Second, Miss F. Easten, Hull. Highly Commended, W. Croft, Killinghall, Yorks; F. J. Leach; J. A. Naylor. Commended, H. Yardley.

DRAGONS.—First, W. Moore, Keighley. Second, J. Baxendale. Highly Commended, C. Cowburn; R. Marshall, Manchester; S. Smith, Keighley; J. Chadwick, Bolton; E. Butterworth, Nantwich; R. Wilson.

ANTWERPS.—First and Second, W. Lund, Shipley. Highly Commended, E. Horner; J. Hawley; J. Crosland, Wakefield; J. Wilkinson, Bradford; W. H. Mitchell. Commended, J. S. Senior.

MAGPIES.—First, E. Horner. Second, F. J. Leach. Highly Commended, E. Horner. Commended, W. C. Dawson; J. Lishman.

ANY OTHER VARIETY.—First, W. C. Dawson. Second, H. Draycott.

Highly Commended, J. Hawley; W. C. Dawson; H. Yardley; H. Draycott; J. T. Lishman; J. Trenam. Commended, E. Horner; W. Shaw, York.

RABBITS.

YELLOW AND WHITE, AND TORTOISESHELL.—First, F. Stainburn, York. Second, T. Ingham, Leeds.

BLACK AND WHITE.—First, C. King, London. Second, J. Dixon. **SELF-COLOURED**.—First, R. Dobson, York. Second, H. Yardley.

GREY AND WHITE.—First and Silver Medal, J. Ingham. Second, C. King.

DOE AND YOUNG ONES (the young ones to be under one month old, of any variety).—First, S. Hardcastle, York.

Mr. Edward Hewitt, Birmingham, and Mr. Richard Teebay, Preston, were the Judges for *Poultry*; Mr. James Dixon, Bradford, for *Pigeons*; and Mr. A. Cattley, of York, for *Rabbits*.

THE ASHFORD AND EAST KENT POULTRY SHOW.

THE gale of the 5th inst. severely tried the huge canvas erections in which a large portion of the poultry and animals for the above exhibition had by the close of the evening been penned. Men were watching the marques all night, and notwithstanding that one or two breaches were made in the canvas all was kept secure until morning, by which time the gale had abated. On Sunday evening, however, the wind again arose, and by eleven o'clock a perfect hurricane was blowing from the south-west, and soon the Cattle Show building began to yield to the pressure upon it, and in the course of a short time the canvas was blown to ribbons, and the beams were broken and destroyed. The Poultry Show building stood longer, but at last that, too, succumbed, and the canvas and internal gear being blown about, every now and then knocked down and broke the pens, liberating many of the birds, so that occasionally from fifty to a hundred were running about at one time. Mr. G. Foerd, the Secretary of the Shows, with Dr. Beet and other gentlemen of the town, who had been called up, exerted themselves to the utmost to get the birds out of the exposed pens, and secure those which were running loose. The birds were replaced in hampers and boxes and conveyed to the Corn Exchange for shelter. The roof of a booth containing the Geese and Turkey classes was blown down entire, and the canvas fell on the pens, so that the birds had to be got out from underneath. In the morning the place was a scene of complete devastation, and it seemed doubtful whether a show of Poultry could take place, whatever efforts might be made to repair the damage. The energy of the Secretary, Mr. George Foerd, and of the managing committee, was quite equal to the occasion.

The Corn Exchange directors having at length yielded consent to the Poultry Show being held in their building, the committee and a number of zealous inhabitants of the town set vigorously to work to make the necessary arrangements, and notwithstanding the mixing up of birds, the destruction of tickets, and the great labour involved in removing and setting in order the pens, what seemed a well-nigh herculean task, was accomplished by six o'clock in the evening to a sufficient extent to allow of the public being admitted.

Of course, any praise bestowed on either of the shows founded on the little there was to be seen on the Saturday night would be absurd, as a large portion of the exhibits—and those the most valuable portion of them, could not be inspected until Monday evening. The great accession sent to the Poultry Show by Miss Hales, in particular, did not arrive until Saturday night. On Tuesday, however, it was apparent that but for the unfortunate occurrence above described the exertions of the managers of the Show would have been attended with a larger amount of success than ever before rewarded their exertions.

We should state the judging did not take place until Tuesday. A meeting of the Committee was held in the morning to decide what was best to be done under the circumstances. It was resolved that an endeavour should be made to keep faith with the public, and in all cases where the birds were mixed together, the entrance money should be returned. Awards were made in each class, although in one or two instances the second or third prizes could not be given, owing to doubtful ownership.

DOBRINGS (Coloured).—First, F. Kipping, Meant Hall, Maidstone. Second, J. B. Plumtre, Goodnestone, Wingham. Third, Miss Hales, Canterbury. Highly Commended, W. Stutfield, Mystole, Canterbury. *Chickens*.—First, C. Havers, Ingatestone, Essex. Third, F. Cheeseman, Chart Court Lodge. Highly Commended, J. B. Plumtre. *Cocks*.—First, Miss Hales. Second, F. Cheesman. Highly Commended, W. Stutfield; F. W. Pittock, Sellindge.

DOBRINGS (White).—First, W. Dring, Faversham. Second, Cobb, Faversham.

SPANISH.—First, Jenner, Lewes. Second, E. Corke, Maidstone. *Chickens*.—First, P. H. Jones, Fulham, S.W. Second, E. Corke. Highly Commended, Miss Hales. *Cock*.—First, E. Corke.

COCHIN-CHINA.—First, Finn & Cring, Faversham. Commended, J. Biggden, East Peckham; Miss Hales; Miss Pittock, Sellindge; W. F. Harvey, Chartham.

BRAHMA POOTRA.—First, E. Lawrence, Brentwood, Essex. Second, W. Dring, Faversham. Commended, Miss Hales.

GAME (Black and Brown Reds).—First, S. Matthew, Stowmarket. Second and Third, J. Jekes, Eltham, Kent. Commended, A. Wickham, Wye; Rev. G. Rayner, Tunbridge; C. F. Hore, Tunbridge. *Chickens*.—First, J. Jekes. Second, S. Matthew. Third, T. G. Ledger, Folkestone.

GAME (Any other variety).—First, Miss Hales. Second, J. Bing, Wickham (White). *Chickens*.—First, S. Matthew (Duckwinged). Second, E. Rice, Sandwich (Duckwinged). Highly Commended, Lord St.

Vincout, Dodmerham Park; Miss Hales. *Cocks*.—First, J. Jeken. Second, Miss Hales (Black Red). Highly Commended, J. Bayley, Ashford; R. J. Sankey, Hastingsleigh.

HAMBROUS (Gold or Silver-spangled).—First, Rev. R. A. Royle Wimbledon. Second, F. Kipping, Maidstone. Third, Miss M. A. Pittcock Selkridge.

HAMBROUS (Gold and Silver-pencilled).—First, W. R. Tickner, Ipswich. Second and Commended, W. L. Pemberton. Third, Miss Hales.

POLISH.—First, G. W. Baathby, Lanth, Lincolnshire. Second, Miss Hales. Highly Commended, P. H. Jones.

CRÈVE-CŒUR.—First, Col. Stuart Wortley, Roasiyn House, Grove End Road. Second, W. Dring, Faversham. Third, R. J. Sankey, Hastingsleigh.

HOUDANS.—First, Col. Stuart Wortley, Second, Rev. F. Scott, Shepherds-well Vicarage, Dover. Third, F. Elliot, Dymchurch.

BANTAMS (Gold and Silver-laced).—First, Miss Hales. Second, Miss M. E. Court, Saltwood.

BANTAMS (Black, White, or any variety).—First, H. M. Maynard, Ryde, Isle of Wight (Black). Second, G. Ware, Frant, Sussex (Friedled). Highly Commended, R. G. Norris, Wye (Japanese).

GAME BANTAMS.—First, Rev. G. Rayner, Tonbridge. Second, Miss Hales.

DUCK (Aylesbury).—First, E. Lawrence, Brentwood, Essex. Second, C. Havers, Ingatestone, Essex. Highly Commended, Miss Hales; W. F. Harvey, Chatham.

DUCK (Rouen).—First, F. Parlett, Baddow, Chelmsford. Second, W. Staffield.

GESE.—First, T. Barton, Lenham. Second, Mrs. Powell, East Lenham. *TURKEYS*.—First, T. Harvey, Ash, near Sandwich. Highly Commended, J. Barnard, Hempstead Park.

ANY OTHER DISTINCT VARIETY.—First, R. Noble, Canterbury (Silkie). Second, Col. Stuart Wortley (Friedled). Highly Commended, Miss Hales (Andalusians and Sultans). Commended, G. M. Norris, Wye (Japanese Bantam).

PIGEONS—Carriers.—Second, F. Elgar, Sandwich. *Pouters*.—Prize, W. F. Harvey, Chatham. *Tumblers*.—Second, F. Elgar, Sandwich. *Fantails*. First, H. M. Maynard. Second, Miss Hales. Highly Commended, J. Burch, Canterbury. *Turbits*.—First, J. Bowes, Heerne Bay. Second, Miss Hales. *Any other Variety*.—First, F. T. Hulke, Deal (Black Barba). Second, Miss Hales (Bagadotten). Commended, G. Ware, Frant (Maned); Miss Hales (White African Owls and Spanish Runts).

JUDGE.—W. B. Tegetmeier, Esq., London.

TREDEGAR POULTRY SHOW.

THIS was held at Newport, Monmouthshire, on the 15th and 16th inst. We have only space this week for the following list of awards:—

GAME (Black or Brown-breasted Reds).—First and Cup, J. Fletcher Stonealough, Manchester. Second, H. Loe, Appuldurcombe, Isle of Wight. Third, W. Bradley, Severn Navigation, Worcester. Highly Commended, J. P. Gardiner, Stonehouse, Rugeley; H. Waller, Beversbrook Farm, Calne. Wilts. Commended, Rev. C. T. Salisbury, Tredunnoc Rectory, Newport.

GAME (Any other variety).—First, E. Winwood, Worcester. Second, H. Loe. Third and Commended, W. Dunning, Newport, Salop. Highly Commended, G. Cole, Sea Side, Llanelli. Commended, W. Bradley.

SPANISH.—First and Cup, J. R. Rodbard, Wrington, Bristol. Second, J. Stephens, Walsall, Staffordshire. Highly Commended, T. Ace, Ystalyfera, Swansea.

DORKINGS (Any variety).—First and Commended, R. H. Nicholas, Newport. Highly Commended, H. J. Evans, Cardiff; Rev. A. K. Cornwall, Bencombe, Dursley. Commended, T. Ace.

COCHIN-CHINA (Any variety).—First and Cup, J. R. Rodbard. Second, J. Stephens. Third, H. Hobson, Walsall, Staffordshire. Highly Commended, J. Wilcox, Oswestry; Miss J. Milward, Newton St. Loe, Bristol; J. Gardiner, Bristol.

BRAHMA POOTRA (Light).—First, W. J. Cradock, Maides, Newport. Second, H. M. Maynard, Holmewood, Ryde, Isle of Wight.

BRAHMA POOTRA (Dark).—First, W. B. Etches, Whitchurch, Shropshire. Second, Rev. J. Bowen, Llangorse Vicarage, Talgarth, Hereford. Highly Commended, H. Stephenson, Oxford; Mrs. Allsop, Worcester.

HAMBROUS (Gold pencilled).—First, J. R. Jessop, Hull. Second, H. Pickles, jun., Early, Skipton, Yorkshire. Third, F. Pittis, jun., Newport, Isle of Wight. Highly Commended, J. Harcombe; J. Walker, Haya Park, Knaresborough. Commended, J. Harcombe, Newport; J. Pearson, Alberton, Bradford, Yorkshire.

HAMBROUS (Silver-pencilled).—First and Cup, J. Walker. Second, F. Pittis, jun., Newport, Isle of Wight.

HAMBROUS (Gold-spangled).—First, H. Pickles, jun. Second, J. Pearson. Third, N. Marlow, Denton, Manchester. Highly Commended, S. & R. Ashton, Mottram, Cheshire; W. Bradley. Commended, J. R. Jessop, Hull; F. Pittis, jun.

HAMBROUS (Silver-spangled).—First, H. Pickles, jun. Second, F. Pittis, jun.

POLANDS (Any variety).—Third, Mrs. Elay, Worcester. Commended, E. M. Hutchins, Gold Tops, Newport.

HOUDANS.—First, H. M. Maynard. Second, Mrs. Elay.

ANY OTHER FRENCH VARIETY.—First, Mrs. Llewellyn, Bridgend. Second, C. Homfray, Glen Uske, Caerleon.

GAME BANTAMS.—First, H. Loe. Second, T. Davies, Newport. Highly Commended, J. Buckley, Llanelli, Carmarthen; E. Payne, Cardiff. Commended, W. Lewis, Abergavenny; F. W. Barfoot, Newport; J. Laming, Cowburn, Spalding, Lincolnshire.

BANTAMS (Black—clean legged).—First and Cup, E. Cambridge, Bristol. Second, S. & R. Ashton. Highly Commended, R. H. Nicholas, Newport; H. M. Maynard. Commended, E. Cambridge, Bristol.

BANTAMS (White—clean legged).—First and Second, T. Davies, Newport.

BANTAMS (Any other variety).—First, T. Davies. Second, G. F. Hodson, Bridgwater. Highly Commended, T. C. Harrison, Hull.

ANY OTHER DISTINCT BREED.—First, Miss M. Walker, Denton, Manchester. Second, Fourth, and Seventh, R. H. Nicholas. Third, Mrs. Llewellyn. Fifth, Miss M. Walker. Sixth, J. Hinton, Hinton, Bath. Commended, Miss M. A. Barfoot, Newport.

GUINEA FOWLS.—First, Hon. F. C. Morgan, Newport.

DUCK (Aylesbury).—First, E. Jones, Newport. Second, Right Hon.

Lord Tredegar, Newport. Commended, Rev. C. J. E. Walkey, Llantrissant Vivarage, Newport.

DUCK (Rouen).—First, H. Garsed, Pontrych, Cardiff. Second, H. J. Evans, Cardiff. Highly Commended, J. Clouid, Mounmouth. Commended, W. Cooper, Abergavenny.

DUCK (Any other variety).—First, T. C. Harrison, Hull. Second S. and R. Ashton. Highly Commended, F. C. Morgan; Rev. W. Serjeantson, GESE.—First, Mrs. Allsop, Worcester. Second, H. Stephenson. Highly Commended and Commended, Hon. F. C. Morgan.

TURKEYS.—First, Miss J. Milward, Newton St. Loe. Second, Lord Tredegar, Newport. Third, H. J. Evans, Cardiff. Commended, Hon. F. C. Morgan, Newport; R. Stallard, Dranlwyon.

SELLING CLASS (for Fowls).—First and Third, R. H. Nicholas (Polands and Japanese Silkies). Second, J. Buckley, Llanelli (Darkings). Highly Commended, R. H. Nicholas (Silver-spangled Hamburgs); O. Edwards, Pillgwenilly (Silver-spangled Hamburgs); Rev. J. Bowea, Llangorse Vicarage, Talgarth (Brahma Poetra); Miss J. Milward (Cochin-China); J. W. Jones, Malpas (Black Red Game); J. Skinner, Kemys Interior, Caerleon (Darkings); Mrs. Gordon-Canning, Hartpury (Darkings); G. S. Sainsbury. Commended, G. Carps, Newport (Andalusians); J. Skinner (Silver-pencilled Hamburgs); C. Lyne, Bryn Hyfryd, Newport (Darkings).

SELLING CLASS (for Ducks).—First, E. Shaw, Plas Wilmot, (Aylesbury). Second, J. M. Kilvert, Ludlow (Indian). Third, G. Thompson, Tregroes, Bridgend (Indian). Highly Commended, Rev. C. J. E. Walker, Llantrissant Vicarage, Newport (Aylesbury). Commended, G. S. Sainsbury.

SWEETSTAKES FOR COCKS.

DORKING.—Prize, Mrs. Gordon-Canning.

GAME.—First, G. S. Sainsbury. Second, J. W. Jones. Highly Commended, E. Payne, Cardiff.

COCHIN-CHINA.—Prize, E. Shaw.

GAME BANTAM.—First, E. C. Phillips, Venny Vach. Second, J. Buckley. Highly Commended, E. Payne.

ANY OTHER VARIETY.—Prize Messrs. J. J. & R. Bodmer, Gold Tops, Newport (Silver-spangled Hamburgs).

PIGEONS.

CARRIERS.—First and Second, J. C. Ord, Lopus Street, London. Highly Commended, H. Yardley, Birmingham; C. Bulpin, Bridgewater. Commended, H. Yardley.

POUTERS.—First, C. Bulpin. Second, H. Draycott, Humberstone. Highly Commended, H. Yardley.

TUMBLERS.—First and Second, J. Fielding, jun., Rochdale. Highly Commended, H. Yardley.

FANTAILS.—First, H. Draycott. Second, S. Hunt. Highly Commended, H. Yardley; J. E. Breward. Commended, Rev. W. S. Shaw, Bath.

ANY OTHER VARIETY.—First, J. E. Breward (Black Swallows). Second, S. Hunt (Magpies). Third, H. Draycott (Toys). Highly Commended, H. Yardley; H. M. Maynard; C. Bulpin; H. Vaughan (Dragoons and Jacobins).

JUDGE.—Mr. E. Hutton, Pudsey, Leeds.

DISQUALIFIED PIGEONS AT THE BIRMINGHAM SHOW.

ON my arrival home this morning from visiting the Glasgow Columbarian Society's Show I found, as usual, my Journal on the dining-room table. On looking over the contents most interesting to me I was surprised to see a letter signed "CENSOR," condemning me in rather too strong language for doing what others have done, to my knowledge, for the last four years at the Bingley Hall Show. For example, in 1866 there was a pair of Short-faced Black Mottled Tumblers, exhibited by a gentleman occupying a high position, which gained a first prize. One of the birds was dyed on the head; this became apparent the day after the prizes were awarded, from the bird drinking frequently, which showed the face and round the eyes to be white. One of the judges' attention was called to the fact by an exhibitor; he merely said if he had been aware of it they should not have had a prize. The same pair of birds was shown in 1867 in a similar condition, and gained a second prize. At the same show there was a Black Pouter exhibited which had been dyed; it was detected by an exhibitor who this year has been appointed a judge. These artifices were on every occasion passed over without a single comment being made public by either the judges or visitors to the show.

I quite agree with "CENSOR" that the system of trimming, dyeing, or matching birds of the same gender for the sake of gaining an award is mean and despicable in the extreme, but where is the living fancier, including "CENSOR," who never trimmed a bird for exhibition—in so far as paring a wry beak, cutting a hook bill, and plucking a foul feather from the bird? which I hold is as much an offence, virtually, as painting or dyeing. It is done with the same intention—namely, to deceive.

As I have already said, I have just returned from the Columbarian Show at Glasgow. I there saw several birds which had undergone a similar process, but by the hands of more skillful artists, which rendered detection more difficult. I am perfectly aware two blacks will never make one white, but why should I be set up as a target for ridicule when others are equally guilty? However, I am somewhat pleased that the castigation falls on my shoulders, as I venture to say it shall be borne with less wincing than, perhaps, by any other gentleman in the fancy.

Were I debarred from again showing as "Censor" wishes, I should not at all be annoyed at the fact, for I have, before to-day, made up my mind, with one or two exceptions annually, not to show my birds again, as I fortunately possess some of the best birds of their kind in the kingdom, and consequently prize them too much to hawk them about the country from one show to another for the sake of making a name, or getting gain, as I never entered the fancy with such intentions.

I heartily wish I may be the last miscreant thought necessary to be brought before the public for such practices, but am much afraid such will not be the case.

In conclusion, I am sorry "CENSOR" has not publicly given his name and address, for I have a great aversion to notice remarks from gentlemen who withhold their names.—A. H. STEWART, 124, Vyse Street, Birmingham.

[This letter proves—if proof were necessary—that the continued practice of artifice dulls the conscience until artifice is considered venial.

Why did Mr. Stewart dye or paint his birds? Either to win a prize which he knew they were not entitled to win naturally, or to obtain from a purchaser a price he knew that purchaser would not give if not deceived by the painting.

Now, we ask Mr. Stewart—we ask anyone who does the same, or who adopted any such artifice—is it not endeavouring to obtain money by false pretences?—EWS.]

PIGEON-JUDGING AT BIRMINGHAM.

I THINK "FOREIGNER" is wrong (though I have not my catalogue by me, when he states the work was too heavy for the Pigeon Judges, and he wondered how they managed, the three having to judge 120 pens more than last year. This year I believe the entries in the Pigeons were less by about 100 pens than last year, when three did the work, and I confess felt tolerably tired at the finish. He complains of Messrs. Ridgely and Esquillant having too much in judging about 935 pens. I must differ from him here. For years Mr. Cottle and myself have judged many more pens: at the same time I am well pleased that the Council saw fit to appoint two more Judges, as it still leaves plenty to do for each, though, I think, not too much.

I shall have much pleasure in informing "FOREIGNER" how the work was apportioned. We took the whole number of entries, and divided them as nearly as possible into two equal parts, whereupon Mr. Cottle and myself offered to take either half. Messrs. Ridgely and Esquillant chose their portion, and we took the other; but I can say that both Mr. Cottle and myself would rather have had the other half, though we only had the Almonds, Carriers, and Posters. There were sixteen classes to judge altogether, and two silver medals to award in the Posters. I mention this, as "FOREIGNER" has asked the question, and I wish as much as possible that the public should know how everything is or was managed, and, to the best of our ability, with all fairness. We have nothing to hide, nor, I believe, anything to be ashamed of. And, as I have said before, I am only too pleased to be able to give the required information to "FOREIGNER," who puts his question so courteously—by the way, almost of a postscript to his very excellent article on the Pigeons at England's great Show.—HARRISON WEBB, Weirleigh, Brackley, Kent.

WAXEN SHEETS.

"ARICOLA" in his answer to my last letter *vide* page 393, has made some statements so remarkable, that for the benefit of the readers of "our Journal," as well as of himself, I feel called upon to reply.

In the first place I beg to inform him that sheets of unequal thickness are the results of bad workmanship. It is true that chance holes will be found in impressed sheets, but in plain ones they resemble those of a weaver whom I knew, who wrought a piece of cloth with many holes in it. A fine of 6d. being demanded for every hole, he inquired what would be required for one hole. Only "Sixpence," was the reply; when the weaver instantly rent the several holes into one. "There, noo," said he, "ae saxpence ill dee noo." So is it the same with the bees, in plain sheets they gnaw their many holes into one, and make short work of them. I do not think it worth while to say more on the superiority of the impressed sheets over the plain ones, since "ARICOLA's" own statement fully confirms it, and I can readily see how he has been deceived by

the bees building worker instead of drone comb, although it is not for me to explain why it is so.

I regret that "ARICOLA" cannot undertake to supply me with waxen sheets at about the price for which he says they can be made, as I cannot at present purchase wax for less than 3s. per lb., although I have usually bought it at from 1s. 6d. to 2s. I do not know what has caused the rise in price, but this is certain, that wax is just now in great demand.

As all sheets that I have seen sent out by Messrs. Neighbour, as well as those made by myself, weigh from fourteen to eighteen to the pound, this, with wax at 2s. to 3s. per lb., will give about 1½d. to 2¼d. each for wax alone.

Although I may claim the honour of being the first to introduce and manufacture these sheets, and have, perhaps, made more than any one else in Scotland, I must say that I cannot at all approach the speed which "ARICOLA" describes. He is certainly also in error when he describes waxen sheets as running thirty to the pound; and to settle the dispute, I beg to say that all sheets I have seen from Messrs. Neighbour and those made by myself, measuring 12½ by 7½ to 7¼ inches, weigh about sixteen to the pound, and I herewith enclose two pieces, each of them being about the eighth part of a whole sheet, for the purpose of being weighed.—A LANARKSHIRE BEE-KEEPER.

The "two" pieces of wax had multiplied to an almost indefinite number by the time they reached us. By collecting and carefully weighing the fragments we were, however, enabled to ascertain, that supposing the whole of them to make up one-fourth of a sheet, it would take exactly sixteen of such sheets to weigh a pound. We have also examined the impressed wax sheets sent out by Messrs. Neighbour, which are of German manufacture, and are imported by them from the Continent. These measure 10 inches wide by 7¼ deep, and run about twenty-three to the pound.]

OUR LETTER BOX.

GRAND OATS (*W. Maxwell*).—Oatmeal is merely the flour of oats, the bran being boiled from it. Ground oats have none of the brain separated. Oats crushed as for horse-feeding would be nearly or quite as good for fowls as if completely ground.

NOISE IN FOWL'S THROAT (*Headingsley*).—It may arise from the variable weather. Give the fowls a little bread soaked in ale once daily during the winter.

TUMBLER PIGEONS (*Paloma*).—Match the Blue Baldheads, but not the Black and Blue, as the colour would be quite spoiled. There would be a good chance of their young tumbling.

PLACE FOR KEEPING PIGEONS: S. H. T. W. J.—Make the place as warm and free from draught as possible, and you may succeed with a few hardy birds. We recommend you to keep Trumpeters, especially as you have an eye to the table. For a full account of Fancy Pigeons and their treatment, food, &c., we advise you to obtain Brent's "Pigeon Book," free from our office for twenty stamps. Wait till the spring before you begin Pigeon-keeping.

PREGNANT CARNIAD.—Dragoons would suit you, they are healthy, pretty, and cheery, and good flyers. Well-fed Pigeons never hurt a garden. Prices vary, but a crown would buy you a good pair (not, of course, for exhibition), at any Pigeon shop. We make a rule not to recommend dealers.

PLOTT SELF-PLUCKED (*Africa*).—We know no certain mode of curing a patch of plucking off its feathers if it has been in the habit of doing so any length of time. It is caused by an irritation in the skin. Animal food, or anything greasy, with the slightest portion of salt in it, such as butter, will produce an intense itching, and induce the bird to pluck its feathers. Give it a good bathing with tepid water every other day, using a watering-pot with a fine rose, and place the cage before the fire—not too near—for the bird to dry itself; hang a cloth over the cage to prevent its taking cold. Give it canary seed, bread soaked in water, and a couple of small chillies daily; also puts, biscuit, apple, potato boiled, and a crust of bread, occasionally soaked in warm tea (without any milk). Place in the cage a large pan of water for it to bathe, also a stick of wood, which will amuse the bird.

MANAGEMENT OF SUPERS.—"In answer to 'A.B.'s inquiry, in page 434, my experience teaches me that when a hive of bees has filled all its available space, and there is honey abroad, they will at once enter any space, and through any aperture that may be given to them. I have seen them come outside, and work comb under the board, and last year I was called to look at a hive standing in an open-fronted beehouse, which was working under a fold in an old sack thrown over the hive, and on its removal there were nearly 2 lbs. of fine honey deposited on the side of the skep. 'A.B.'s hives that swarmed had commenced raising queens before being supered. Bees will be out in warm weather when they have spare room inside. My opinion is that 'A.B.'s bees did not enter the supers, simply because their hives were not filled inside, and they therefore never needed them. The heat would make the hives look fuller than they were, and last year the bees had enough to do at times to provide for the daily consumption.—J. W."

FUNGUS ON GOLD FISH (*W. H. E.*).—They will to a considerable extent clear off the fungus if a layer of sand is at the bottom of the water. We believe that if kept warmer there would be no fungus. It is certain that the fish change from a golden to a black colour because the water is too cold. If it is kept at a temperature of from 65° to 70°, the golden colour returns.

WEEKLY CALENDAR.

Day of Month	Day of Week.	DECEMBER 24-31, 1868.	Average Temperature near London.			Rain in last 41 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
24	TH		43.6	31.4	37.5	17	7 47 8	54 47 3	12 47 1	45 47 1	10	0 5	359
25	F	CHRISTMAS DAY.	43.3	29.2	35.3	9	7 8 8	55 8	37 1	53 2	11	0 35	360
26	S	Royal Horticultural Society, Promenade.	43.2	31.2	37.2	15	7 8 57	3 7	2 3 4	12	1 4	361	
27	SCN	1 SUNDAY AFTER CHRISTMAS.	43.0	29.7	35.3	14	8 8 57	3 47	2 15 5	13	1 34	362	
28	M	INNOCENTS.	42.5	29.5	35.0	12	8 8 55	3 25	3 25 6	14	2 3	363	
29	TU		43.5	33.3	38.4	19	8 8 53	3 22	4 31 7	0	2 32	364	
30	W		44.7	32.9	38.3	16	8 8 53	3 23	5 31 8	16	3 1	365	

From observations taken near London during the last forty-one years, the average day temperature of the week is 43.4°; and its night temperature 30.9°. The greatest heat was 53°, on the 25th, 1827; and 28th, 1855; and the lowest cold 1° below zero, on the 23th, 1860. The greatest fall of rain was 0.62 inch.

CHRISTMAS.



Remember the chorus of an old Carol was somewhat, or altogether, thus—

“Hail, Father Christmas! hail to thee!
 Honour'd ever shalt thou be!
 All the sweets that love bestows.
 Endless pleasures wait on those
 Who, like vassals brave and true,
 Give to Christmas homage due.”

Now, we shall do our best to pay that homage to the utmost—we shall eat all the appropriate eatables and drink all the appropriate drinkables, and burn a Yule log on the very evening of the day that this is published, and we shall wish “A Merry Christmas” to every one, beginning at those nearest and dearest to us, down to those most remotely dear to us—namely, those who are intending to enrol themselves among our subscribers.

Now, among those subscribers, we are gladdened by knowing that we have many artisans and labourers, and among these, in a little cottage on a slope of the Mendip Hills, lives one who introduced himself by saying, “My cot is my own. I gave up beer and tobacco whilst very young, and my intended wife added to mine her savings until we could buy this cot; and now we are married, and we delight in beautifying our home.” What a word of power is that! Why do not more such men exist among us—why do not more men have such wives and such homes? We will reply by publishing the following, written and sent to us by one who is now one of England's most-esteemed and well-to-do gardeners, and whose own right hand, and clear head, and kind heart have helped him up the ladder of life.

“Whilst the inmates of some working-men's homes are now rejoicing over their roast beef and plum pudding—thanks to their own prudent foresight, or the kindness of others—let us have a few minutes' converse on the rather unsatisfactory condition and the prospects of the labourer. And, first, we think this has been owing to a disrelish for general intelligence, a want of ‘push,’ and too great an attachment to mere locality. For these evils the Poor Laws and the law of settlement, with all their advantages, have something to answer. Young people were afraid to leave their parish. There was something like a horror in the thought of missing the ringing of the church bells, to which parents and grandparents had listened.

“The change in the law of settlement and a cheap press are already doing wonders. Young men will not loiter at home on parish allowance; and local booksellers tell that the great bulk of the serials circulating among the households of labourers are mostly of an informing and bettering character. Every energetic man who leaves the neighbourhood where labourers are too abundant, will make it better for those who remain behind. The worst of this manfully going away is that it is always the most intelligent and energetic that go; the lethargic and the indolent could never make a way for themselves, and they will act wisely by staying at home.

“Secondly, the unsatisfactory condition was often produced by a deficiency in self-respecting independence of

character. With all its advantages, the Poor Law did something to promote this deficiency. It was greatly added to by a custom that obtained of paying single men and married men differently. We have known a stout active young man, and a first-rate workman when he liked, receiving about two-thirds of the wages given to a poor weakly married man, because he had a wife and so many children. Was this any inducement to a young man to put forth his strength and energies? Did it not hold out an inducement to contract even an imprudent union, so that his wages might be raised in consequence? No better plan could be devised for souring everything like independence of feeling out of a man. Not long since we were told that of women employed in a hay field, the single women were paid one-fourth less than those who were married!

“Then some good-meaning people, who gave low wages, made a sort of compromise with their conscience by giving doles of charity at certain times. We have seen women and men trooping off to get these doles, sometimes a sixpence or a shilling, and wasting more time than would have enabled them to earn what was given to them. No plan could be more effectual to smother all self-respect.

“A great change has taken place for the better. Many just go on as before—run to the relieving officer and the parish doctor whenever there is the least trouble with themselves or their families. There is a vast difference in parishes and unions in this respect, and when people are receiving fair wages, there is a propriety in not letting them have what they want in this case too easily when they are a few days off work. But a great many of our best labourers will not resort to any such help, except at the last extremity, and when thoroughly forced to do it. They have doctors' clubs on various plans, but supported entirely by themselves. Generally each member pays so much a-year. Then, in connection with such clubs, or independent of them, there are friendly relieving societies, from which, in cases of illness, members draw out so much a week, in proportion to what they pay in, taking care, however, that the sum shall be below rather than above the usual weekly wages of the member.

“Notwithstanding post-office savings' banks and annuities, these societies will long be favourites with the humbler working classes, and help to constitute the sinew and backbone of an honourable self-respect. Gentlemen and all employers of labour will find it to be their interest to encourage them; for nothing is so effectual for keeping down poor rates in a district. No better thoughtful kindness could be exhibited than giving a present to the funds, and advising the members to have their rules and regulations referred to and approved by Mr. Tidd Pratt. Labouring men who would not be interfered with by another workman, or by employers of labour not so much above them, would be proud of the counsel and advice of the squire or gentlemen in the neighbourhood.

“Another cause of this unsatisfactory condition is to be found in the want of prudent forethought. Let a man only sink into apathetic indifference, and believe he can scarcely be worse off, and a great effort will be required to

make him think prudently of the future. He becomes a hand-to-mouth man, luxuriates when wages are good and employment ample, and exists as best he can when circumstances are otherwise. The presence or the absence of this prudence just makes all the difference very often between a happy and a cheerless home, between substantial furniture and a rickety four-footed stool, between going to church and chapel clothed in broadcloth, and going there or nowhere with a shabby fustian coat or smockfrock, concealing what is worse beneath it. Examples of such contrasts may too often be seen among those who work at similar labour, receive the same wages, have similar homesteads, and are situated very much the same as respects their families. In the one case there is making the most of everything, thinking of the future, and much self-denial as to the present. In the other the present is everything—thrifless improvidence rules, and then in the hour of misery the blame is laid on everybody and on everything except the right quarter.

“Dressing respectably on Sunday is almost as good a test of self-respecting industry, as seeing nice healthy plants in a cottage window is an evidence that you will find thrift and comfort inside. Some of our sisters in humble life may go to an extreme in flaunting, flashy, worthless finery, in imitation of the substantial finery of those high in station. In this we might take a lesson from the women in the French provinces, who dress as their grandmothers did, and never attempt in this respect to imitate the aristocracy any more than they would attempt to imitate them in the furnishing of their houses. On this subject we would press lightly, believing that the beautiful has its mission, and that after all flaunting, tawdry finery is better than flying rags. Prudence, however, would say, That where means are not abundant, the substantial rather than the mere show should be fixed upon.

“Thoughtlessness generally culminates in early improvident marriage. Strange, but not the less true, the most improvident, the most poor.—those who themselves have been dragged through poverty into a miserable existence, rather than reared and nourished, are the first to marry—the first to entail the same wretched dragging-up, if possible, system upon their offspring. Does it come from the yearning of the human heart to have something living that it can call its own—the feeling that prompts the old woman who lives but scantily in a cellar or garret in London to keep her cat or kitten, and stint herself of the daily halfpenny to the catsmeat man? Even in the depths of poverty there is a pleasure in having something we can call our own. Early marriages are the most natural, and always to be commended when contracted with prudence. We have no faith in the reality, and the strength, and the continuance of a love that never thinks of what will be the position as to comfort of the loved object. Many of these marriages though so early, are yet too late to meet the requirements even of social morality. When a boy and girl thus marry—for they can scarcely be considered otherwise when not out of their ‘teens’—and tenant a small place of their own, they may get on by mutually resolving to succeed by self-denial, even if they have little to furnish their house with, except themselves. But woe betide such a young couple when, from mistaken kindness, they are taken in, and continued as residents in the home of either of their parents. There is a great temptation to perpetual past improvidence in continuous improvidence, and bitterly do they feel it when, with greatly augmented responsibilities, they are ultimately turned out, to commence an unprepared for housekeeping on their own account. Great, also, is the outcry when there is anything like a general clearing out—gentlemen, landlords, farmers, every one is blamed—except those who have brought such misery on themselves by improvidence and self-indulgence. Were we to be swayed by some newspaper writers we should come to the conclusion that the great duty of a gentleman landlord is to build cottages on his estate as fast as the people on that estate increased and multiplied. Nothing is to be considered as to the landlord’s ability or willingness; nothing as to the questionable propriety of collecting great numbers of people in one neighbourhood, whilst the remunerative labour could well be performed by the half of such a population.

“We have met with several instances in which landlords have erected model cottages in model villages, with every necessary adjunct for comfort and decency for moderate-sized families, and given the possession on the terms that such cottages were to be inhabited solely by themselves; and yet, quietly and gradually, first one couple, and, perhaps, another would be admitted, until there were two or three families, or parts of families, in the rooms intended for one; and when

fever and other ailments visited such overcrowding, and doctors threatened and remonstrated, dire was the outcry when there was something like a general clearing out—we say general, because in many cases, rather than the interloping younger branches should turn out alone, the old father and mother would turn out with them. It would have been truer kindness to have had more frequent inspections, and to have insisted on the primary conditions of tenure. It is pleasant for parents to have their children about them, but in this country it is rare that the highest in rank can indulge this natural feeling. The humblest may well imitate their example, and scatter and settle where work is most plentiful and most remunerative. The crowding in cottages is not only injurious to the healthy action of body and mind, but from the great competition ever lowers the wages of labour, and renders these wages uncertain. We may mourn over all such ills, and cannot but admire the charity which in such circumstances gives its help; but chiefly, and above all, do we reverence and love that prudent kindness, which, without overlooking present needs, chiefly aims at helping the labourer to become his own best and most efficient helper.

“Lastly, the unsatisfactory condition of the labourer is somewhat owing to the want of a due stimulus to exertion in the hope of attaining a better and more comfortable social position in the same kind of employment. We have alluded to the comforts a farm labourer may possess when he takes into his council prudence and self-denial; but in the same calling or occupation he can hardly expect such a rise in social position as was open to his grandfather, or even father. The happy plough boy that, whistling cheerily, ‘drove his team a-field,’ could live on in the hope of buying a little farm and team of his own. We can recollect scores, if not hundreds, of little farms, some with their pair of horses, some with one horse, and some with no horse at all, but hiring to plough the bit of land; but the tenants had a lot of cows and pigs, and they kept a rough but plenteous home, such as many a plough boy saw in his dreams, would be occupied by him and his loved one when they had saved enough between them. With few exceptions all such hopes now would be vain. It is saddening to visit the old places, and to be unable to find a trace of the foundations of the homesteads, in which in our early days we had feasted on new milk and curds and whey. It is neither our intention nor our province to enter upon the consideration of doing away with small farms, and uniting them into larger ones, but no doubt can remain as to its effect in damping exertion and prudent economy on the part of youthful agricultural labourers. It should never be forgotten that, however faithfully and conscientiously a man may labour for another, it would not be fair to expect that he would labour as thoroughly for wages as he would do for himself, thus receiving all the benefits and proceeds of his labour. Even the hope of this will nerve to toil, whilst the dissipating of the hope will tend to depress and enervate.

“If there is but little chance of a farm however small, there is less chance of purchasing as much land as would supply labour and support a family. From causes which we need not linger over, such as the difficulties about conveyancing and titles, the fact that land is property that cannot run or melt away; that its possession gives a certain social position, and furnishes the means for sport and recreation, it can rarely be obtained, and especially in small quantities, at less than double its natural value. Some pieces of land were lately sold, situated two or three miles from a small market town, and with nothing particular to recommend them in any way, and yet brought fully upon an average £100 per acre, whilst the annual rental of the land surrounding it was from 20s. to 30s. per acre. The possession of a bit of land is, therefore, but seldom to be hoped for by a labourer however prudent, and thus another stimulus to persevering exertion is removed.

“What then remains?—not depression; not despondency; not the ever grumbling of the idle; not the complaining and bawling for help of the self-indulgent and slothful; not the crying for others to do what you ought to do for yourself. No! these will do little for you; but the contented enjoyment of those blessings which even now industry, and prudence, and self-denial will give; or the studying and preparing yourselves to act as general managers of farms, or land stewards to gentlemen; or the taking your energy and acquired intelligence to bear on the rich virgin soils of our colonies and the western hemisphere, where, for clever agriculturists more especially, there is almost a world of fields and meadows for the taking and the keeping. Whilst rejoicing in every act of kindness and

of sympathy, we more especially rejoice in what tends to enable the struggling to raise themselves, and although in following this up, there may be heart pang in leaving the homes of our childhood and youth, we should never forget that

" True happiness has no localities ;
No tones provincial ; no peculiar garb ;
Where duty went, she went, with justice went,
And went with meekness, charity, and love,
Where'er a tear was dried, a wounded heart
Bound up, a bruised spirit with the dew
Of sympathy anointed."

" Wherever, let us add, there is a field for honest industry, a sphere for developing rectitude of character, trust in Providence, and kind sympathy for our fellows, there will happiness be found."

SPRING FLOWERS.

I WENT this year to see the spring flower garden at Belvoir, and would strongly advise those who can, to pay Belvoir a visit next March, or, perhaps, in the end of February, if the season be an early one. I never shall forget the impression it made upon me. No summer garden, however gay, could compare favourably with the quiet beauty of that fairy scene. It was gay enough to satisfy any lover of colour, yet it was not gaudy like some summer gardens, where masses of bright colours, unrelieved and untuned, dazzle and fatigue the eye.

Belvoir has great natural advantages for a spring garden. With a warm oolitic soil many feet above the fogs of the valley, the gardens sloping to the south, and screened in every direction except the south by beautiful woods, it enjoys a climate unmatched, perhaps, in the midland counties, still it would be difficult to find a worse managed place than Belvoir was before Mr. Ingram took charge of it. What are natural advantages without the skill to turn them to account? After a very careful survey of every part, I came to the conclusion that exquisite taste in arrangement had more to do with the effect than any natural advantages. A situation where *Rhododendrons Nobleanum*, *dauricum*, and the hybrids of *dauricum* and *ciliatum*, &c., will every year escape spring frosts is not often seen; but the greater part of the plants employed may be grown in any garden. I was so charmed with the general effect, that it was some time before I could descend into particulars, and really it was surprising what common plants were chiefly employed—Common Primroses, *Aubrietias*, *Arabis caucasica*, *Doronicum caucasicum*, Violets, *Myosotis intermedia*, *Arabis variegata*, blue Pansies, Daisies white and red; the chief effect was produced by these very common flowers. A few Tulips, *Ilyacinths*, double Primroses, and *Rhododendrons* heightened the effect. Then there were beds of foliage only, filled with dwarf-growing Saxifrages and plants of that description, which reminded me of Indian shawls, the quiet tertiary colours were so beautifully contrasted and blended. The whole left the impression on my mind that few refined ladies had the exquisite taste possessed by Mr. Ingram.

I find most persons who saw Belvoir last season think this style of gardening can only be carried out by a duke. I believe this is a great mistake. The summer garden—*i.e.*, the planting of Pelargoniums and other tender plants in large numbers has spread till now every suburban villa is so decorated, and in a little time few will be satisfied to have their beds bare from October till June. It is not a very serious thing to plant a lot of flowers ready prepared in November, and remove them to a clean piece of ground in the kitchen garden in May. It will be found to involve a greater amount of labour to keep them clean without removal. Herbaceous plants standing long in one place are very troublesome to keep alive or free from weeds, and with few exceptions are better of a change of soil. People in general appear to follow one of two ideas with herbaceous plants, either to let them stand in one place till they are too large for the situation, or die, as the case may be; or else to remove them every year and cut them into small pieces each time. There appears no necessity to leave a plant in one place till the soil is exhausted, or to reduce its size when not too large. Free-growing plants removed twice a-year may be always kept compact, yet large enough to produce the required effect, and may also be planted thickly without injury. A little forethought, a few beds in the kitchen garden, a few trenches, as if prepared for Celery, in which to grow Primroses, and a few day labourers, and all the beds last year filled with beautiful flowers, now lying bare and desolate, might be filled with plants, and next spring gay with flowers. Let anyone try the effect of planting the centre of a round bed with

Arabis caucasica and surrounding it with a broad belt of *Aubrietia*, or planting a few red Tulips in a bed covered with *Arabis*, and then see what they will say may be done with spring flowers. I say covered, because spring flowers ought to cover the ground when in bloom to produce all the effect of which they are capable.—J. R. PEARSON, *Chilwell*.

THE CLAIMS OF WINTER ORNAMENTAL GARDENING.

IN again inviting the attention of your readers to this branch of gardening, I must necessarily repeat much that I have urged in former years, with such additions, however, as practice has enabled me to advance with some degree of assurance. Winter ornamental gardening has become popular in many places, and the desire of discovering means to make it more attractive is constantly urging on those who seek to make further advances. It is to be hoped, therefore, that the progress already made will lead to still further improvement, and that plants adapted for winter gardening will be as eagerly sought after as those grown for a display in spring and the early part of summer.

Of late years much has been said and written about spring gardening, and nurserymen and seedsmen vie with each other in supplying plants or seeds of plants likely to make a good display at that time, still in many places something more was wanted. Spring flowers are, after all, but what their name implies—that is, they flower in spring, the only difference being, that in mild winters they come in a little earlier than they do after severe weather, but it is spring before they produce any display of consequence, or, say, from the middle of March till a later period, and many of the plants recommended as spring flowerers are not in their full beauty till the end of May. Few, but very few, naturally present us with their flowers out of doors before the end of February, such being Snowdrops, Winter Aconites, and Christmas Roses, with, perchance, in mild winters, a few Primroses; but these delay their appearance until later if the season is unfavourable. I also presume that it will be acknowledged by all, that December and January are entirely destitute of floral beauties, excepting when a very mild autumn bequeaths a few *Chrysanthemums* still respectable at the beginning of December, and the other plants above mentioned may follow. It is vain, however, to look for anything like a floral display in open flower beds—say, from the middle of November till the middle of March, four months, or one-third of the year. In some large places the good appearance of the flower beds at this particular time is of more consequence than the spring display, as it is common for families of high rank, who spend the winter at their country houses, to depart for London early in March, or perhaps before; and in most cases where spring display is the order of the day, the appearance of the beds previous to that month is tame indeed. If bulbs are planted, Crocuses are rarely in flower until March, excepting in favoured situations, or mild winters, consequently the beds present but a sorry aspect in the dead of winter, and the bare soil is almost all there is to look at, or if there are plants above the surface, they are so small, and in appearance so unimportant, as not to attract attention.

Now, another reason for recommending a winter display, instead of waiting for one in spring, is the interference of the latter with the summer planting, for assuming that in most places the ulterior intention is to have a good display in summer as well as in spring, such a result is only attained at the expense of a greatly increased amount of trouble, and at a later period of the season, for it rarely happens that the spring flowers can be planted before the beginning, or, perhaps, middle of June. Much of the season is then gone, and although it is possible to have the summer crop of plants advancing in larger pots than usual, this extra care of so many plants at a time where watering is a daily and important affair, and other work plentiful enough, tends to make spring gardening, however pretty-sounding it may be, rather costly. Now, what I advocate does not interfere with the preparation and planting, at their proper time, of the summer occupants of the flower beds, nor in any way impair the efficiency of the beds for supporting the summer crop, which cannot be said of the spring-flowering plants. I may here remark, that to plant spring-flowering plants sparingly over the beds in the autumn, and put in the summer crop amongst them in May, as I have done more than twenty years ago, is seldom satisfactory, both crops being likely to prove failures: so that where a good appearance is expected

say from the beginning of July till March, or the period between the close and commencement of the London season, the summer, autumn, and winter display is certainly of more consequence than that for the spring. There are many such cases, and I make no apology for recommending in these the winter instead of the spring decoration of the flower garden.

Taking, therefore, this view of the question—that is, making as good a show as possible from the earliest period that bedding plants of ordinary kinds can be had in bloom, until the middle or end of March, in an unbroken line or nearly so, we shall find, as is almost always the case, that some frosty morning in November, or earlier in the autumn, destroys what remains of beauty may still be left to the Pelargoniums, Verbenas, Calceolarias, and similar plants, occupying the most conspicuous positions. Very often the beds in which these are principally planted are in front of the mansion, where it is advisable at all times to present a respectable, if not gay appearance, and it is the blank which always follows the flower beds being stripped of their summer garniture that has led in so many instances to the adoption of permanent polychrome beds or compartments. It is very likely that Mr. Nesfield, to whom we owe so many good examples of this art, was led to adopt it as a remedy or partial remedy for the evil just referred to; but whether so or not, certain it is that in midwinter these tasteful arrangements of colouring, with a certain blending of foliage, receive their full share of attention at this time. The question, then, may very properly be asked, Cannot such an arrangement be prepared on a less elaborate scale, perhaps, for winter use only? whilst allowing certain flowers to luxuriate in plain mother earth during the proper period of the year, and contribute their share towards effecting a display at the fitting time. In many cases, as will hereafter be shown, this can be done, and with a less amount of trouble than is bestowed on the propagation of plants for spring ornament, while the system proposed has also the advantage, and that a by-no-means unimportant one, of affording a change every year, and thereby giving scope to the endless variety of forms and arrangements which the materials employed are capable of assuming. The interest thus created is by no means the least important part of the affair, besides which, the plants that suggest themselves to our use multiply each season, and give greater variety, and enable us to weed out inferior ones.

In the arrangement of the winter decoration of the flower beds here, due regard is paid to the requirements of the ensuing summer's crop as well as to the display for the time being; and as a good depth of well-prepared soil is necessary to render our flower beds capable of supporting their occupants without artificial watering in such seasons as the past, we have for many years been in the habit of trenching all our flower beds upwards of 2 feet deep, sometimes 2½ feet or more, in all cases burying the plants in the bottom of the trench. Accordingly, whenever the frost or wet weather destroys all that remains of beauty in such plants as Pelargoniums and Calceolarias, these, if not wanted elsewhere, are trenched-in as described; and even in the beds intended for winter decoration this is done, as the vegetation is buried too deeply to interfere with the planting of anything that may be required. It is well to hasten on this operation, so as to have the whole completed and the winter plants put in before rain falls, which in November is not likely to be long in coming, and it is much better alike for the operator and the well-being of the plants that they should be planted while the ground is not too wet. Although the ground is at all times injured in texture by being trampled on when wet, this is of less consequence in autumn than in spring, from the greater length of time there is for the frosts of winter and mellowing winds of spring to restore the soil to its proper condition, yet there can be no doubt but the less it is trampled upon when it is wet and in the loose, light condition it is after trenching, the better it is for all purposes. For these reasons I have always made it a point to carry on such work, after it has been once begun, as fast as circumstances allow. As one of the largest beds we have to operate upon consists of between 10 or 11 poles or perches of ground, it will be seen that but a small portion of it can be reached from the outside, while small beds of 5 or 6 feet across can often be trenched at times when one of such size could not be touched. In our case dry weather is important, and immediately after the trenching has been finished, and any unevenness of the surface rectified by levelling, the ground is regularly and firmly trodden all over, so as to prevent as far as possible its sinking unevenly while undergoing the process of planting, or covering with coloured materials, as will be described.

The bed being now a smoothed or flattened surface of earth, and a plan more or less elaborate selected, the various figures are marked out. Generally, for convenience, I begin with a central one, and the beds being large, usually a modification of some geometrical design is adopted, a coloured scroll or embroidery work being combined with groups, or compartments of plants selected for their good appearance in midwinter. It will easily be perceived that variety of form may be given to a space of this kind; in fact, I never copy any portion of previous years' arrangements, nor need it be done.

For the guidance of those who may be disposed to engage in this sort of ornamentation I may give the same advice I have often given to those making flower beds on lawns, which is, that the simplest forms are the best. No figure whatever, in my opinion, looks so well as a plain circle when planted, and next to it is an oval. The reason is obvious enough; the eye, except when close to the object, can rarely take in the whole of the outline of fancy figures, owing to the growth of the plants concealing the margin farthest from the spectator, whereas in a circle, the portion behind being a counterpart of that immediately in view, the whole is understood if it be not actually seen, which it is more likely to be in a circle than in any other figure. But however much weight these considerations ought to have as regards groups that are planted, there is no objection to any amount of fancy work that may be thought desirable in conjunction with the groups, as it is expected that the embroidery, if I may so call it, will be distinctly seen from any point of view, and by introducing it judiciously the general appearance of the whole is much enhanced, but avoid too much crowding in the portion where the groups of plants are.—J. ROBSON.

(To be continued.)

WALL-FRUIT TREE PROTECTION.

THE late gales have made sad havoc with my "scrim." They have torn it to shreds. I have now put up a stouter material, No. 2 sail-cloth, about 22 inches wide. To the sail-cloth brass rings are affixed which run on two iron rods as for bed curtains. The rods are five-eighths of an inch in diameter, and 10 feet in length. The upright battens, on which the lower rods rest in staples, are 10 feet apart. They are 3½ inches wide each way. One foot in length tarred is let into the ground, and the upper part of the battens is painted white. These battens may in summer be either removed, or stay in their position. The upper rings run on a rod of similar length and strength to the rod which rests on the battens, having in the centre an open rest with lips to support the weight of the iron, which here, with the violence of the wind, would otherwise draw the staples at the ends. In situations protected from the violent assaults of the south-west wind lighter materials would do. The rings are attached to the curtains with tar twine four or five times doubled and twisted, and sewn to the sheets and rings with strong twine. I doubt whether even that will be sufficient to withstand such gales as we have had here lately.

My object in putting the curtains up so early is to keep off snow, which, when it thaws and is suddenly followed, before the trees are dry, by zero temperature, gives a greater power to frost to injure the bark of these natives of Persia. Frost following rain or melted snow, before the tree is dry, is one cause of canker. No one can in England count upon a crop of Pears, Peaches, Nectarines, or Apricots without some kind of spring covering to keep the night dews and rains out of the blossoms after expansion.

Napoleon I. said, "Impossible was not French," and I say that though it is difficult and laborious to produce large crops of the above fruits annually, yet it can be done. No one can have a more exposed place than this, and yet I expect, in the face of great difficulties, to show next season that, "impossible is not English."

I have upwards of 120 Peach and Nectarine trees, pruned on the alternate system, in fine condition, and promising a fine result. I have given in a previous article a list of the varieties of both, but I have since added two more trees of the Princess of Wales, a splendid late Peach, two Lord Palmerston, one Lady Palmerston, and two Mr. Kadclyffe, all late Peaches, and successional to the Princess of Wales. They are Mr. Rivers's seedlings, and are said to be first-rate. These will carry me into October. Later than this such fruits out of doors would rarely be good in England. Five out of the above-

seedlings are maiden trees, but I expect to obtain a little fruit off each next season. I have not cut them down, which is the usual plan, but headed the trees down to 4 feet, and tied-in the side shoots with bast, which I use in the place of shreds, which are unsightly and harbour all kinds of vermin. You must not tie the bast too tightly, or you will produce gum.—W. F. RADCLIFFE.

POINSETTIA PULCHERRIMA POISONOUS.

As a warning to hothouse gardeners, I think it my duty to inform you of an accident which occurred to Mr. Buck, my gardener. On the 8th of this month, as he was pruning a plant of *Poinsettia pulcherrima*, he cut his thumb, but took no notice of it at the time, so slight was the incision. On the Thursday following, however, he felt an unpleasant pricking sensation in the thumb, which soon extended up the arm. On Friday it was succeeded by great numbness in his right arm and leg, and upon consulting a medical man he found that the poisonous juice of the plant produced these painful sensations. His leg was so much benumbed as to render it useless, but upon further applications of the fomentations and other remedies prescribed, the baneful effects have now subsided, leaving only a few spots on the lower part of his thumb, similar to those of the small-pox. I considered that the above statement was sufficiently important to be noticed in your valuable publication, *THE JOURNAL OF HORTICULTURE*.—OSWALD MOSLEY, Bart., *Rollston Hall*.

PLANTING MINIATURE FRUIT TREES.

WILL "C. C. E.," who kindly gave us a short account of his unfortunate experience of bush-tree culture, tell us if he attributes the unfruitfulness of his trees solely to biennial removal, or is the soil in fault, or are the trees themselves too young to produce much fruit?

Now, as I am about to purchase a few trees and plant a small plot of ground, I must confess that I read the remarks made by "C. C. E." with not a little discomfiture, and almost abandoned the idea of going to the expense of planting any myself. Will "C. C. E.," if he has any trees planted in the first year of his practice, and only lifted them once, tell me how they succeed? or will any of my brother readers of the *Journal*, who have already planted miniature fruit gardens, give me a little of their experience, and tell me what twelve kinds of Plums, the same complement of Cherries, and half that number of Pears, succeed best as miniature trees, and possess the two following qualities:—1st, That of being the most prolific and abundant bearers; 2nd, That of forming the most ornamental and handsome pyramids. Also what six Apples—viz., the three very largest either for dessert or kitchen purposes; one medium-sized red-skinned variety; one small yellow-skinned variety; and one small russet variety—have proved themselves to be the most prolific, grown either as bushes or pyramids?

I think the experience which "C. C. E." reported, and the information I now ask, may be of some service and act as a guide to those who have already planted, and to those who are about to plant, a miniature fruit garden.—X. X. X.

[In brief answer to the foregoing questions, I can in no way blame my soil, which is all that I can desire. The trees are quite large enough to bear—say from ten to twenty-five Pears or Apples, and from twenty to one hundred Plums; their unfruitfulness I attribute entirely to the "lifting," followed, as that operation was, by an unusually dry and hot summer. They are now full of fruit-spurs, have short-jointed wood, and look, as a whole, as well and promising as possible, and next year I hope to be able, if desired, to chronicle a result more encouraging to those who are interested in the same delightful branch of horticulture.]

I have no trees planted in the first year of my practice, and only lifted once, which I can adduce as fair samples for the guidance of Treble X; for the first that I planted were established trees, and of such Rivers's Early Prolific and Victoria Plums have answered my utmost expectations, having produced abundant crops, being a perfect mass of purple three autumns out of the five.

I dare not presume to tell what twelve kinds of Plums, &c., to plant in a locality and soil of which I know nothing, but I should try almost anywhere Victoria, Rivers's Early Prolific, Prince Englebert, Diamond, Mrs. Gisborne, Pond's Seedling,

and Mitchelson's or Dancer's No. 1, though the last-named has proved here a weakly grower, and much subject to aphid. I ought, perhaps, to add to the above list Reine Claude de Bavière and Chapman's Prince of Wales. Bigarreau Cleveland has done better than any other Cherry with me; then Eiton and Florence. Beurré Diel, Beurré de Capiaumont, Beurré Clairgeon, and Beurré d'Amanlis Panaché Pears assume a pyramidal form readily and bear well. Louise Bonne of Jersey, Comte de Lauy, Winter Nelis, and Williams's Bon Chrétien are of far better quality, but not quite so easily trained, yet should not be omitted, and from all I hear Doyenné du Comice should find a place in every garden.

Warner's King has produced the largest Apples that I have grown. Beauty of Kent is also very fine. Nelson's Glory (not Lord Nelson), said to be a very large Apple, being on the Crab stock has not yet fruited. But these huge Apples, I fancy, are a mistake; and Lord Suffield (the best of all), Domino (early), Small's Admirable, Court-Pendu-Plat, and Frogmore Pippin I find as good as any for dwarf culture. For a "red-skinned" Apple take Devonshire Quarrenden; for a yellow, perhaps Kedleston Pippin is as good as any. But surely Treble X will not omit Cox's Orange, a grand Apple, which forms a beautiful compact bush full of fruit-spurs, and though I have not reaped much as yet from some forty trees I am confident that the harvest is to come.

Though Treble X may know far more about the habits of fruit trees than I do, yet I am sure he will pardon me for warning him not to suffer a single fruit to ripen during the first year after planting. I have tried the experiment, not because I disbelieved, but for the sake of proving the advice given to myself, and in every instance the tree has been ruined. Even in the second year unless the tree be very vigorous, pull off all the fruit and let the sap go to make the foundation of a tree that will repay you manyfold, for your self-denial, in future years.—C. C. E.]

RINGING, TO PROMOTE ROOT-EMISSION.

WILL Mr. Charles Roberts oblige me with particulars of the operation of "ringing the bottom to facilitate the emission of roots" in growing "shrubs as standards," and also state how wide are the rings to be, how deep, and how near to the roots?—C. C. E.

[In reply to the above inquiries respecting the operation of ringing the suckers of Lilacs and other shrubs to facilitate the emission of roots, I cannot state the exact measurement of the rings I made, as none was taken, but as nearly as I can judge the strongest of the suckers would have measured $1\frac{1}{2}$ inch in circumference, and the width of the ring depended on the strength of the suckers; for the strongest 1 inch wide, and for weaker suckers three-quarters of an inch wide, cut out to the depth of the bark. If this is not thoroughly cut out to its whole depth the wound heals, and the emission of roots is but little promoted. If the suckers to be operated upon are root suckers, the bottom cut of the ring is to be 2 inches from the top part of the roots, covering the cut to the depth of 8 inches with sandy soil. If the suckers are from the stool of an old plant cut down, and there are no roots to the bottom of the sucker, the bottom of the ring may then be 1 inch from the stool from which the sucker has issued.—C. ROBERTS, *Dorfold Hall*.]

POMOLOGICAL GLEANINGS.

SEVERAL cases of the fruiting of that exceedingly pretty and interesting plant, the POMEGRANATE, have come under our notice during the season. The fruiting has principally, however, been the result of chance; and these handsome fruits are not nearly so much cultivated or so common as they deserve to be. The cultivation is exceedingly simple. It will be remembered that a few years ago Mr. Downing, gardener to T. Grissell, Esq., Norbury Park, Dorking, exhibited at South Kensington some magnificent examples of Pomegranates which were the admiration of everybody. They were, indeed, equal to any of the imported specimens. These had been grown in a cool orchard house. Every season since, this plant has produced quantities of fruit which have been frequently exhibited. Those exhibited by Mr. Downing at a late meeting of the Fruit Committee were not quite so fine as usual, although still handsome. They were accompanied by the following letter from the exhibitor explaining his method of culture:—"The plant had been in my orchard house for some years in a wide border,

and only on one or two occasions had it put out a single blossom. Suspecting that the want of success in obtaining fruit arose from too luxuriant a growth, I had the roots cut away to within about 2 feet of the stem, and I then enclosed the roots with brickwork. After one intervening season the tree blossomed, and bore fruit abundantly. I employ no heat, as it would be inconvenient for me to do so where the tree is now planted; but I think if a little warmth could be conveniently given when the fruit is setting, and for a little while afterwards to promote growth, the fruit would be finer—indeed, quite equal to the growth of Italy or of any other congenial climate." We think so too, and can but recommend Mr. Downing's practice for adoption.

PEARS IN DEVON.

We have received some unusually large specimens of Pears grown by Mr. John Garland, gardener to Sir T. Dyke Arland, Bart., at Killerton, near Exeter. The largest is an Easter Beurré, measuring 13½ inches in circumference the long way over the stalk and eye (but, of course, not including the stalk), and 13 inches round the girth, and weighing 20½ ozs. It had begun to pass and had lost three-quarters of an ounce, Mr. Garland having weighed it 21 ozs. Glou Morceau is 12½ inches in its long circumference, and 11½ in girth, weighing 16½ ozs. Beurré de Rance is 13 inches in its long circumference, and 10½ in girth, weight 13 ozs. Winter Nelis is 10 inches in its long circumference, and 9½ in girth, weight 8 ozs. These are large specimens, and, unfortunately, in the case of the Easter Beurré and Glou Morceau decay at the core had begun, so that their true flavour could not be judged of. Beurré de Rance is not yet ripe; but Winter Nelis was in the highest degree in fine condition as regards texture of flesh and richness of flavour. We have received from Mr. Garland the following communication relating to these:—

"Winter Nelis and Beurré de Rance I planted ten years since, side by side on a wall having a southern aspect. Both are on the Quince stock. Easter Beurré and Glou Morceau I planted side by side on a wall with a western aspect. Both are on the Pear stock.

"The soil is a heavy loam of good quality, it being the top spit of an old pasture, such as is generally known as first-rate Melon soil by gardeners. No manure has been used except to mulch the trees the first year after planting. The garden is perfectly drained by Nature, being situated at the base and to the south of a hill of volcanic origin, the top of which, generally known in this neighbourhood as Killerton Clump, was planted by the present Mr. Veitch's grandfather. The hill is composed of solid rock, which is within 12 or 18 inches of the surface.

"The branches of each tree are trained horizontally from a central stem, three courses of bricks being the distance between the branches. Two years after planting I obtained four and five branches on each side in a season, by notching the central stem close above the bud I wished to break; cutting deepest, or half through, above the lowest buds, the next notch above being less deep, and the next proportionately less. The two top buds were not notched above, as they were certain to break freely. By the above method the growth of the branches was very evenly regulated. At the end of the fourth year after planting the branches had reached the top of the wall, or as near the top as they could be trained, there being fourteen on each side of the centre stem, and every two being exactly opposite each other, or along the same joint of brickwork.

"Every year since the above period, with the exception of Glou Morceau in 1866, the trees have all borne good crops of fruit. Winter Nelis bears so freely that I am obliged to thin the fruit every year to encourage growth at the points of the branches. This season the crop has been very heavy and is also very fine. I consider it the best Pear of its season, it being so richly flavoured, and so free a bearer. You saw the fruit of it and Doyenné du Comice which I exhibited at South Kensington, on the 17th of November.

"The tree of Doyenné du Comice I planted at the same time as the others—viz., ten years ago. It is growing as a pyramid in a border of the kitchen garden; its height is 16 feet, it is 10 feet through, and 6 inches in diameter at the base of the stem, and is on the Quince stock. It grows freely, forms a handsome pyramid, but is a very moderate bearer. I gather four or five times as much fruit from the tree of Winter Nelis I mentioned, as I gather from Doyenné du Comice. The fruit of Winter Nelis has the advantage of lasting much longer in

season than that of Doyenné du Comice; the latter, however, is a first-rate Pear, generally ripe by the middle of November, and lasts a fortnight in season. The first fruit I exhibited of it was at the Devon and Exeter Horticultural Society's Show, on the 11th of November, 1864, in the class for any sort, and it obtained the second prize. Until then it was quite unknown in this neighbourhood.

"The following are the weights of individual Pears grown here this season—viz.:

	ozs.		ozs.
Beurré Clairgeau	20½	Van Mons Léon le Clerc....	14½
Easter Beurré	21	Chaumontel	14
Glou Morceau	15½	Beurré de Rance	13½
Doyenné du Comice	15½	Winter Nelis	8½

"The Easter Beurré is the same as I have sent, but it is not quite so heavy now.—JOHN GARLAND, *Killerton Gardens*.

"P.S.—At a monthly meeting of the members of the Devon and Exeter Horticultural Society and their gardeners, J. Somer, Esq., exhibited six Pears of Uvedale's St. Germain, weighing 14½ lbs. The same gentleman told me he had twenty-four of the same sort which weighed 48 lbs. He resides in this parish, Broadclyst."

VISITS TO GARDENS PUBLIC AND PRIVATE.

MESSRS. ROLLISSON & SONS', TOOTING.

THERE is not to my mind so pleasantly situated a nursery in the neighbourhood of the metropolis as this old-established and well-known one. The region of Tooting, Balham, &c., was quite unknown to me until a few months ago, when I paid my first visit to the Messrs. Rollisson's; and having lately had an opportunity of again seeing the establishment in its winter trim I am confirmed in my opinion. Its extent is about sixty acres of freehold land, running far back from the high road, with water, meadow land, and everything that can conduce to the well-doing of a nursery; while the well-known ability, and scientific and practical knowledge of the intelligent manager, Mr. Buckley, have secured for the firm that consideration to which it is so justly entitled; and it is very refreshing, in these days of hard-headedness, to observe the kindly feeling existing between proprietor and manager which is to be found here. It makes one sometimes question whether the "good old times" were a fable after all; and one feels pleased in the universal rush and go-a-headedness of these days, that there is room left for those kindlier feelings which ought ever to be found, and which tend so much to lighten the weight of what to all must be a burden in some form or other.

The portion of the nursery which fronts the main Tooting Road has a very noble and imposing appearance, as here are situated the large glass structures, and the ornamental ground, in the centre of which is placed a fountain. The entrance is through a noble conservatory of 130 feet long by 25 feet wide. Along the roof of this are trained fine plants of *Cobea scandens variegata*, which is continually in flower; *Mandevilla suaveolens*; *Passiflora Impératrice Eugénie*, blue, rose, and white, the largest of all the Passion-flowers; *Lapageria rosea*, &c. Fine plants of some of the tree Ferns, as *Cyathea Smithii*, *Dicksonias*, &c.; large plants of *Arancaria Cunninghamii* (the Moroton Bay Pine), *Camellias*, and other ornamental plants, filled up the centre of the house; while its borders were all edged with *Lycopodium*, giving it a fresh and green appearance; and at various times *Chrysanthemums* and other flowering plants are brought in to brighten it up. Next to this is a large Heath house, 100 feet long and 18 feet wide, containing a large stock of the different varieties of this very beautiful tribe—one which has indeed fallen into sad disfavour in these days, simply because it is one of the crucial tests of a gardener's skill. If a man can grow Heaths well he can do anything in the plant way. A very different matter indeed it is from filling a house with "bedding stuff," or growing Grapes, and yet how well deserving of care they are. Here were young healthy plants of different sizes, also what are called half-specimen plants, and a beautiful stock of such kinds as *Elegans*, *Cavendishii*, which was raised here many years ago, *Hartnelli*, *Massoni*, &c.

The stove contained a fine selection of flowering and ornamental-leaved plants; amongst the latter an excellent selection of Palms, a tribe which is coming more into favour with us now, and which will ultimately, I doubt not, be still more so. It is one to which additions are being constantly made. For instance, I saw at Brussels a fortnight ago M. Linden's collection, in which there are fifty new Palms! Amongst those most noticeable at Tooting were *Geonoma fenestralis*, with leaves curiously pierced; *Areca nobilis*, *concinna* (quite smooth),

rubra, aurea, and lutescens; *Verschaffeltia splendida*, *Calamus adspersus*, *Phonocophorium sechellarum*, and *Chamærops stauracantha*. There were, besides, young healthy plants of most of the ornamental-foliaged stove plants, such as *Alocasias*, *Crotons*, *Cyanophyllums*, &c.

In the house devoted to tree Ferns are some remarkably fine specimens, such as *Alsophila australis*, 9 feet high; *Cyathca dealbata*, 10 feet high, with fronds 5 feet long; *C. medullaris*, 12 feet high, one of the finest known; *C. Smithii*, 9 feet high, a most beautiful plant; *Dicksonia antarctica*, 9 feet; *fibrosa*, 7 feet; *squarrosa*, 1½ feet; *Cibotium Schiedei*, very graceful; *Todea africana*, of this I saw some enormous plants at *Verschaffelt's*, at Ghent; *Todea superba*, a most lovely and elegant Fern, and when covered with moisture nothing can be more lovely in the Fern tribe than this beautiful plant. It requires peculiar treatment, and should never be exposed to the rays of the sun. *Todea pellucida*, or *hymenophylloides*, is another very nearly its equal, exceedingly beautiful, and more easily grown. Among other greenhouse Ferns I noticed *Pteris straminea attenuata*, a variety in which the pinnules are exceedingly narrow, with all their points turned upwards, which gives the whole plant a very crispy appearance. This is new, and is now sent out for the first time. Then there was *Pteris cretica dactylifera*, an elegant crested Fern raised here, a hybrid from *P. cretica*. The fronds are 2 feet in length, and each of the pinnae from 6 to 9 inches long, and each point bears a pendant tassel of light green. This is quite new, and is now being sent out for the first time; and as it will grow either in a stove or greenhouse, it will doubtless be a general favourite.

In the stove fernery I noticed some nice plants of a beautiful new Fern, *Gymnogramma Rollissonii*, a hybrid between *G. ochracea* and *G. ferruginea*. Its fronds are 3 feet in length, beautifully arched, and the points of the pinnae pendant. It is the most vigorous of all the *Gymnogrammas*, except *G. totta*, grows well in an intermediate house, and will make, doubtless, a fine Fern for exhibition. There were also some good specimens of climbing Ferns, such as *Lomariopsis heteromorpha*, *Lygodium*, *Oleandra articulata*, and others. In fact, in all the departments of Ferns, stove, greenhouse, and hardy, there is an admirable selection; and I may draw attention to the recently published catalogue of Ferns, which has been brought out under the superintendence of Mr. Buckley, as being one of the most complete and exact catalogues that I have seen.

In the house devoted to hardwooded greenhouse plants, called also a *Camellia house*, there were some plants which well deserve attention, and ought to be grown by those who possess a greenhouse. Among them was *Rhododendron fragrantissimum*, a plant of surpassing excellence, with flowers of large size and most delicious perfume, one of them quite scenting a house. Then there were the old plant *Gnaphalium (Astelma) eximium*, with its woolly leaves and blood-red everlasting flowers; *Acrophyllum venosum* and *Dracophyllum gracile*, both excellent exhibition plants, and very showy in a greenhouse; *Epacris multiflora*, crimson with white tips; *Adenandra fragrans*, an old but good greenhouse plant with pink flowers; and *Correas* of various sorts, another of those plants which so try the skill and patience of a plantsman, so subject are they to red spider. Here, too, was a fine lot of young *Azaleas* well set with flower buds.

In Orchids the Tooting nursery is very rich, and the house was full of fine plants in good condition, and to enumerate them would be simply to run through the list of the most favourite and rare of these lovely and curious plants. Some were in flower, but the season was a dead one for Orchids. *Calanthe Veitchii* was in bloom—a plant for which Mr. Buckley said Mr. Dominy ought to have had a gold medal, so successful an instance is it of hybridising, and so valuable for flowering in winter.

In the out-door department there is a most valuable collection of herbaceous plants of all kinds; amongst them a complete set of the now fashionable *Sempervivums*, and *Echeverias*, and *Saxifragas*; while the same completeness is manifested in all the various departments of a well-ordered nursery. I must not omit to mention that in the propagating house I saw a new *Tricolor Pelargonium*, which seemed to be a fine one, in the same style as *Lucy Grieve*, very high in colour, and of good habit. I may here mention that Messrs. Rollisson's *Tricolor Star of India* has proved with me one of the most attractive of the large number that we now possess. It is of the smooth-leaved section (*Sunset* style), and is a very good grower; while their *Tricolor Artemus Ward* is excellent for the edges of a bed, being of very neat habit.

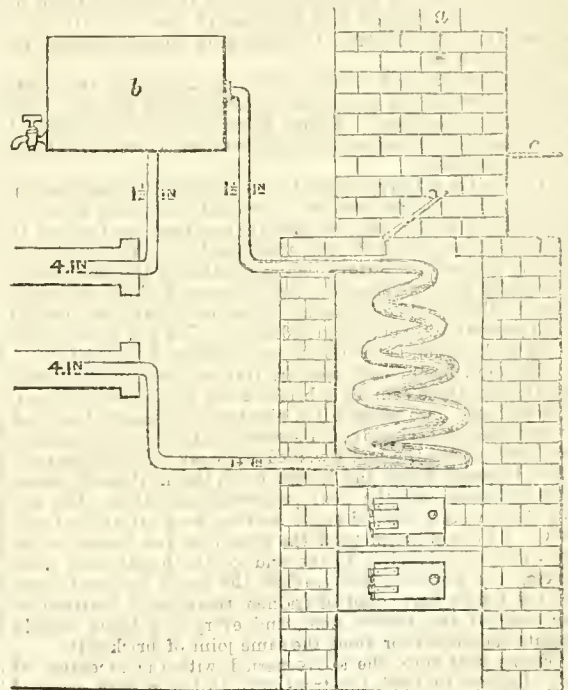
I have given in this rapid sketch a few of the more salient points which struck me on my visit to this well-known nursery; and all who have had an opportunity of visiting it will agree, I think, with me, that I have not said a word too much in its favour.—*D. Deal.*

HEATING HOT WATER WITHOUT A BOILER.

On reading the very able and practical paper "Doings of the Last Week" (December 3rd, page 423), by Mr. R. Fish, I thought that possibly a cheap and efficient plan I have adopted of doing away with all kinds of boilers in the heating of hot-water pipes in glass houses, might be acceptable to many of the readers of your Journal.

Having been obliged by the cracking of the flues in one of my houses (caused by mining operations) to substitute pipes, and being in the midst of the manufacture of iron gas-tubing, I had a coil of 1½-inch pipe made and inserted in a brick furnace, as in the accompanying sketch. The fire is fed from the top, there being also two doors at the bottom of the furnace, one to clear the clinkers off the bars, and the other to close the ashpit. I have found it work and answer extremely well, heating 66 feet of 4-inch pipe, and it would heat double that amount if required.

It consists of five rings or coils of 1½-inch pipe, not coiled closely together, but about 1½ inch apart, 12 inches wide in the circle at the top, and widening downwards. This coil cost 30s. I have another coil of 2-inch pipe with seven rings. This heats 250 feet of 4-inch pipe, and cost £5. They give me the convenience of any quantity of hot water for the houses, from the wood cistern connected.



a, Chimney. b, Cistern. c, Damper.

The inside of the coil only is filled with fuel. The flames fill the furnace.

The fuel used is one-half clean cobbles of coal, at 5s. per ton, and the other half, small washed gas coke or breeze, at 7s. per ton.—*D. HAWKESFORD, Bilston.*

[We have no doubt that your coil of pipes does all that you say, because we have known even simpler plans effectual. Used with care we have every reason to believe the coils would wear well, but they are more subject to accidents than a boiler, and we think a small cylinder boiler fed at the top, as you do your coil furnace, at a similar price, would act equally well, as £5 is a fair price for a boiler to heat 250 feet. The little cost of heating depends on the low price of the coal and coke, which would be more than double further south. We like the idea very much of taking the flow-pipe through the large wooden

cistern. We presume that your flow-pipe goes from the bottom of the cistern. In such a case, where much water is drawn off, the pipes are apt to be cooled, and hence, if we had the chance, we should like to have the cistern heated independently of the main circulation. The water would also be purer from not communicating directly with the boiler, but the plan you have adopted is well worthy of consideration.]

MILDNESS OF THE SEASON—CAMELLIA FLOWERING OUT OF DOORS.

It is not always that an autumn of unusual mildness follows a summer of more than ordinary heat, yet such seems to be the case this year; for although we had slight frosts earlier than usual, and these were followed by sharper ones in the beginning of November, it has been so much milder since that time, that were it not for the shortness of the days and the damp that prevails, we might be led to believe we were advancing far into April. Mild autumns and late winters, however, have occurred before, as I recollect one, about fourteen or fifteen years ago, in which Pelargoniums had stood through the dull dark days unprotected, and were fresh enough to furnish cuttings in the first week in February, but sharp frost set in at that time, and destroyed them and other plants. About twenty-four years ago, another mild autumn occurred, in which many country newspapers reported that Mushrooms were gathered in the fields up to the end of January; but these exceptional seasons are, perhaps, not the best for garden produce, as they encourage late and immature growth in some plants, although as regards others they may be beneficial. Amongst the latter, Roses have flowered out of doors in greater perfection than usual, and the gaiety of *Jasminum nudiflorum* against walls reminds one of spring. I have been a little surprised, however, at seeing one or two trusses of bloom fairly out on a Yellow Banksian Rose, growing against a pillar in a position not by any means well sheltered, and, perhaps, a more remarkable occurrence is the blooming of Camellias out of doors, several very good flowers having been gathered here from plants of the old Double White, that were planted out about four years ago in a fully exposed place. Some of the plants at the time being in bad health have recovered, and look robust and well.

Generally speaking, out-door Camellia blooms are injured and discoloured either by the cold or wet; but those above referred to, the first I have gathered out of doors before Christmas, are not in the least affected, and I would advise those who have favourable positions for this plant, to try it outside. I need hardly say that its growth is less rapid than when sheltered by glass, and growing in a well-prepared border; but the plants grow quite as rapidly as many that are kept in pots, and as evergreen shrubs vie with any other for appearance, when they are in good order. The interest, too, attached to them will always entitle them to much consideration, to which the chances of their now and then blooming will give them an additional claim. Perhaps those who have had plants out of doors for a number of years will state their experience in the matter.—
J. ROBSON.

NOTES AND GLEANINGS.

We see it is announced that a Horticultural Congress is to be held at Manchester next July, that it will be under the auspices of the Royal Horticultural Society, and that Mr. T. Moore is to be the Secretary. We hope it may be well attended and prove satisfactory.

— Dr. M. T. MASTERS, Spring Grove, Isleworth, and Mr. H. J. Veitch, King's Road, Chelsea, have been appointed representatives of the Horticultural Society of Russia for making arrangements in this country relative to the INTERNATIONAL HORTICULTURAL EXHIBITION, to be held at St. Petersburg during May next. Any person requiring relative information must apply to either of the gentlemen named.

WORK FOR THE WEEK.

KITCHEN GARDEN.

SEE that *Cauliflowers* in all stages, *Endive*, *Lettuce*, stored roots, &c., are secured from frost. As soon as the weather will permit, make another sowing of any early sort of *Pea* and Early *Mazagan Beans* on the breasts of wide ridges, and lest the ground should be frozen hard afterwards, so as to impede their germination or cut them off when above the soil, have

plenty of long litter or spruce branches in readiness to scatter along the ridges. Keep up a regular supply of *Asparagus*, *Chicory*, *Sea-kale*, *Rhubarb*, &c. Where a family is constantly resident, it is in general bad policy to commence forcing earlier than the stock will enable one to meet the demand until a supply can be had from the open ground. Fresh beds of dung and leaves will require to be put in operation for *Radishes*, *Horn Carrots*, *Potatoes*, and early *Cucumbers*. Take care to make your beds large enough for the latter if you wish to avoid trouble and annoyance afterwards. The *Mushroom* beds out of doors will require to be carefully covered with litter and mats, &c. On those who are fond of the *Mushroom* (and in many families it is deemed as essential to good cookery as the Onion tribe), I would urge the importance of devoting to the purpose a house or back shed, to be heated by hot water. A good supply will thus be easily obtained, and much pleasure will be experienced in witnessing the growth of the *Mushrooms*. A bed completely covered with them is a beautiful sight at this season. With respect to the mode of cultivation, I do not think I can add much to what has been stated by Mr. Fish.

FRUIT GARDEN.

Prune and nail-in on fine days everything except Peaches, Figs, Vines, and Raspberries; the nailing of these had better be deferred six weeks longer. Wheel dung, turn composts, and exercise judgment and forethought in regulating operations according to the state of the weather. Recollect if you wish to see your men energetic, able, and willing to push through labour in any emergency, you must study their health and comfort by providing suitable labour in unpropitious weather.

FLOWER GARDEN.

Where alterations and improvements are in contemplation, such as making new walks, making new flower beds, or reinstating the soil of old ones where necessary, frosty weather, which we may expect after the heavy rains, rather accelerates than retards such operations. Holes for planting choice or new shrubs or trees may also be prepared by removing the bad soil and replacing it with a compost suitable to the plants; and even where trees are planted and not growing so well as could be desired, the soil may be carefully removed from the outer roots and replaced by proper soil. Should the weather send the men in-doors, plenty of work may be found for them in cutting pegs, making brooms, cleaning old flower sticks and making new ones, repairing rustic baskets, and painting wire trellises, garden chairs, water pots, &c.

GREENHOUSE AND CONSERVATORY.

Next to *Lucaulia gratissima*, *Gesnera zebrina* is the best conservatory plant we have in November and December; if the terminal spikes of flowers of this plant are cut off when they are three-parts blown, and the plant returned to the stove for a short time, a host of lateral spikes will come up and last some time. A regular stove is far too hot for this plant when in flower, though stove culture assists it at other times; but to flower in summer a greenhouse treatment is necessary from the beginning, as already noticed.

HOUSE PLANTS IN GENERAL.

The surface soil in pots soon becomes exhausted by repeated watering, and repotting is not applicable in winter, therefore surfacing from time to time with a little fresh soil is all that can be done at present. After removing the soil on the surface of the pots, loosen the next layer down to the roots with a pointed stick, mixing a portion of fresh compost with it, and the next watering will carry the more sandy parts down among the roots, which will be of essential service to the plants. A porous surface, whether in a pot or in the field, is a point in cultivation which cannot be overrated. Little air need be given now to the conservatory as the forced flowers are brought in.

STOVE.

In reference to the shy-blooming kinds of *Orchids*, the most essential part of their management is to compel them to confine their growing season to our summers, say from the middle of May to the end of August. *Stanbopæas* are shy bloomers in the hands of some cultivators, but with others they flower regularly. Young plants of these are more difficult to flower than those which are established, because they are more liable to be influenced by changes of temperature or moisture. They will endure more hardships than any other of the tribe, and are therefore fit subjects for experiments. From the end of September to the beginning of May give no water at the roots, and from the end of November to the middle of February the proper temperature is 55°. The atmosphere should

not be drier than for a collection of stove plants, therefore the coldest end of a stove is a good place to winter them in. Early in March remove them to a warmer place—under the shade of an early vinery, kept from 60° to 75°, or a Cucumber house will do; but constant shade is necessary, as the leaves are excited by the moisture of the atmosphere, while the material about the roots is so dry that atmospheric moisture can have no effect upon it. Some plants, however, will be apt to grow at this stage, particularly in the first season; these must be kept in a drier atmosphere, or in the driest end of the house. From 70° to 75° should be the temperature for April. Every bud now will be swollen, and the success of the plan depends in some measure on the length of time the buds can be kept in this state. As soon as they open into shoots plunge the roots in water till all the material about them is well soaked; after this, abundance of air, as much light as the leaves will endure, and a temperature of from 70° to 80° are essential till their growth is nearly finished. Under any mode of culture the young shoots must be preserved from too much moisture lodging in the centre, till they are ripe enough to endure it. The rationale of some of the points in this course is not so obvious as one could wish, but in every instance where the mode described has been tried the result has been favourable.

PITS AND FRAMES.

Plants in these structures, not artificially heated, will sustain no injury in frosty weather if they are left covered for weeks together, and, in truth, should they become frozen, it will be much better that they should remain covered, and be allowed to thaw gradually than be suddenly exposed to a heated atmosphere. In nature we see that plants sustain no injury under a covering of snow, even though it be a yard thick and continue for weeks, and why is this? not because, as some suppose, the snow is white, though that is very favourable to preventing the escape of terrestrial heat, but because the snow keeps the surface of the earth at an equal temperature, which is sufficient to prevent the plants from sustaining injury from the low temperature, and yet not sufficient to admit of their growth; therefore, if we can keep the plants from growing they will not sustain any injury by being for a time without light. Plants should present a dwarf and robust appearance, thus being well fitted to bear deprivation of light for some time if severe weather should set in. Damp has accumulated very much of late, owing to the heavy rains and cloudy weather with which we have been visited. It may be removed by giving air at the front and back in sunny days; but where the pits are heated by fires, a dry atmosphere may be obtained by putting on slight fires, at the same time allowing a free circulation of air amongst the plants.—W. KEANE.

DOINGS OF THE LAST WEEK.

A WEEK, on the whole, with on almost every night a downpouring, making us regret that we have been able to do but little towards storing some of the abundant supply of rain water that ran to waste. The wet has been a hindrance to out-door operations, otherwise the weather has had more of the mildness of the end of April, than of gloomy December.

KITCHEN GARDEN.

Everything is growing more tender than we like, and bundles of twigs of evergreens have been set aside in readiness to place among Lettuces, Cauliflowers, &c., if the weather should suddenly turn frosty, as many plants will be less able to stand it, than if the weather had been drier and colder. Bundles of dryish litter have also been put together in readiness to throw over beds of Celery, Coleworts, Violets, &c., if it should be judged necessary, as, after such free growth, two or three nights of severe frost would destroy almost everything. As yet we have not had a bad head of Celery this season. This is very fortunate, as we shall not have too much of it, and the latest planted did not grow very strong. One reason why we will protect some Violet beds from frost is, that though the flowers look well after frost, and seem but little injured, all the odour for which they are prized will be gone. We have seen nice little vases of the single Violet in winter, that, however they might please the eye, were no better, so far as scent was concerned, than so many leaves.

Near Radishes, on a sloping bank, is placed a heap of litter to protect them from frost when it comes, as they are as yet tender and crisp, and a little burnt rubbish strewn amongst them keeps many of their enemies at a distance. We have put

up our first hotbed for Radishes, and will sow them in rows alternately with Horn Carrots. We find it most economical to defer sowing Carrots until the turn of the days, and depend for young ones in winter on those sown late in summer. We will pot directly a lot of Ashleaf and Prolific Ashleaf Potatoes in small pots.

Cucumbers.—Put up also a rough hotbed for a frame, in which we will sow Cucumbers, as we generally find the young plants thrive better in dung heat, than in the heat from hot water, after January—that is, when they are young, and until they become strong plants for final planting out. Of late years, early in spring our plants, as respects bearing, ran a very close race, sometimes the frame beating the hot-water pit, and rather oftener the pit beating the frame, when plants of the same age were used for both. A double or a single light for seedlings thus sets pit-room at liberty, or leaves it to the winter Cucumbers, so that strong plants may be ready to put in before the winter-bearing ones are removed. Frequently, to prevent a want of Cucumbers, we grow a few plants to a large size in pots, and let these fruit in the hot-water pit in spring; and, planting out the others, those in pots come in more quickly, and when the planted-out Cucumbers come in, those in pots can also be renewed. We had good fruit last year from plants in 8-inch pots some weeks before we had any from those planted out, the plants being of the same age.

A word here as to sowing Cucumber seeds. "BETA" tells us, "I bought several new advertised sorts last season, and had not a healthy plant from them; on an average I had not more than one plant from six seeds, and none of the produce came up to the description. Surely the seeds must have been doctored, or deficient in some way." We do not readily believe in the doctoring of seeds by any respectable firm. One thing is perfectly evident, that any first gain made by such a practice is sure to be followed by great ultimate loss, as a man will rarely be deceived a second time. There are people who will have seeds at such a price, and stand out so much for quantity too, that we can feel little sympathy for them if they make a very dear instead of a cheap bargain. It is very rare that new Cucumber seed receives any "cooking" or preparing for market. A respectable seedsman would not allow two new seeds to be made up into a packet with four or half a dozen in which all vitality had been destroyed. In most cases, we believe the fault is more owing to the sower than to the seed merchant. We have given seed to others to sow, and have sown ourselves, and not obtained a single seedling, and from the same packet we have sown a second time and obtained a seedling from every seed. Too much wet, too much covering, will cause many a seed to rot, and too much dryness after the radicle of the seed has protruded, will cause it to shrivel up into a lifeless skeleton. Old Cucumber seeds, and new ones at all imperfectly ripened, are the most easily injured by moisture and deep covering. In either case the seeds will rot. The great point of safety is, in either case, to allow the seeds to absorb moisture very gradually, and still have the seeds within reach of the air.

We are presuming the heat is quite suitable, say averaging 70°. We have sown six-year-old Cucumber seeds in one pot, and not a plant did we raise; we have sown from the same packet, and had ten plants from twelve seeds. In the first case we sowed in fibrous soil, neither wet nor dry, covered to about the depth of one-eighth of an inch, watered, and placed the pot in the hotbed. In the second case the pot was filled with similar soil to within 1½ inch of the rim, was then well watered, allowed to stand twenty-four hours to drain, then a sprinkling of drier soil was placed on the surface to the depth of nearly one-eighth of an inch, gently pressed down, and on that the seed was placed carefully, and then covered with about one-sixteenth of an inch of dryish soil, gently pressed, a square of glass laid over the pot after being set in the bed, so that air could pass under the glass, and a piece of paper over the glass to keep out sun light. In this case the moisture from the soil in the pot and from the bed was enough to enable the seed to absorb moisture slowly, so as gently to excite the germ of vitality instead of destroying it, and it was rare that any watering would be needed until the plumule or little stem began to show itself, and then only a little warm water was given at a time. Much the same care is required in the case of new seeds at all imperfectly ripened, as in their case the too free absorption of moisture, especially if they are too much covered up, so as to prevent the access of the oxygen of the air, will be apt to rot the germ.

A sort of excuse may be given for thus dwelling on these matters, as what applies to such a large seed as that of the

Cucumber will equally apply to the smallest seeds; but whilst care should be taken that such seeds should not be too moist at first, nor too much covered, greater care will be required in proportion to their smallness, that the seeds do not suffer from drought after they have swelled, and the radicle or root has protruded. With such attention to trifles there would be more success in raising seedlings, and seedsmen would not be blamed when thoroughly honest and far above all such practices as are too freely ascribed to them at times.

All this care in sowing, however, will not always ensure that the seedlings raised shall be true to the desired variety, and this uncertainty will generally be in proportion to the newness of the variety and the length to which it grows. All the older and shorter varieties seed pretty freely and have well-formed fruit, therefore it is easy to save good seed. The most of the long-growing kinds, fertilise how you may, produce seed sparingly. It is rare to obtain a seed from a fine specimen Cucumber of the long kinds, that, in addition to other desired properties, is as straight as and more uniform in girth than a gun barrel. An opportunity is taken to get seed from those with chubby ends and malformed fruit, because it can rarely be otherwise obtained. Need we wonder that thus the variety soon deteriorates? What would be thought of the stock-breeder who used the lame and the deformed of his flock to keep up the high character of his stock? and yet this, to a certain extent, must be done as respects these long fancy Cucumbers.

We recollect a particular case in point. Many years ago one of our best gardeners exhibited some fine, long, white-spined Cucumbers, with a splendid mealy bloom on them, and they were crisp and sweet, as well as pleasing to the eye. Seedsmen wished to have the sending out of the variety. Towards the end of the summer something like chance gave us an opportunity to see six or eight lights of this Cucumber left for seed. There was not a single well-formed specimen, most were crooked and twisted, and looked as if they would yield abundance of seed. Need we wonder that in a couple of years or so the Cucumber got out of date? Some said they had been "sold," though there was not a doubt as to their having seed from the right stock. The raiser kept on with it, and did well with it; but then, no doubt, he was particular as to the fruit he had the seed from, and very likely if that did not please him he continued the variety by cuttings. "BETA" and other enthusiasts after long straight Cucumbers, will now see, that however honest the seedsman may be, there will always be a tendency to deterioration and sporting in these very long Cucumbers, and the grower will succeed best who saves his own seeds, and is content to save very few from well-formed fruit, instead of a great quantity from deformed ones. We have not seldom been forced to fall back on chubby, gouty-nosed fruit, because we could not get seed from a straight one, but though frequently the variety was thus continued tolerably pure, it was more than we had any right to expect. Facts when fairly stated will often remove very unpleasant misconceptions, whilst reticence and unwise attempts at concealment will only confirm them.

FRUIT GARDEN.

We must refer the reader to previous weeks' notices as to planting, transplanting, and pruning. Of the latter, and even under glass, we have not done so much as we wish owing to a press of out-door matters, but nothing has been allowed to be delayed too long.

Strawberries.—We have just made up a mild hotbed, chiefly of long litter and tree leaves. These were trodden rather firmly, and as even then the pots would be apt to sink more in the leaves than would be desirable, a depth of 2 or 3 inches of rotten dung was placed on the surface and firmly trodden, so that the pots should stand level without being plunged. The heat rising from the leaves will be enough to excite the plants gradually and gently. Beds formed at this season are apt in mild weather to heat too violently for the good of the roots of the Strawberries, as when to be moved to houses afterwards these do all these better when the roots have little more of what may be called bottom heat than the tops or buds. A strong heat also paralyses the roots, and when very warm burns them. We would prefer placing the plants in the bed on boards. This plan, with means to prevent overheating, brings the plants on gradually and gives them an advantage over those set in cool houses at once, as to the time of blooming and ripening. A few sashes at liberty thus give us the advantage of starting a house in which Strawberries are to be placed a month later. In a regular Strawberry house, which we would much prefer

to making, as we generally do, the Strawberry merely a super-numerary in other houses, and where fuel is no serious matter, we would prefer setting the pots on the shelves at once. There is always a risk at this season in plunging the plants in a bed, unless the heat be the very mildest. If the roots strike through into rich material there is ever a tendency in dull weather to the production of huge leaves, instead of bold strong flower trusses. Hence, though a little heat will help them on more than a cold pit or frame, we prefer that the roots clustering round and in every part of the pot should not be subjected directly to the action of the heat.

Cut mildewed berries out of the Grapes remaining. This weather, even with the advantage of fire heat and air during the day, has been rather unfavourable to their keeping well. Apples and Pears also want constant looking over.

ORNAMENTAL DEPARTMENT.

When not over wet rolled the lawn. Fresh-laid turf was too wet to be rolled, we had to be content with slightly beating. Where the ground was all levelled we could lay the turf down by using planks and boards for the men to stand on, and as they were light they were easily moved. Towards the end of the week we had to give up all attempts at levelling the ground, from the wetness. A correspondent tells us that he can do nothing with turf from half to three-quarters of an inch thick, and thinks we must be mistaken as to the thickness. We have laid loads between these two sizes, and when carting from a distance much cartage is saved. We have no fear of such thin turf now, and especially in such moist weather. Some of the first laid is growing beautifully. We should require similar turf to be double the thickness in March, and then there would often be the trouble of filling up the cracks, if not of watering. To make a fresh lawn, therefore, economically, the work is best done in the end of autumn and the beginning of winter. In large jobs it is very well to sow, but it takes some time before the finest seeds will equal good turf.

Tulips, especially of the best kinds, will require to be protected alike from heavy drenchings and severe frosts. Mats and a little long litter will be useful for these purposes. All bulbs and flowering roots must be protected from mice, by catching or otherwise doing away with the mice. We have known fine beds of Crocuses spoiled in a few nights. Besides poisoning and catching, we have sprinkled tar along the sides of the rows and patches with advantage, and the tar would be dried and innocent enough by the time the bulbs showed strongly above ground, and after that the mice more rarely touch them. When we place bulbs in a bed covered with ashes or leaf mould for the purpose of forcing, we have found no security against rats and mice so effectual as dropping a line of tar all round the bed, and sprinkling some over it.

Auriculas, Polyanthes, the finer Primroses, Carnations, Picotees, &c., kept in cold frames and pits should be frequently examined as to dryness and any appearance of damp. Whenever a few hours' sunshine occur the sashes should be taken off, but in this warm, foggy, dripping weather the sashes should be raised back and front to allow the air free passage, and so as to keep the plants robust and healthy.

Calceolarias.—Young plants from cuttings in the end of October, which we lately stated have rooted rather sooner than we wanted them, have been treated much in the same way as the above, only the sashes were pulled down in dry weather, even if dull and foggy, as a little damp, along with plenty of air, will rarely hurt such Calceolarias. We like as well when the cuttings do not root until about this time, as before they have made many roots they will stand rougher treatment. In severe weather we have had such Calceolarias covered up for a month or six weeks, after making sure that the temperature inside was cool enough to prevent growth and extension, and just above freezing-point; but when they are as thickly set as ours, about 1½ inch apart, and tolerably well rooted, they will not readily endure such long shutting up, if they should be called upon to meet it, but will require uncovering more frequently. Herbaceous Calceolarias of the large-flowering kinds, though equally rejoicing in a moist cool atmosphere, generally do better where in all seasons they can have light, and, therefore, will bloom all the sooner if light can be given, and the frost excluded by a little fire heat. It is easy to counteract the dryness from artificial heat. We have in years gone by grown great quantities of the herbaceous Calceolarias and Cinerarias, and felt often amused in reading the weekly direction to be sure not to spare tobacco smoke amongst them, as it was rarely we ever gave them a puff. A cool moist atmosphere will render all fumigation unnecessary. When removed

into a drier, warmer atmosphere the green fly will soon find them out.

Roses.—It is time that all fresh plantations were made, but we have some to plant, and cannot do so, as the ground is far too wet to enable us to do the work neatly, and planting when the ground is too wet is as bad as digging stiff soil in spring when it is too wet. After planting, it is best to defer pruning until the buds begin to swell, but if the shoots are long, a piece may be taken off the points, and the rather close pruning be left until the buds swell. Leaving the shoots thus longer helps the making of fresh roots earlier. Some of the hardier Roses, as the Damask, Provence, and the more robust Perpetuals, may be pruned, but all the more tender kinds should be left until the spring. Teas, and the tender Noisettes, &c., if not taken up should be protected with litter over the roots, and green twigs, fern, or straw, fastened lightly over the heads. If against walls, they will generally be safe enough with a few thin evergreen branches placed secretly against them. They are well worth this little extra trouble, and if on their own roots, which is the best way, a little dry litter may be fastened over the surface of the ground. Placed Tea Roses, Perpetuals, and others in pots in a slight bottom heat, in a pit, along with Dentzias, Weigelas, &c., and put a lot taken from the open ground without any preparation into a slight hotbed out of doors.

This is a plan that can easily be adopted by anyone who can command a few barrowloads of tree leaves, or other fermenting material. Most of the plants we thus use would otherwise have been grubbed up, and we have often been as successful with them as with those grown in pots all the summer. In taking them up, we like to secure a good number of roots, caring little whether these roots are long or short. By twisting or otherwise, we put them into as small pots as they can be squeezed into, using rich sandy loam well firmed for the purpose. These plants, plunged into such a mild hotbed in the open air, and the pots just covered at first, and then covered a little deeper as the heat declines, will generally be tolerably well supplied with fresh roots in from a month to six weeks, whilst the buds on the shoots will scarcely be beginning to swell more than ordinarily. After the root feeders are thus secured, the pots may be moved to a forcing pit, a hothouse, or even a window or a greenhouse, but the slight hotbed would be best, with plenty of air at first. We have had the plants doing well in a greenhouse. Most shrubs, deciduous or evergreen, may be treated successfully in the same way. In fact, we treat them much as we would do a bulb, secure roots before we attempt to bring the flower stem much into excitement. Often when we could not procure bulbs when we wanted them, we have hurried them on after potting in a similar way, plunging the pots in a mild hotbed, and leaving the tops of the bulbs, exposed with only a few dry leaves over them in the case of frost. As soon as the roots nearly filled the pots, these pots were transferred to a hotbed or forcing pit, taking care to give plenty of air at first. Bulbs so treated we have had in fine bloom a month or six weeks earlier than it would have been safe to have forced those potted and placed in a cool, dark place in the usual way. Bear in mind, that with unprepared fresh-lifted shrubs, as well as with bulbs, you force successfully only when you have secured roots to meet the wants of the swelling flower buds and growing flower stems.—R. F.

TRADE CATALOGUE RECEIVED.

James Vetch & Sons; Royal Exotic Nursery, King's Road, Chelsea, S.W.—Catalogue of Garden and Flower Seeds, Horticultural Implements, &c., for 1869. With one Coloured Plate.

COVENT GARDEN MARKET.—DECEMBER 23.

GENERAL supplies shundant, with scarcely any variation in prices, the only active trade being in the various evergreens used for decoration. Of these there is no scarcity, as may well be supposed in the present open season.

FRUIT.

	s.	d.	s.	d.
Apples ½ sieve	1	6	2	0
Apricots doz.	0	0	0	0
Cherries lb.	0	0	0	0
Chestnuts bush.	10	0	16	0
Currants ½ sieve	0	0	0	0
Black doz.	0	0	0	0
Figs doz.	0	0	0	0
Filberts lb.	0	9	1	0
Cobs lb.	0	9	1	0
Gooseberries .. quart	0	0	0	0
Grapes, Hothouse, lb.	3	0	6	0
Lemons 100	4	0	8	0

VEGETABLES.

	s.	d.	s.	d.
Artichokes doz.	3	0	6	0
Asparagus 100	10	0	0	0
Beans, Kidney per bd.	2	0	3	0
Beet, Red doz.	2	0	8	0
Broccoli bundle	1	0	2	0
Brus. Sprouts ½ sieve	2	0	0	0
Cabbage doz.	1	0	2	0
Capsicums 100	0	0	0	0
Carrots bunch	0	4	0	8
Cauliflower doz.	3	0	6	0
Celery bundle	1	6	2	0
Cucumbers each	0	9	1	6
Endive doz.	2	0	0	0
Fennel bunch	0	3	0	0
Garlic lb.	0	8	0	0
Herbs bunch	0	3	0	0
Horseradish .. bundle	3	0	5	0
Leeks bunch	5	4	0	6
Lettuce per score	2	0	4	0
Mushrooms pottle	2	0	0	0
Mustd. & Crees, punnet	0	2	0	8
Onions per bushel	5	0	7	0
Parsley per sieve	3	0	4	0
Parsnips doz.	0	9	1	0
Peas per quart	0	0	0	0
Potatoes bushel	4	6	8	0
Kidney do.	4	0	7	0
Radishes doz. bunches	1	8	0	0
Rhubarb bundle	0	0	0	0
Sea-kale basket	2	0	3	0
Shallots lb.	0	8	0	0
Spinach bushel	2	0	3	0
Tomatoes per doz.	1	0	2	0
Turnips bunch	0	6	0	0

TO CORRESPONDENTS.

•• We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

N.B.—Many questions must remain unanswered until next week.

BOOKS (T. Trickett).—Kenne's "In-door Gardening," which you can have free by post from our office if you enclose twenty postage stamps with your address.

DIRECTION (E. S. B.).—The direction is 24, Bonverie Street, Fleet Street, London.

MELON APPLE (Dupré).—You are quite correct in stating that this is a most superior dessert Apple, but we were no less correct in stating that it is all that a culinary Apple should be. When in a boiled pudding its flesh becomes a complete pulp, with a flavor and perfume unsurpassed by those of any other Apple.

BARBAREA VULGARIS VARIEGATA (A Lady, Somersetshire).—We have had so many applications for information where this can be obtained for winter garden decoration, that any nurseryman who has it would find it remunerative if he advertised it. We cannot trouble "AYRSHIRE GARDENER" on the subject.

MARLBOROUGH COURT GRAPE (North of Ireland Gardener).—The description of this Grape in the "Florist and Pomologist," is quite correct. There is in that periodical a coloured portrait of a full-sized bunch.

ZONAL PELARGONIUMS FOR WINTER BLOOMING (Rush).—To flower well in winter the Pelargoniums you name require a temperature of from 45° to 50° at night and in dull days, and ought not to be in small pots, but should have been shifted into larger ones as soon as those they were in became full of roots, keeping them well stopped until August, so as to produce compact plants, and then allowing them to advance for bloom. As you wish the plants to flower in March, we would shift them now into pots a size larger, afford a light, airy position near the glass, keeping them gently growing, and by increasing the temperature to 45° or 50° about the middle of February, they will bloom in a month or six weeks. They should have an abundance of air, and be kept carefully watered; avoid making the soil too wet. For blooming at the time named the shoots must not now be stopped. The old plants are not good for winter blooming. They will not bloom well until April.

WATERING KALOSANTHES AND FUCHSIAS IN WINTER (Idem).—The Kalosanthos ought to be kept in a light, dry, and airy situation, and no water given except to prevent them from flagging. The Fuchsias, if young plants, should be similarly treated, the object being to keep them slowly growing. Old plants of Fuchsias may receive no water during the winter, providing the wood is not permitted to shrivel. They will do in any place secure from frost, if kept dry, and not unduly excited by heat without affording at the same time light and moisture.

PLANTING VINES (E. S.).—Your Vines, seven years old, which have been cut back and trained this season with one good strong shoot, will be suitable for planting out in the greenhouse. We have planted Vines when their shoots were 2 or 3 inches in length, but it has been from pots and young canes. In your case we would take up the Vines early in March if they are to be planted outside, carefully preserving all the roots possible, and at once plant, spreading out the roots, and covering with from 3 to 6 inches of rotten turf. If the Vines are to be planted inside, we would at once take them up and plant, keeping the house cool, and not watering them until March. They ought to be at once pruned to the length required.

QUICKLY-GROWING EVERGREEN (R. S. S., Woodgate).—In your soil we think Berberis aquifolium would answer your purpose.

HAY'S PATENT STOVE.—We cannot tell you where you can obtain fuel. It was peat charcoal we believe. There is now no agent for its sale, we believe.

TACONIA MOLLISSIMA NOT FLOWERING (A. F.).—We think if you were to keep your plant dry at the roots during the winter, or after it had made a good growth, and were to well harden it off by giving an abundance of air, it would flower well. Perhaps the roots have unlimited room, and on that account the growth is strong. Your only plan will be to allow the shoots a corresponding amount of room with the roots, or confine the latter within smaller limits, training the shoots not very closely together, but so as to be clear of each other, and not further from the glass than 9 inches—better 6 inches. Encourage the plant to make a good growth,

and well ripen it off, keeping the plant dry at the roots, but not so dry as to cause it to flag.

COCONUT PALM SEED SOWING (W.).—The Coconut Palm may be raised from seed in a bottom heat of from 85° to 90°, and a corresponding top heat. February is a good time to put in the nuts.

POTATO ONION CULTURE (Constant Subscriber).—Underground or Potato Onions may be planted at the end of February or early in March, planting them so that they will be covered with soil, leaving the least possible portion of the neck of the bulb above the surface. A rich light soil is most suitable. They should be planted from 4 to 6 inches apart, in rows about 6 inches from each other. They require to be kept free from weeds, and should be taken up when the tops become yellow, tying them up in bunches in the same way as the other kinds, and keeping them in a dry place. They are milder than the other kinds of Onions, but otherwise equal to them for use.

CULTURE OF TREE FERNS (W. H. H.).—The two that have made two frosts and died off may push others, providing the centre or hearts are not dead or destroyed, but that we could not say without seeing the plants. As the fronds have died off we should say the plants are dead. We would, however, leave them for some time longer—until July or August of next year, unless you ascertain there is no possibility of growth, keeping them well supplied with water, and the trunks or stems sprinkled with water twice a-day, but be careful not to allow the moisture to lodge in the hearts of the plants. The temperature is much too high; one of from 50° to 55° is ample at this season, encouraging growth in spring with a brisk heat and a moist rather close atmosphere.

EPIPHYLLUM GRAFTING (M. L.).—You may graft a *Pereskia aculeata*, the thickness of a pencil, with the *Epiphyllum truncatum*. Whip grafting is the best method, though side grafting will answer well, leaving a portion of the stock to which the graft can be secured after insertion. It should be done before the *Epiphyllum* begins to grow. The graft should be secured with mats, and have a little moss placed over it and secured. It is well to have the stem of the stock and the graft of the same thickness at the point of union, and the outer edges on one side, at least, corresponding. If the plant be placed in a mild bottom heat, and be kept moist and shaded from bright sun, the graft will take more speedily.

WINTER CUCUMBER-GROWING (A Young Gardener).—Your house or pit appears well arranged for winter Cucumber-growing, only we think there is not sufficient provision for bottom heat. The return pipe alone is not enough to heat a border one-half the width of the house, but you do not say what the width of the bed is, though from your stating it is in the centre of the pit, we conclude it is the full width. You have not too many pipes for top heat; it is an advantage to have a greater extent of surface heated than is absolutely necessary, as in this case greater facilities are afforded for air-giving, and the pipes do not require to be made so hot, and on that account the atmosphere is more congenial. You ought to have at least two 4-inch pipes for bottom heat, and they are best in a chamber covered with slabs of stone or slate, and 18 inches from the intended surface. The joints of the slabs should be left open, and on the slabs 6 inches thick of rubble should be placed, and over that a layer of sods, grass sods downwards, and then the soil to the depth of 10 or 12 inches. The fruit swelling off with a knob at the end indicates a deficiency of bottom heat, which at this season ought to be 70°, and not higher than 75°, and the top heat should be from 60° to 65° at night, and from 70° to 75° by day, with a rise from sun heat. The evaporation troughs, we presume, are kept full of water, and in addition to that, the paths, if such exist, walls, &c., should be sprinkled with water about one o'clock daily in bright weather, and the house shut up. Your sorts are good for winter fruiting, and in general swell their fruit well. It would be desirable to make up a bed at one end and pot in fresh plants, preserving a portion of the present plants until the others come into bearing. The pipe as it now is is of little value for bottom heat, and unless you have enough of that the growth of Cucumbers in winter is not satisfactory. The pit, as at present arranged, will do very well for Cucumber-growing in spring and summer, a good bed of fermenting materials being provided.

ARACARIA BROWN AT THE BOTTOM (Old Subscriber).—The cause of Aracarias becoming brown at the bottom is as yet unexplained, and we have no satisfactory reason to give, but we believe it is due to climate, that of England, except in favoured or sheltered situations, being too cold and wet. The majority of the plants 18 feet and upwards in height, which we have seen, are in much the same condition as yours. The dying-off of the branches of Aracarias is so very general, that we shall be obliged by information on the subject. We think it incurable, and have ceased to recommend the Aracaria being planted, except in sheltered situations, and where water does not stagnate in the subsoil. —G. A.

PRUNING VINES (Half Pay).—The Vines should be at once pruned. The side shoots should be cut back to two eyes, and the leading shoot or rod cut-in or back two-thirds of its length. Those cut back to two eyes are what are called spurs; you will find their treatment fully described in the "Vine Manual." The mildew was not caused by the Calceolarias taken up from the garden, but it may have resulted from insufficient ventilation. The remedy is to dust them with flowers of sulphur on its first appearance, and as often afterwards as it appears. Are you sure the Vines are mildewed? The Peach trees are more likely to have fostered the mildew, as you say it is upon them, therefore syringe them with a solution of Clarke's insect-destroying compound, 2 ozs. to the gallon, or paint every part of the trees with a solution at the rate of 3 ozs. to the gallon, using a paint brush. If mildew appear next season dust the parts immediately with flowers of sulphur. The Vine border should be covered with littery manure to the depth of about a foot, or with straw and leaves, but the manure is best. You will only need fires in the greenhouse to keep out frost, and not that if you have no plants in the house. The temperature from fire heat should not exceed 46°. The wood of the Peach trees being green and not half ripe, we would cut the shoots well in. This will give you good strong shoots another year, and you will by giving air freely secure their full maturation. How far are the Peach trees from the glass, and are they not too much shaded by the Vines? The Vines ought not to be nearer each other than 4 feet 6 inches, better 6 feet, to allow of sufficient light for the Peach trees. The best covers for a fine are fire tiles 3 inches thick; they are made of fire clay. We fear Peach trees will not succeed on an east wall. Early York Malta, and Mountaineer are among the hardiest. We should advise Plums, of which three good varieties are Kirke's, Jefferson, and Coe's

Golden Drop. Apricots would probably succeed; the best are Kaisha, Hemskerk, and Moorpark.

CUTTING OFF HEPTACIA LEAVES (An Amateur).—The leaves should not be cut off. They will decay next summer. If removed it is probable the buds will not mature, and perhaps the plants would not flower, or if they did their flowering would be poor and of short continuance.

BRACHEN WITH DUNG FOR HOTBEDS (Idem).—The fronds of fern are not so good as leaves, but still useful for mixing with stable dung, as that moderates the heat and renders it more lasting.

PANSY CUTTINGS (Idem).—The cuttings put in under a north wall may receive slight protection during severe frost, removing it in mild weather.

REMOVING TRICOLOR PELARGONIUM FLOWERS (Idem).—We think the foliage is improved in size when the flowers are removed, but we do not consider the leaves are better coloured. The colouring is more or less intense according to the light.

FORMING PYRAMIDAL APPLE TREES (J. M. S.).—Your maiden trees, 4 feet high, should be cut back to a bud 12 inches from the ground. This proceeding will cause the production in spring of a number of shoots, which are all to be stopped when they have made six leaves each, except the shoot from the uppermost bud, which is to be trained upright and not stopped until it has grown 12 inches. When it has attained this length, before July take out its point, and it will most likely push laterals, one of which is to be trained as a leader, and the others stopped at the third leaf. All the shoots stopped at the sixth leaf, if they push after being stopped, are to have the shoot nearest the end of each pinched at the third joint, but the other laterals are to be stopped when they have made two leaves. The shoots should be disposed so as to form a symmetrical pyramid, widest at the base and gradually tapering upwards. The shoots, if inclined to grow erect and to cross each other, should be tied down and so regulated as not to be nearer than 6 inches, nor further apart than 9 inches. The leader, if it exceed 12 inches in length without side shoots, ought to be shortened to that length above the highest side shoots, and these should be cut back, if necessary, to give a symmetrical head. Any laterals on the side shoots not required for extension, should be cut back to within half an inch from whence they proceed. The subsequent treatment is similar to that in the previous year, and this must be persisted in until the trees are of the height required. The trees should now be unchained round the stems with 3 inches thick of littery manure, and in March they ought to have a top-dressing of rich compost or rotten manure to the depth of about an inch.

REPORTING ABUTILON (W. Cottrell).—The beginning of March is a good time to cut back the Abutilon, and repeat when it has pushed freely shoots 2 or 3 inches long. It succeeds in a compost of two-thirds turfy loam, and one-third leaf mould, with a free admixture of silver sand. We cannot name plants from shoots; flowers as well as foliage are necessary.

PLANTS INFESTED WITH WHITE SCALE (Quack).—Your plants are more severely attacked by scale than any we have seen, judging from the specimens sent us. Syringe them with a solution of Clarke's insect-destroying compound, of the strength of 3 ozs. to the gallon, wetting every part thoroughly, and adding to every gallon of the solution six drops of spirits of turpentine. The plants should be syringed in two or three days afterwards with water at a temperature of 140°, and if the scale still remain repeat the syringing with the solution. The vapour of spirits of turpentine will not only kill the scale, but injure the plants, therefore avoid it. You may take up the *Tacsonia* and pot it, preserving as many roots as possible. If you deprive it of many roots the head should be reduced to a corresponding extent, and it would be desirable to do so, as the plant is so badly infested with scale.

PERETHECUM TUBERATUM (Old Subscriber).—We fear it would not succeed under a Plane tree. *Stachys lanata* would do so admirably, and so would *Vinca elegantissima*, which is very handsome. The small-leaved green and variegated *Vines* would be suitable.

DWARF WHITE CELEBY (Amateur).—We think the incomparable would suit you. It is solid, crisp, and juicy, and of dwarf growth. If you wish for a larger kind, Cole's Crystal may suit you, it being early. The Champion Giant is a large and excellent white variety and early. There are no *Acanis* proper that will bear the open air in the country. Of *Robinia* pseud-acacia, *Bella Rosa*, *monophylla*, *pyramidalis*, *sophoraefolia*, *crispa*, *albida*, *amorphifolia*, *inermis*, *umbraefolia* (standard), *fasciata*, and *Ducaseinana*, all of moderate growth, and *bispida* and its varieties, which are tall and spreading.

LINSEED OIL FOR DESTROYING MEALY BUG (P.).—The old hark being removed from Vines you may paint them with linseed oil without injury, but we do not think it will penetrate into the crevices of the rods so as to destroy the mealy bug. Try Gishurst Compound or Clarke's preparation, both of which are advertised in this Journal.

TRICHOMANES RADICANS CULTURE (Killarney).—The plant is probably kept too cool and not regularly moist. We would advise your placing it in a house where there is a temperature of from 40° to 45°; keep it well supplied with moisture, but not so much so at this season as in summer, taking the bell-glass off at least once a-day and wiping it dry, and leave it a little tilted on one side, for this Fern likes a comparatively airy yet moist atmosphere.

FRUITING CANES OF VINES (Reader).—We presume that Vine growers mean by a fruiting cane, one strong enough to produce fruit, and that irrespective of its age. We have had rods less than a year from the bud more fit for fruiting than other plants of twice their age. In either case we consider it in general to be injudicious to take much of a crop from a fresh-planted Vine, but if the Vine is young and strong it will have in proportion more and stronger roots than a weaker though older plant. We find that Trentham Black Grapes does well in a medium house, requiring rather more heat than a Hamburg, and less than a Muscat, though bearing well under the same circumstances as both. We shall be glad to have Mr. Stewart's further opinions and experience.

WOODEN FENCE FOR FRUIT TRAINING (W. F. Chapman).—A coping of wood would be the best under the circumstances, and removable when all danger of frost is over. The sloping of the coping upwards from the wall will not be so effectual as having the slope slightly the other way. We would advise woollen netting hung in front, in addition, when the trees open their bloom.

PACKING CASE (Idem).—We have examined the patented packing case, and think it a very good one, and a gamekeeper and a butler think so too, but something of the same kind of case is frequently used, both in

the strong box and basket form, no cords or nails being used in either case, and the trays or inside boxes so arranged that no packing except paper is necessary. Nevertheless, your case seems a good one, and if cheap enough will, no doubt, sell with or without a patent.

AUCUCA BERRIES—DRAINING (H. D.).—They will become red next year. Place the draining-pipes beneath the hewn in your clayey soil 3 feet below the surface, and in lines 12 feet apart.

NAMES OF FRUITS (E. S.).—It is the Winter Strawberry Apple. (L. L. D.).—Your Apple is Lady's Finger. (T. Dunsford & Son).—Your seedling russet Apple is one of great excellence. (Peasman).—1, Easter Beurre;

2, Not known. (*Centurion*).—The Pear is Rondelet, not Winter Nellis; A, is not Chaumontel, and we cannot say what it is. The Apple is Reinette de Caux. (A. A.).—1, Crasanne; 2, Probably Winter Nellis; 3, Chaumontel; 5, Ravelstone Pippin.

NAMES OF PLANTS (H. G.).—We cannot name plants from their leaves only. (J. W. M.).—*Cestrum aurantiacum*. (H. D.).—1, Eupatorium, not determined, allied to *E. paniculatum*; 2, 5, 6, *Polystichum angulare*; 3, *Polystichum neocatum*; 4, *Lastrea dilatata*. (*An Inquirer*).—*Habrothamnus fasciculatus*. Requires ordinary greenhouse treatment. May be planted against a pillar with advantage.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending December 22nd.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
	Max.	Min.	Air.		Earth.				
			Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed.. 16	29.614	29.379	55	39	50	48	S.	.10	Clear and fine; heavy clouds; rain, clear and fine.
Thurs. 17	29.779	29.935	52	40	50	48	S.	.22	Fine, very clear; densely overcast; overcast and cloudy.
Fri. . 18	29.558	29.493	57	29	50	47	S.	.20	Clear and fine; very fine; showery; heavy rain.
Sat. . 19	29.672	29.500	54	25	48	48	W.	.00	Fine and frosty; clear and fine; clear, frosty fog.
Sun. . 20	29.525	29.511	47	38	46	47	S.E.	.16	Densely overcast; hazy; fine; overcast at night.
Mon. . 21	29.408	29.103	55	43	48	47	S.	.11	Showery; densely overcast; showery; densely overcast.
Tues. . 22	29.204	29.005	56	39	40	46	S.W.	.38	Clear and fine; very fine; heavy showers.
Mean	29.587	29.392	53.85	36.20	48.71	47.29	..	1.20	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

TRIMMING AND OTHER ARTIFICES AT SHOWS.

WHEN I wrote the other day, I stated that I did not then know the result of a formal protest I had handed in at Birmingham against a prize pen of Brahma hens, on the ground that the hocks of one of them were even more than usually trimmed. That result is shortly stated. I received the next day a note from the Secretary, stating that he had laid my protest "before the Council, and was directed to say the same could not be entertained." It was never even alleged that the accusation was false, and, had the case been defended on its merits, I had, and have, testimony which would place the matter beyond doubt.

At first I was naturally irate; but on looking over the Birmingham schedule I found that the Council could not do otherwise than they did, as they state that no appeal can be had from the decision of the Judges unless some "rule" of the Society be proved to be broken, and Birmingham has no rule whatever against trimming. Nay, on further examination, I find that Liverpool, Manchester, and Bristol are in the same position, so that I fear no committee which has not published a rule on the subject could withhold a prize without being subject to an action at law. Really, it is time the question were mooted! I state these facts that it may be seen I can sympathise with committees in their difficulties.

Nevertheless, what has appeared has had effect, for since then I have received copies of several schedules containing excellent "trimming clauses." Some of them have always contained them—others not. As a specimen I quote the Kendal schedule, which enacts that "Trimming, or artificial alteration of the plumage, or of any other part of a bird (except the comb of a Game fowl), will disqualify it from receiving a prize." The Whitehaven Society has a similar regulation.

And let not committees of shows which this year have no rule, think that they are absolved from responsibility. Their duty is—as "no appeal" can be made from the judges—to specially request their judges to give particular attention to this point, and to disqualify all evident cases. It is perfectly notorious that judges do not do this at present; if requested they may do so. They seem actually to be afraid of some exhibitors. We can all remember seeing occasionally some trickery exposed in these pages by them, with all the virtuous indignation imaginable, but in every case (I am speaking of poultry—I was glad to see prominent sinners disqualified in the Pigeon classes at Birmingham), the "example" has been some outsider, some exhibitor of no name or influence. I do not remember one case where an influential exhibitor has been exposed, though I have seen cases quite as bad and equally evident. Let committees, therefore, draw the attention of their arbitrators to this matter, and next year insert the needful clause in their schedules. The Birmingham Council, evidently, by the Pigeon decision, are anxious to do justice; and I have every confidence that next year such a protest as I made will not be made in vain. Meanwhile I am taking other steps,

the nature of which will soon be made public; and in the interim any who may be willing to give real aid in putting down this growing nuisance will greatly oblige if they will communicate with me through the Editors.

But now I want to mention an important phase of the matter. I learnt from personal friends that after I had left Birmingham a certain poultryman had been not only slandering me in many ways behind my back on account of my protest, but had openly derided my attempts to get justice done, saying that "nine-tenths of the exhibitors did it," and "was it likely we could put it down?" Now, let me earnestly impress upon all readers of our Journal that this is the real issue. Very frequently the trimming is not done by exhibitors themselves, who are often men of the highest honour. I believe this to have been the case with the very gentleman whose pen I objected to. But, on the one hand, there are a comparatively few men paid to look after their master's stock and superintend his yards. Some of them it is a pleasure to know—others, like my kind critic above mentioned, have no ambition but to win, and will stoop to any meanness rather than be beaten. They are the real sinners, as they are the real masters, having sole control over the birds under their care. On the other hand there is the large class to which I and others belong, the real amateurs, who breed our own birds, who like to rear a few fine fowls at our own homes, and show them fairly in friendly competition, carrying into this useful hobby the manner and conduct of Christian gentlemen. We do not like to cheat, and so we are daily cheated. Yet we form by far the largest class of exhibitors; it is we who keep the poultry fancy from degenerating to the level of the prize-ring; and if ever the day come, as it seems fast coming, when no gentleman can win at a poultry show, the said fancy will never recover the deserved degradation.

Well, my critic and his clan laugh at us. And now the simple question is, Are we, the largest and most influential body, to be really at the mercy of a few fellows like this? It seems hard, rather; and I am not sure that we are so yet. We will have a hard fight for it first, and do our best. We want nothing but truth and justice; it may be we are strong enough to secure them in spite of the tricksters in the poultry world.

I may, perhaps, be allowed to say that I have not taken this matter up as a personal one. It is well known, on the one hand, that being engaged in business, and not able to afford the luxury of keeping one of the gentry I refer to, I very rarely show; and, on the other, that I am not quite a novice, and if I liked could "trim" hocks as neatly as — himself. No one could be less aggrieved personally than I am. I speak on behalf of the many who are not skilled in these deceptions, but only know how to show their fowls honestly as nature made them. All honour—notwithstanding my critic's ridicule—to their innocence! He thinks it very "green," but green is a handsomer colour than black after all.

One more sentence. At Birmingham I saw the first-prize Brahma cock of last year. Then he was trimmed, and got first prize; this time he was shown—all honour to his owner!—in his natural state, and was not named! In other respects he was in good order, and as well worth a prize as he was then, and he was equally locked last year—anyone could see it! What

a farce is judging, and what a lottery must be exhibiting, when success turns upon such things as these! Show a bird with vulturo hocks, he is disqualified. Pluck the hock, do it so clumsily that the greatest ignoramus in the world can see it, and you shall win the first prize! This is what judges and committees have brought us to, and this is what exhibitors have come to, in the year of grace 1863.—NEMO.

DECEPTIONS AT POULTRY SHOWS.

I was glad to observe from an advertisement in this Journal, that a meeting had been held at Birmingham for the purpose of adopting rules respecting the better arrangement of poultry exhibitions, which I hope will give honest men a better chance of obtaining prizes. I know perfectly well that many exhibitors borrow birds for the purpose of showing them. This should not be allowed, and every exhibitor ought to make a declaration that the birds are his property. Some judges make blind decisions. I myself exhibited a pen of French birds last year, and the judge told me that they were not worth above 1s. 6d. each. The same birds were shown at Preston, won the first prize, and were sold for £3. I think I stated in your Journal some time ago, that I would not exhibit my birds except where I could ascertain who were appointed judges.—J. G. MILNER, *Bellerby Vicarage.*

PROLIFIC HENS.

In "Our Letter Box" of November 26th, you say you once knew a hen which laid 240 eggs in one year, but she never laid again, and died soon afterwards. Now my old Brahma laid 403 in two years, and up to to-day the number has reached 432. I weighed her myself this morning, and she was just 7½ lbs. She is in perfect health and plumage. I quite agree with you that people had much better count their eggs than guess at them.

Our arrangement for a fowl house is, that every fowl we possess has to come or go through a part of our dwelling-house to a small backyard to roost, where also boxes are placed for them to lay in, therefore there can be no mistake, as every hen is under the eye of the matron herself; but were we to guess, we would unhesitatingly give the palm to one of the old hen's progeny, but, unfortunately, her register was lost after she was twelve months old, but we are certain she beat her mother in her first year's laying by seven.

You say again in a back number that no food will make old fowls lay in winter. I have a correct account of all the eggs laid for the last three months of the year. On examining the book I find we had 204 in October, 141 in November, and seven yesterday (December 1st), from eleven old fowls, bred in 1865 and 1867, and two pullets of this year, one of which laid four eggs before she was five months old.

I think May is quite soon enough for hatching. I had some early birds last year, when, after laying their first batch of eggs, all moulted, which throws them back materially in winter. It would certainly be very interesting to have from keepers of various breeds of poultry accounts as to their adaptability for laying and other good points. Some poultry-keepers prefer one sort, others another, and so on. The Brahmas which we have are dark ones, with black or brown heads, I am told not fit for show birds, but what we want are laying capabilities.—J. P.

LEEDS POULTRY SHOW.

THIS year's meeting has been most successful; and we cannot but congratulate the Committee on the greatly improved arrangements. It is worthy of especial notice, that, though the number of shows occurring about the same date might have been expected to diminish the number of entries, and render the quality of the birds shown not so good, nothing of the kind has resulted; on the contrary, never was a Leeds Show so well supported on every hand. The Leeds Committee not only issued a very liberal prize schedule, but found the most ready response from exhibitors in general. An inspection of the prize list will prove that but very few indeed of the principal yards in the kingdom were unrepresented.

The *Game* fowls, as a rule, were remarkably good; the silver cup for the best pen of *Game* of any variety, being secured by an excellent pen of Brown Reds, birds of this season. Of *Dorkings* the Coloured varieties were very excellent, but in the Silver-Greys the bulk of the prizes were withheld. A first-rate pen of *Dorkings*, capable in all other respects of prize-taking almost at any exhibition, were "disqualified," from one of the hens being ruptured, no doubt the result of misapplied care and over-feeding. *Spanish* fowls were very well shown, and the *Cochin* classes were excellent, a pen of first-rate Partridge

chickens taking the *Cochin* cup. In *Brahmas*, the birds of 1863 were also successful in securing the silver cup, many of the adult birds being scarcely in full condition and feather. *Hamburghs*, as might be expected in this district, were of first-rate quality, the chickens of the Golden-spangled variety receiving the silver cup prize for the best pen of *Hamburghs* of any variety. The Black *Hamburghs* were especially worthy of favourable notice. The *Selling* class was very large, Black *Spanish* taking the first prize; White *Cochins* the second; and Dark *Brahmas* the third position. The *Game* breed of *Bantams* was the best variety of those popular "poultry pets," and the silver Bantam cup was awarded to it. As to the *Turkey*, *Geese*, and *Duck* classes, perhaps there was never anything nearly so good seen before in Leeds. The "Variety class" of *Ducks* was also especially good.

The class for dressed poultry was remarkable for its excellence, Mr. Dowsett, of Chelmsford, taking the prize for the best "dressed" chickens, with a pair of cockerels of this year, nearly 17 lbs. in weight. This gentleman seems now to have this class of premiums altogether in his own hands, and competitors seem to fear entering the lists against him. There were, however, at Leeds, some exceedingly good specimens shown by his opponents. We will here offer a hint worthy of attention—the *Turkeys* were not only dressed—that is, plucked, but also drawn, ready for cooking. This is a mistake, as any poultry if "drawn" five or six days before cooking, invariably loses its flavour, consequently all "dressed" poultry should be shown "plucked," but not drawn.

Another hint to the Leeds Committee, and if acted upon we fancy their arrangements will be very near perfection. It is, not to place the empty baskets on the tops of the pens; it obstructs the light, so necessary for the inspection of the birds, and at the same time it detracts from the appearance of the exhibition generally. The *Pigeons* constituted a very large portion of the Show, comparatively with the entries of former years.

We published the names of the Judges and their awards last week.

LIVERPOOL POULTRY SHOW.

IN all our experience of shows, we have never seen such a place as that selected for this. We have been in a Royal Riding School at Brighton; in the County Court at Derby; in Corn Exchanges everywhere. Tents have been pressed into the service. We have known the gipsy queen's caravan used as a Committee-room. We have never before seen a place where 358 pens of cattle, 1047 entries of poultry, and 570 entries of dogs could be accommodated under the same roof, with ample light and air, and the poultry enjoying the rare luxury of being shown in one even row—no upper, no lower tiers. The place covers two acres. The roof is very high, and it is sheltered from draughts, being open on one side only. Full space was allowed for everything exhibited, and there was room for a free circulation between the rows of pens. We do not speak of the decorations of the showyard, although the number of flags that found employment must have laid nautical providers under contribution to a large extent; the effect was good, and when the place was lighted with gas the appearance was very cheerful. The Committee, however, did not confine themselves to the decorative part alone. In the afternoon and evening immense tarpaulings formed curtains which were raised and lowered at pleasure, completely closing the only open side of the space used for the Show. An immense advantage is, that the greater part of the roof is glass; this admits the light to a most desirable extent at this season of the year. Our friends at Bingley Hall may copy this with advantage.

In the refreshment department Liverpool has gone far ahead of all competition. In elegance of decoration, in excellence of viands and liquors, and in the general management of the first-class rooms, it was unlike, because infinitely superior to anything we have ever before seen. Instead of crowding in front of a bar where nothing is to be had without a struggle, and all unsatisfactory in quality when obtained, the first-class refreshment-rooms were approached through a wide and long corridor tastefully draped with alternate pink and white drapery. It was lighted by figures the size of life, five or six on each side, bearing gas lights. This led to a large room or hall decorated with equal taste, with the addition of mirrors and medallions, and containing numbers of long tables covered with clean cloths. In fact, it had the appearance of a first-rate and well-manned cafe.

The prize list gives such full details of the different classes, with their numerous commendations, that we must be content with such remarks as they may call forth, and that do not appear in the list of honours.

Mrs. Arkwright repeated her Birmingham victory, and took a deserved prize and cup with her adult *Dorking* cock. She was hard run by Admiral Hornby, who defeated her by taking the first prize in the class for birds of the year. These classes were excellent. The hens and pullets were worthy of their predecessors, and we have seldom seen two birds that pleased us more than those belonging to Dr. Campbell, which most deservedly took the cup. Thirteen pens only in these two classes were passed by the Judges. The Silver-Greys were not so numerous as their Coloured brethren, but they were very true indeed to colour. White *Dorkings* were large and good.

The first-prize *Cochin-China* cock was a grand bird, and we can not surmise he is not the same bird that won at Birmingham. If he can be kept in the same form and condition he will be very hard to beat at

any future show. We liked the old birds better than the young ones. Mr. Taylor was successful with two young cocks, being second and third. He was also the winner of a cup for the two best hens. In these classes the old again beat the young, it is seldom the case; but the pullets were not equal to the hens, and in many otherwise favourable specimens there were crooked combs and vulture hocks, that were fatal to any hopes of success. The Grouse Cochins were more numerous than the Buffs, and they were equal in quality. Out of twenty-one young birds only five were excluded by faulty-coloured breasts. Mr. Tudman was, as usual, the most successful in these classes. He took the silver cup.

The *Brahma Pouter*s were very good, and brought large entries. The Honourable Miss Pennant well deserved the first prize. There were thirty-three entries of young cocks, and good hens and pullets. Mr. Pickles took the cup with hens. They were very good. Perhaps for the first time in an open competition for the best *Brahma Pouter* cock, the Dark had to succumb to the Light, one of the best cocks we ever saw. Even Mr. Pares was obliged to be second to him.

We have never seen better *Spanish* than were here shown. Adult and young cocks, hens and pullets, were all alike perfect. The latter were of surpassing beauty and excellence. One cock was blind from the growth of his face, and many in each of the classes were disfigured by excess of merit. Mr. Thresh took the cup with perfect pullets.

Thirty pens of Black *Hamburgs*, many very good, but there is a tendency to have the ear-lobes too large in the hens, and the combs too large and coarse in the cocks. We were much pleased with the Golden-pencilled *Hamburgs*, and considered Mr. John Smith deserved his cup. The pullets were also exquisitely pencilled to the very tip of the tail. The Silvers were more numerous than the Golden, but we did not think them as good. For some time they do not seem to have been bred as carefully as the Golden. The same may be said of the Spangled; the Golden were the better, and Mr. Ogden took the cup. We cannot speak too highly of the Golden, with the exception of some combs, too large in the cocks, loose in the hens. We would not be understood to condemn the Silvers, but they suffered in comparison with the Golden.

The *Polish* classes were weak, with the exception of the Silver; but we can speak very highly of them all. Mr. Adkins was very successful in the Silver. Sibrigh Bantams were good, but very few in number.

We have never seen better *Game* classes, and the prize birds deserved the honours that were awarded to them. An accident had happened which had restored a number of Brown Reds to liberty, and there was a doubt as to ownership. There could be none about the awards.

Game Bantams formed a very good class, and cannot be too highly spoken of. These birds are now so fully understood, and so perfectly bred, that they suffer little in comparison with their larger brethren. Black and White were poorly represented. Col. Stuart Wortley and Mr. Fowler took all the prizes in the Various class. Had there been more prizes there were birds worthy of them.

Rouen Ducks were again far more numerous than the Aylesburys, but in this instance they were not heavier. Mrs. Seamon's birds were very heavy indeed. The East Indian were excellent. The "Variety class" of Ducks demands an especial mention—Mandarians, Carolinas, Brown Calls, Bahama, and Wild Ducks.

Geese were very heavy, and we thought Mr. Leach's cup pen of Whites one of the best we ever saw.

There were twenty-eight pens of *Turkeys*. Mr. Beasley's for weight, and Mr. Statter's for colour, were as good as we ever saw.

All the arrangements were good, and we hope this is a revival of the Liverpool Poultry Show, which was so popular with amateurs years ago.

DORKINGS (Coloured, except Silver Grey).—*Cocks*.—First and Cup, Mrs. Arkwright, Etwahl Hall, Derby. Second, Admiral W. Hornby, Knowsley Cottage, Prescott. Third, W. W. Rutledge, Storthund, Kendal. Highly Commended, J. Martin, Claines, Worcester; T. Statter, Stand Hall, Whitefield, Manchester; Mrs. M. Seamens, Hartwell, Aylesbury; R. P. Williams, Glasin, Cloxtar; J. Douglas, Clumber. Commended, A. Potts, Hoole Hall, Chester. *Cockerels*.—First, Admiral W. Hornby. Second, J. Martin. Third, R. Woodfall, West Derby, Liverpool. Highly Commended, Mrs. Arkwright; Dr. D. C. Campbell, Brentwood; Duke of Newcastle, Clumber; T. Statter; J. Douglas. Commended, Gunson and Jefferson. *Hens*.—First and Cup, Dr. D. C. Campbell. Second, Admiral W. Hornby. Third, Duke of Newcastle. Highly Commended, Mrs. Arkwright; Hon. H. W. Fitzwilliam, Wentworth Woodhouse; A. Potts. *Pullets*.—First, T. Statter. Second, J. Robinson, Vale House, Garstang. Third, Admiral W. Hornby. Highly Commended, Mrs. R. D. Holt, Orrest Head, Windermere; Miss A. Hurt, Alderwasley, Derby; J. Martin; W. W. Rutledge. Commended, Hon. H. W. Fitzwilliam.

DORKINGS (Silver Grey).—*Cocks*.—First and Second, R. Smalley, Luno Villa, Lancaster. Third, R. D. Holt. Commended, G. Maples, jun., Wavertree, Liverpool; H. Dennis, Raabon. *Hens or Pullets*.—First, R. D. Holt. Second, J. Robinson. Third, J. Wood, Wigan. Highly Commended, Rev. W. J. Mellor, Ryde, Isle of Wight.

DORKINGS (White).—*Cocks*.—First, J. Robinson. Second, Miss Fairhurst, Woodlands, Ormskirk. *Hens or Pullets*.—First, H. Lingwood. Second, Miss Fairhurst.

COCHIN-CHINA (Cinnamon or Buff).—*Cocks*.—First and Cup, W. A. Taylor, Manchester. Second, E. C. Stretch, Ormskirk. Third, J. Lee, Middleton, Manchester. Highly Commended, C. W. Brierley, Middleton, Manchester. *Cockerels*.—First, Bowman & Fearon, Whitehaven. Second and Third, W. A. Taylor. Highly Commended, J. H. Daves, Moseley Hall, Birmingham; H. Mapplebeck, Woodfield, Moseley, Birmingham; Mrs. H. White, Broomhall Park, Sheffield; Gunson & Jefferson. Commended, W. A. Burnell, Southwell, Notts. *Hens*.—First and Cup, W. A. Taylor. Second, J. Cattell, Birmingham. Third, H. Mapplebeck. Highly Com-

mended, H. Langwood; J. Sichel, Timperley. *Pullets*.—First, E. C. Stretch. Second, W. A. Taylor. Third, J. Lee. Highly Commended, E. W. Earle, Huyton, Liverpool.

COCHIN-CHINA (Partridge-feathered).—*Cocks*.—First and Cup, E. Tudman, Whitechurch, Salop. Second, A. O. Worthington, Newton Park, Burton-on-Trent. Third, R. White. Highly Commended, T. Stretch. *Cockerels*.—First, W. A. Taylor. Second, E. Tudman. Third, R. Andrew, jun., Harpurhey. Highly Commended, G. Charley, Preston. *Hens*.—First and Cup, E. Tudman. Third, T. Stretch, Ormskirk. Highly Commended, H. Crossley, Broomfield, Halifax; W. Garton, Chester; W. A. Taylor. Commended, J. Stephens, Walsall. *Pullets*.—First, H. Crossley. Second, T. Stretch. Third, R. Andrew, jun.

COCHIN-CHINA (White).—*Cocks*.—First, R. Smalley. Second, W. A. Taylor. Highly Commended, Col. L. A. Ewart, Tattenhill, Burton-on-Trent. *Hens or Pullets*.—First, R. Smalley. Second, A. O. Worthington.

BRAHMA POUTRA (Dark).—*Cocks*.—First, Hon. Miss Douglas Pennant, Peorhyn Castle, Bangor. Second, W. Hargreaves, Bacup. Third, F. Sabin, Birmingham. Highly Commended, Miss A. Hurt; E. Leech, Rochdale. Commended, W. V. Kearne, Gateacre, Liverpool. *Cockerels*.—First, G. Dixon, jun., West Strand, Whitehaven. Second, Mrs. Burrell, Steke Park, Ipswich. Third, J. H. Pickles, Farby, Skipton. Highly Commended, J. H. Pickles; Rev. E. Alder, Etwahl Vicarage, Darby. Commended, Hon. Miss Douglas Pennant; R. W. Boyle, Marino, Dublin. *Hens*.—First, Cup, and Commended, J. H. Pickles. Second, A. O. Worthington. Third, E. Leach. *Pullets*.—First, E. Leech. Second, K. Jopp, Aberdeen. Third, Hon. Miss Douglas Pennant. Highly Commended, J. K. Fowler, Aylesbury; H. Saville, Rinford Abbey, Offerion.

BRAHMA POUTRA (Light).—*Cocks*.—First and Cup, H. Lacy, Helden Bridge. Second, A. Herbert, Egham. Third, J. Pares, Postford, Guildford. Highly Commended, A. O. Worthington. *Hens or Pullets*.—First, H. Lacy. Second, J. Pares. Third, A. O. Worthington. Highly Commended, F. Crook, Forest Hill; C. Morris, Holmeleigh, Grassendale, Liverpool.

SPANISH.—*Cocks*.—First and Cup, Burch & Boulter, Sheffield. Second, Rev. W. J. Mellor. Third, Hon. Miss Douglas Pennant. Highly Commended, J. Thresh, Bradford. *Cockerels*.—First, W. R. Bull, Newport Pagnel. Second, T. & E. Comber, Myddleton Hall, Warrington. Third, W. Woolley. Highly Commended, Burch & Boulter; E. Jones, Clifton, Bristol; J. Stephens; R. Teehay, Fulwood, Preston. Commended, R. Teebay. *Hens*.—First, T. & E. Comber. Second, Hon. Miss Douglas Pennant. Third, W. Woolley, Bambury, Tarporley. Highly Commended, Burch & Boulter; J. Newton, Silsden, Leeds. *Pullets*.—First and Cup, J. Thresh. Second, T. & E. Comber. Third, R. Teebay. Highly Commended, T. & E. Comber; E. Jones; F. James, Puckham Rye; J. Newton; R. Teebay.

HAMBURG (Black).—*Cocks*.—First, J. Ogden, Hottigwood. Second, J. M. Kivert, Ludlow. Third, S. Butterfield, Keighley. Highly Commended, J. Lee; Rev. W. Serjeantson, Acton Burnell; C. Sidgwick, Ryddlesden Hall, Keighley. *Hens or Pullets*.—First, J. M. Kivert. Second and Third, Mason & Walker, Denton, Manchester. Highly Commended, C. Sidgwick; T. Wrigley, jun., Tonge, Middleton, Manchester. **HAMBURG** (Golden-pencilled).—*Cocks*.—First and Cup, J. Smith, Openshaw. Second, T. Wrigley, jun. Third, H. Beldon, Gostock, Bingley. Highly Commended, F. Pittis, jun., Newport, Isle of Wight; J. Walker, Haya Park, Knaresborough. Commended, W. R. Park, Melrose. *Hens or Pullets*.—First, H. Beldon. Second, J. Walker. Third, W. R. Park. Highly Commended, T. Bolton, Stoke-on-Trent; S. Bara, Whitby; Bowman & Fearon, Whitehaven.

HAMBURG (Silver-pencilled).—*Cocks*.—First, H. Beldon. Second, H. Pickles, jun., Third, T. Bolton. Highly Commended, T. Sharnles, Rawtenstall. Commended, C. J. Robinson, Sandfield Park, Liverpool; J. S. Senior, Dewsbury. *Hens or Pullets*.—First, T. Bolton. Second, T. Sharnles. Third, A. Woods, Selson. Highly Commended, C. J. Robinson. **HAMBURG** (Golden-spangled).—*Cocks*.—First, J. Walker. Second, T. Walker, jun. Third and Commended, J. Chadderton, Hollingwood. Highly Commended, J. Wild, Ashton-under-Lyne; T. Walker, jun., Denton, Manchester. *Hens or Pullets*.—First, Cup, and Second, J. Ogden. Third, W. A. Hyde, Ashton-under-Lyne. Highly Commended, J. Chadderton; J. Newton; J. Walker.

HAMBURG (Silver-spangled).—*Cocks*.—First, H. Beldon. Second, J. Smith. Third, J. Fielding, Newchurch, Manchester. Highly Commended, J. Ogden. *Hens or Pullets*.—First, J. Fielding. Second, J. Wild. Third, J. Walker. Highly Commended, F. Pittis, jun.; H. Pickles, jun. Commended, H. Beldon.

POLISH (Black with White Crest).—*Cocks*.—First, S. Butterfield. Second, P. Unsworth, Lowton, Newton-le-Willows. Highly Commended, J. S. Senior; P. Unsworth. *Hens or Pullets*.—First and Second, P. Unsworth. Highly Commended, J. S. Senior.

POLISH (Golden).—*Cocks*.—First, H. Beldon. Second, G. W. Boothby, Louth. Highly Commended, G. W. Boothby; R. P. Williams.

POLISH (Golden).—First, H. Beldon. Second, G. W. Boothby. Highly Commended, T. Walsley, Chester; R. P. Williams.

POLISH (Silver).—*Cocks*.—First and Second, G. C. Adkins, Lightwoods, Birmingham. Highly Commended, G. C. Adkins; H. Beldon; T. & E. Comber; J. S. Senior. *Hens or Pullets*.—First, G. C. Adkins. Second, J. S. Senior. Highly Commended, G. C. Adkins; T. & E. Comber.

GAME (Black-breasted Red).—*Cocks*.—First and Cup, Duke of Newcastle. Second, L. Biney, Manchester. Third, J. Fletcher, Stonecough, Manchester. Highly Commended, C. W. Brierley, C. Chaloner, Whitwell, Chesterfield; H. M. Julian, Hull; J. H. Wilson, St. Bees. Commended, C. Chaloner; G. W. Moss, Aigburth, Liverpool. *Cockerels*.—First, J. Stubbs, Stafford. Second, H. M. Julian. Third, C. Chaloner. Highly Commended, Duke of Newcastle; G. W. Moss. Commended, J. Holland, Manchester. *Hens*.—First and Cup, G. W. Moss. Second, E. Aykroyd, Bradford. Third, H. C. & W. J. Mason, Drighlington. *Pullets*.—First, W. J. Pope, Biggleswade. Second, G. W. Moss. Third, J. Holland. Highly Commended, E. Aykroyd; Duke of Newcastle; G. R. Smith, Scarborough; J. Holland.

GAME (Brown and other Reds, excepting Black-breasted).—*Cocks*.—First and Second, J. Wood, Wigan. Third, G. W. Moss. Highly Commended, A. B. Dyas, Madeley, Salop; J. Fletcher. *Cockerels*.—First, T. Burgess, Burley Dam, Whitechurch. Second, C. W. Brierley. Third, J. Wood. Highly Commended, T. Bolton; J. Hodgson, Whittington, Burton, Westmoreland; R. Swift, Southwell; J. Wood; J. Douglas; G. W. Moss; T. Mason, Green Acre, Lancaster. Commended, J. Fletcher; H. M. Julian. *Hens*.—First, G. Clements, Birmingham. Second, J. Hodgson. Third, Mrs.

E. Tattersall, Newchurch. Highly Commended, G. R. Smith; W. Johnson, Stanley, Liverpool. *Pullets*.—First and Cup, C. W. Brierley. Second, J. Hodgson. Third, J. Fletcher. Highly Commended, Miss E. A. Crawford, Farnfield, Southwell, Notts; J. Wood; T. Mason. Commended, J. H. Wilson.

GAME (Duckwings, Greys and Blues).—*Cocks*.—First and Cup, Rev. F. Watson, Kelvedon. Second, Duke of Newcastle. Third, H. M. Julian. Commended, J. Barrow, jun., Bradley Field, Kendal. *Cockerels*.—First, J. Halsall, Ince, Wigan. Second, Rev. W. J. Mellor. Third, H. Jowett, Idle, Leeds. Highly Commended, T. Dyson, Halifax; W. Johnson, Hens. —First G. W. Moss. Second, W. Johnson. Third, A. K. Briggs. Bradford. *Pullets*.—First, J. Holland. Second, G. S. Sainsbury. Devizes. Third, J. Halsall. Highly Commended, W. J. Cope, Barnsley.

GAME (White and Piles).—*Cocks*.—First, R. Butcher, Cresswell, Chesterfield. Second, T. West, St. Ann's, Eccleston, St. Helens. Third, G. and C. Furness, Accrington. Highly Commended, E. H. Woodcock, Wigan. *Hens and Pullets*.—First and Cup, R. Butcher. Second, J. Mason, Worcester. Third, J. Fletcher. Commended, G. W. Moss.

BANTAMS (Gold and Silver-legged).—First, H. Draycott, Humberstone, Leicester. Second, Third, and Highly Commended, M. Leno.

BANTAMS (Black, clean-legged).—First, J. W. Morris, Rochdale. Second, W. A. Taylor.

BANTAMS (White, clean-legged).—First, H. Draycott. Second, W. A. Taylor.

BANTAMS (Any other variety except Game). — Prize, H. Savillo (Japanese Silkies).

GAME BANTAMS (Black-breasted Red).—First, and Cup, J. W. Morris. Second, J. W. Kellaway, Merston, Isle of Wight. Third, J. Henshall, Salford. Highly Commended, H. Ashton; J. Halsall. Commended, J. Statter; Bowman & Fearon.

GAME BANTAMS (Brown and other Reds except Black-breasted).—First, Miss E. A. Crawford, Farnfield, Southwell. Second, J. Crosland, jun., Wakefield. Third, T. Sharples, Rawtenstall. Commended, G. & C. Furness.

GAME BANTAMS (Any other variety).—First, J. Crosland, jun. Second, W. Parker, Clay Cross. Third, L. Bincy. Highly Commended, H. Shumack, Southwell, Notts.

GAME BANTAM COCKS (Black-breasted and other Reds).—First and Cup, J. W. Morris. Second, J. R. Robinson. Third, J. J. Cousins. Highly Commended, W. & H. Buckley, Accrington; J. Halsall. Commended, L. Biney; W. & H. Buckley; J. Holme, Knowsley.

GAME BANTAM COCKS (Any other variety).—First, J. Crosland, jun. Second, Miss E. A. Crawford. Third, H. Shumack.

ANY OTHER DISTINCT VARIETY.—First and Second, Col. Stuart Wortley, Grove End Road, London (French). Third, J. K. Fowler (French).

Fourth, Hon. H. W. Fitzwilliam (La Fleche). Highly Commended, J. Bibby, jun., Liverpool (Creve-Coeurs); G. & C. Furness (Cuckoo Coflins); J. Sichel (Creve-Coeurs); T. Walmisley (Buff Polish); Hon. H. W. Fitzwilliam (Adalansians). Commended, Hon. H. W. Fitzwilliam (La Fleche).

DUCKS (Rouen).—First and Second, T. Statter, jun. Third, J. K. Fowler. Highly Commended, J. Maxwell, Aigburth; Gunson & Jefferson; R. W. Boyle. Commended, A. Woods.

DUCKS (Aylesbury).—First and Second, Mrs. H. Seaman. Third, J. K. Fowler. Highly Commended, J. S. Banner, Liverpool; J. K. Fowler; E. Leech.

DUCKS (Black East Indian).—First, Rev. W. Serjeantson. Second, J. Wood. Highly Commended, F. W. Earle; Rev. W. Serjeantson.

DUCKS (Any other variety).—First, R. W. Boyle (Carolinians). Second, C. N. Baker, Chelsea (Carolinians). Highly Commended, R. W. Boyle (Mandarin); J. Sharp, Liverpool (Brown Call); J. Wood (Mandarin and Wild); R. P. Williams (Bahama).

GESE (White).—First and Cup, E. Leech. Second, J. Bryers, Orme Kirk. *Goslings*.—First, T. Statter, jun. Second, S. H. Stott, Rochdale.

GESE (Grey and Mottled).—First, T. Statter, jun. Second, J. K. Fowler. Highly Commended, S. H. Stott. *Goslings*.—First, Rev. G. Huster, Stillingfleet Vicarage, York. Second, J. Douglas. Highly Commended, J. K. Fowler; S. H. Stott.

TURKEYS.—*Cocks*.—First, J. N. Benaley. Second, T. Statter, jun. Highly Commended, E. Leech; J. Smith, Breder Hills, Grantham. *Cockerels*.—First, E. Leech. Second, J. Smith. Highly Commended, S. H. Stott; W. Sanday, Holme, Pierrepont; J. Wood. *Hens*.—First, J. Smith. Second, E. Leech. Highly Commended, J. Wood. *Poult*.—First, E. Leech. Second, J. Smith. Highly Commended, W. Sanday.

The Judges were J. Smith, Esq., Mr. Baily, Mr. Hewitt, Mr. Dixon, and Mr. Teebay.

GUILDFORD POULTRY SHOW.

This Show was held on the 14th and 15th inst., in conjunction with that of the Guildford Agricultural Association, and the following awards were made:—

DORKINGS.—First, M. Putney. Second, J. Cliff. Third, P. Ross. Highly Commended, R. Pople; J. Cliff; W. Franks; J. Attlee. Commended, J. C. Ramsden; Mrs. Norris.

SPANISH.—First, H. Brown. Second, Curtis & Ashby. Highly Commended, F. James.

COCHINS.—First, Curtis & Ashby. Second, Capt. Weston.

BRAHMAS.—First, J. Pares. Second, R. Wilson. Highly Commended, P. Crowley; G. Johnson; H. Brown. Commended, P. Crowley.

GAME.—First, A. C. Cross. Second, T. Sadler. Highly Commended, J. Pares.

HAMBURGS.—First, A. Moon. Second, J. Moon.

BANTAMS.—First, F. James. Second, H. Kisig. Highly Commended, P. Crowley; J. Attlee; S. Smith.

DUCKS (Aylesbury).—First, E. Hilder. Second, Rev. Dr. Merriman. Highly Commended, L. A. Coussmaker; Rev. Dr. Merriman. Commended, E. T. Bennett.

DUCKS (Any other breed).—First, Mrs. Norris. Second, Hon. F. Scott. Highly Commended, E. Burge.

GESE.—First, W. Messenger. Second, J. Attlee. Highly Commended, E. Hilder.

TURKEYS.—First, W. Stevens. Second, Countess of Lovelace. Highly Commended, Miss Lushington; W. Messenger.

EXTRA PRIZES.—First, presented by J. Pares, Esq., Postford House, for the best pen of Any variety, not exhibited in either of the above classes,

Hon. F. Scott. Second, presented by J. Pares, Esq., R. Wilson. Highly Commended, J. Pares; H. S. Fraser. A Prize, the gift of Mr. F. R. Jackson, Guildford, for the best pen of White *Dorkings*.—P. Ross. A Prize the gift of — Matthews, Esq., for the best pen of Blue *Dorkings*.—W. Franks.

WEST OF ENGLAND POULTRY EXHIBITION.

This was held at Plymouth, on the 14th, 15th, and 16th instant. The following is a list of the prizes awarded:—

GAME (Black breasted and other Reds).—First, T. & W. Cliff, Plymouth. Second, H. Adney, Collumpton. Third, S. R. Harris, Gweunap.

GAME (Any other variety).—First, I. S. W. Grenfell, Tavistock. Second, M. Barter, Plymouth. Third, W. Curtis, St. Buddeaux.

GAME (Any variety).—First, J. Harris, Liskeard. Second, F. I. Keast, Callington.

MALAYS OR INDIAN GAME.—First and Second, H. Darch, Stratton. Highly Commended, J. Hinton, Bath. Commended, R. Hockaday.

DORKINGS (Any variety).—First, Rev. A. C. Thynne, Kilkhampton. Second and Third, L. Patton, Tantaou.

COCHIN (Buff, Channam, or White).—First, W. Hyman, Plymouth. Second, J. H. Nicholls, Lostwithiel. Third, L. Patton.

COCHIN (Partridge, or any variety).—First and Lady Lopes' Cup, J. Beard, St. Elizabeth. Second, J. Gardiner, Bristol. Third, E. Corodius, Milton Abbot.

BRAHMAS (Light).—First, J. Doanall, Tavistock. Second, W. Q. Cole, Totnes. Third, P. D. Maddox, Lanooceston.

BRAHMAS (Dark).—First, Rev. A. C. Thynne. Second and Third, J. H. Reid, Calstock.

POLANDS (Any variety).—First and Mrs. Kekewich's Cup, J. Hinton. Second, L. Patton.

SPANISH.—First, J. H. Reid. Second, Toakin & Tuckey, Bristol. Third, J. H. Nicholls.

HAMBURGS (Gold or Silver-pencilled).—First, S. R. Harris. Second, N. Barter. Third, J. H. Nicholls.

HAMBURGS (Gold or Silver-spangled).—First, W. Hancock, St. Germain. Second, J. Woodley, Stratton. Third, T. Pryor, Redruth.

BANTAMS (Any variety).—First, N. Barter. Second, B. J. Bowhay, Calstock. Third, R. Mauie, Liskeard.

ANY OTHER DISTINCT VARIETY.—First, F. Brewer, Lostwithiel. Second, J. Beard. Third, E. H. James, Plymouth.

SELLING CLASS.—First, S. Mitchell, Tavistock. Second, J. Dunstan, Penryn. Third, J. Collocott, Tavistock.

DUCKS (Any variety).—First, S. R. Harris. Second, J. Toll, Menheniot. Third, L. Patton.

GESE (Any variety).—First, L. Patton. Second, J. Dunstan.

TURKEYS (Any variety).—First, L. Patton. Second, Miss J. Milward, Bristol.

PIGEONS.—*Carriers*.—First, P. Goss, Plymouth. Second, R. C. Bennett, Plymouth. *Tumblers*.—First, J. M. Erawn, Tavistock. Second, J. P. Bolt, Tavistock. *Fantails*.—First, Rev. W. S. Shaw, Bath. Second, Miss J. Milward. *Any other variety*.—First, Miss J. Milward. Second, Col. T. W. Hicks, Plymouth.

LOWESTOFT POULTRY SHOW.

This Show was held in the Town Hall, Lowestoft, a building well adapted for the purpose, on the 16th and 17th inst. The entries numbered upwards of 270, and in the Poultry department *Dorkings*, *Spanish*, *Hamburghs*, and *Game Bantams* were well represented.

Subjoined is a list of the awards:—

GAME (Any variety).—First, Cup, and Second, S. Matthews, Stowmarket (Brown Reds). *Chickens*.—First and Second, S. Matthews (Black Red and Duckwing). Commended, W. King, Lowestoft.

DORKINGS (Any variety).—First and Cup, H. Lingwood, Barking, Needham Market. Second, J. Frost, Parham. Highly Commended, J. Frost; W. Keeble, Baraah, Beccles. *Chickens*.—First, J. Frost. Second, Mrs. H. Sparrow, Sudbury. Very Highly Commended, W. King, Ipswich.

SPANISH.—Prize, W. B. Jeffries, Ipswich. *Chickens*.—First, Cup, and Highly Commended, W. B. Jeffries. Second, H. Lingwood, Martlesham, Woodbridge.

COCHIN-CHINA (Any variety).—First, H. Lingwood, Martlesham. Second, H. Lingwood, Barking. Commended, W. P. Matthews. *Chickens*.—First, H. Lingwood, Martlesham. Second, H. Lingwood, Barking. Highly Commended, Mrs. Burrell, Stoke Park, Ipswich.

BRAHMAS (Any variety).—First and Cup, for best pen of Cochins or Brahmas, H. Lingwood, Martlesham. *Chickens*.—First, Mrs. Burrell. Second, H. Lingwood, Martlesham. Commended, W. P. Matthews.

HAMBURGS (Golden-pencilled).—First and Highly Commended, W. K. Tickner, Ipswich. Second, R. K. Parker, Ipswich.

HAMBURGS (Silver-pencilled).—Second, Miss Stebbings, Lowestoft.

HAMBURGS (Golden-spangled).—First and Cup, for best pen of Hamburghs, Mrs. Burrell. Second, W. Turner, jun., Ipswich.

HAMBURGS (Silver-spangled).—First, Rev. F. Tearle, Gazeley Vicarage, Newmarket. Second, Mrs. Burrell. Highly Commended, J. B. Bly, Lowestoft.

HAMBURGS (Any variety).—*Chickens*.—First, W. K. Tickner (Gold-pencilled). Second, Rev. F. Tearle (Silver-spangled).

POLISH (Any variety).—Prize, Mrs. Burrell. *Chickens*.—Prize, Mrs. Burrell.

GAME BANTAMS (Any variety).—First, Cup, and Second, for best pen of Bantams, W. B. Jeffries (Black Red). Highly Commended, R. R. Parker (Black-breasted); W. Adams, St. Clements, Ipswich.

BANTAMS (Any other variety).—First, W. B. Jeffries (Silver Sombre). Second, Rev. F. Tearle (White). Highly Commended, W. H. Ashford, Outon. *Chickens*.—First, Rev. F. Tearle (Black). Second, W. Adams (Game). Highly Commended, W. B. Jeffries (Black Red).

DUCKS (Rouen).—First, H. Lingwood, Barking. Second, G. W. D. Palmer.

DUCKS (Aylesbury).—First and Highly Commended, Mrs. Burrell. Second, F. B. Polts, Kessingland. Commended, Miss Crowfoot, Kessingland; W. Poil, Lowestoft.

EXTRA CLASS.—First, J. Worthington (Buenos Ayres Ducks). Second, Hon. Mrs. Pegel, Stunstone Rectory, Scole (California Quails). Highly

Commended, Rev. A. Gilbert, Mutford Hall, Beccles (White Poruvian Ducks). Commended, F. S. Croydon, Ipswich (Black Hamburgs).

PIGEONS.

Cap for the winner of the greatest number of points in the Pigeon classes.—L. Wren.

CARRIERS.—Cocks.—First and Second, L. Wren, Lowestoft. *Hens*.—First, L. Wren. Second, H. Lyon, Ipswich.

POUTERS.—Cocks.—First, A. W. Wren, jun., Lowestoft. Second, L. Wren. *Hens*.—First, L. Wren. Second, A. W. Wren, jun. Young.—First and Second, A. W. Wren, jun.

TUMBLERS (Short-faced).—First and Second, L. Wren. TUMBLERS (Any other variety).—First and Second, Misses E. & A. Wren, Lowestoft.

FANTAILS (Any colour).—First and Second, F. S. Worthington, Lowestoft. ANTWERPS (Any colour).—First and Highly Commended, P. Bedford, Kirtley. Second, J. W. Harding, Lowestoft. Commended, J. Burlington, Lowestoft.

ANY OTHER DISTINCT VARIETY.—First, Hon. Mrs. Paget (Trumpeters). Second, L. Wren (Black Dragons).

CAGE BIRDS.

Cap for the winner of the greatest number of points in the Cage Bird classes.—F. Fenn.

CANARY (Clear Yellow).—First, C. Rumbold, Yarmouth. Second, W. Jarrold, Yarmouth. Highly Commended, B. Thouless, Lowestoft. Commended, T. Fenn, Ipswich; D. Allen, Yarmouth.

CANARY (Clear Mealy).—First and Highly Commended, C. Rumbold. Second, D. Allen. Commended, W. Jarrold.

CANARY (Three Clear Yellow or Mealy, hatched in 1868).—First, W. Jarrold. Second, D. Allen. Highly Commended and Commended, W. Robbins, Lowestoft.

CANARY (Mottled Yellow).—First, C. Rumbold. Second, H. Green, Ipswich. Highly Commended, B. Thouless.

CANARY (Mottled Mealy).—First, C. Rumbold. Second, B. Thouless, Lowestoft. Commended, H. Green.

CANARIES (Three Mottled, Yellow or Mealy, hatched in 1868).—First, W. Robbins, Lowestoft. Second, D. Allen. Highly Commended, H. Green. Commended, B. Thouless.

GOLDFINCH MULE (Yellow).—Prize, H. Green. GOLDFINCH MULE (Mealy).—First and Highly Commended, W. Scott, Yarmouth. Second, H. Green.

GOLDFINCH MULE (Three Mealy or Yellow, hatched in 1868).—First and Second, W. Scott.

ANY OTHER VARIETY OF CANARY OR MULE.—First, Second, and Highly Commended, H. Green. Commended, C. Rumbold.

JUDGES.—Rev. T. L. Fellowes, Honingham Rectory, Norwich; W. B. Tegetmeier, Esq., London; Mr. Joseph Clarke, Ipswich; Mr. W. Simmons, Yarmouth.

YORK POULTRY SHOW.

The following is the list of the awards made at this Show, held on the 8th, 9th, and 10th inst.

DORINGS (Any colour).—First, H. S. Thompson, York. Second, Lady Hawke, Pontefract. *Chickens*.—First, Rev. G. Hustler, York. Second, R. E. Russell, Bedale.

SPANISH.—Prize, E. Brown, Sheffield. *Chickens*.—First, R. Draper, Sunderland. Second, R. E. Brown, Oswaldkirk.

COCHIN-CHINA (Yellow or Buff).—Second, G. Calvert, Darlington.

COCHIN-CHINA (Any other colour).—First, J. W. Pease, Darlington. Second, G. Calvert. *Chickens*.—First and Second, R. E. Brown, Oswaldkirk.

BRAMA POOTRA.—First, W. Whiteley, Sheffield. Second, Lady Hawke, Pontefract.

GAME (Black-breasted or other Reds).—First, G. Sutton, York. Second, J. Watson, Knaresborough.

GAME (Duckwings).—First, H. M. Julian, Hull. Second, J. Sharpley, York.

GAME (Any other variety).—Second, R. Brown, Pickering. *Chickens*.—First, H. M. Julian. Second, G. Sutton.

HAMBURGS (Golden-pencilled).—First, J. Walker, Knaresborough. Second, G. Holmes, Great Driffield.

HAMBURGS (Silver-pencilled).—First, J. Walker, Knaresborough. Second, G. Holmes.

HAMBURGS (Golden-spangled).—First, G. J. Taylor, Huddersfield. Second, G. Pounder, Kirbymoorside.

HAMBERGS (Silver-spangled).—Prize, J. Walker, Knaresborough.

POLISH Any variety.—First, C. Walker, Boroughbridge. Second, E. Proctor, Hull.

GAME BANTAMS (Any colour).—First, G. Downie, Netherton. Second, T. Blackburn, Northallerton.

BANTAMS (Laced).—Prize, J. Walker, Knaresborough.

BANTAMS (Any other colour).—First, W. Baynes, Middleton. Second, Miss Dalton, Ripon.

ANY VARIETY NOT PREVIOUSLY CLASSED.—First, R. Loft, Beverley. Second, W. R. Roberts, Barnethy Wold.

TREYS.—First, J. B. Braithwaite, Northallerton. Second, Lady Hawke, Pontefract. *Poultis*.—First, S. Musgrave, Moor Monkton. Second, J. B. Braithwaite.

GESE.—First, Lord Wenlock. Second, Rev. G. Hustler, York.

DUCKS (Aylesbury).—First, J. Story, Pocklington. Second, A. G. Hayden, York.

DUCKS (Romen).—First, C. Stamper, Oswaldkirk. Second, Rev. G. Hustler.

DUCKS (Any other variety).—First, S. Bard, Whitby. Second, Miss Dalton, Ripon.

SELLING CLASS.—First, G. Calvert. Second, J. Henfield, Darlington.

PIGEONS.

CARRIER.—Cock.—First and Second, J. Hawley, Bingley. *Hen*.—First, J. Hawley. Second, F. J. Leach, Middlesbrough.

POUTERS.—Cock.—First, J. Hawley. Second, F. J. Leach. *Hen*.—First, E. Homer, Harewood. Second, C. Cowburn, Leeds.

TUMBLERS (Almond).—First, J. Fielding, Rochdale. Second, T. Rule, Darham.

TUMBLERS, SHORT-FACED (Any other variety).—First, J. Fielding. Second, T. Rule.

FANTAILS.—First and Second, J. Hawley.

TRUMPETERS.—First, J. Firth, jun., Dewsbury. Second, J. Mason, Boroughbridge.

BARES.—First and Second, J. Gell, York.

JACORINS.—First, O. A. Young, Driffield. Second, F. J. Leach.

TURBITS.—First, J. Fielding. Second, G. Fletcher, York.

OWLS.—First and Second, J. Fielding.

ANY OTHER NEW OR DISTINCT VARIETY.—First, F. J. Leach. Second, E. Homer, Harewood.

SELLING CLASS.—First, J. Hawley. Second, J. Mason.

RABBITS.

LOP-EARED.—Euck.—First, A. H. Easton. Second, M. Millington, York. *Doe*.—First, S. Hardscastle, York. Second, M. Millington.

LOP-EARED (Yellow and White, or Tortoiseshell).—First, B. Hudson, Hull. Second, F. Stainburn, York.

LOP-EARED (Black and White, or Grey and White).—First, M. Millington. Second, W. S. Hornby, York.

HEAVIEST.—First, J. Dixon, York. Second, A. H. Easton.

HIMALAYAN.—First, W. S. Hornby. Second, C. Rayson, Manchester.

DUTCH.—First, T. W. Harrison. Second, S. G. Hudson.

ANY OTHER VARIETY.—First, A. H. Easton. Second, C. H. Hayden.

LOP-EARED.—First, F. Stainburn. Second, R. Dobson, York.

LONGEST-EARED.—Young.—Medal, F. Stainburn.

FROM WILTSHIRE TO GLASGOW, AND WHAT I SAW THERE.

PART I.

From my part of Wiltshire to Glasgow, *via* London, the best way of going is above five hundred miles. A five-hundred-mile journey in the dead of winter! Yet who could refuse to take it if they had received, as I had, a kind invitation most kindly expressed? Besides, a fancier will delight to go after the objects of his fancy.

Starting, then, by the familiar Great Western Railway, I reach the almost-as-familiar metropolis—that vast London, whose history fascinated my boyhood, and has pleased me ever since. Soft, mild, winter weather was this 7th of December. Surely Charles II. was not far wrong when he said of England, "In no other country can a man go out of doors with comfort during so many days in the year." Then, it seems our dying years' wish to be happily remembered, for their last days are so often their best days—witness this last November; while, as some one said, "He did not know which was the coldest month, May or June, but he rather thought the latter."

Next morning northward in good earnest, for my ticket reads "London to Glasgow." Glasgow—"Oh!" said a friend who just likes to tease a bit, "recollect it always rains in Glasgow, and so hard that you must take two umbrellas, for one is worn out in a day or two."

A long, long journey is before me; and how pleasant and satisfactory one feels it to be that the same carriage is to be his all the way. How calmly one sees the little travellers get out after their few-miles journey—poor short-lived beings. The very guard to a long-staged man grows into a friend, and one fancies his beard has become a little greyer since we started.

Now, it strikes me that external England should be divided in the same sort of way as geologists divide her inside. Thus, I would call the west the stone part, middle England the red-brick part, and the east the white-brick part, and so on. The red-brick is my part for a long time. Ye dull, dreary, hedge-row-and-tree midland counties, how could ye produce William Shakspeare? From you he might indeed have learned to sing of

"A mole, cinque-spotted like the crimson drops
In the bottom of a cowslip."

How the little lad at Stratford had counted time after time those five russet spots, peeping into the cowslip nosegay in his tiny hand, and finding the spots to be always five. But how, I ask, could the Warwickshire-born one learn to sing of

"Antres vast, and deserts idle,
Rough quarries, rocks, and hills whose heads touch heaven."

Or where could Shakspeare have got, he inland born, that best of epithets to describe the ocean?—"The multitudinous sea." Far better that one word than Æschylus's "the many-twinkling smile of ocean." But why trouble about Shakspeare? He was unlike any other man. As Dr. Chalmers said of him, "he was an intellectual miracle."

On, further and further, and how the porters at the stations—(i. e., when they speak in language "to be understood of the people;" of course I do not include in that term their calling out the names of the stations)—how the porters by their brogue tell us what part of the country we are in! Cockney porters missing H's, and honestly paying them back—*c. g.*, Anwell and Healing; Somersetshire porters giving us Z's for S's, and so on all over England.

But I have reached Carlisle at last, "merrie Carlisle," and

then all darkness, for the brief bright December day is over. My book (the "Essays of Ellis"), I can see to read no longer; the talk of my travelling companions has ceased; the occasional chats are done, all liveliness is gone, and we are wearied and silent in the darkness. In that darkness, growing each minute denser, I enter Scotland, and the darkness is suitable—

"For dark, and true, and tender is the North."

Once more in Scotland after a seventeen-years absence! Yes, I am again in Scotland; for on asking a porter for a fresh hot-water tin I get an answer in the language of Burns, "Another man will bring the hot waater."

It is pleasant on revisiting a formerly well-known country not to revisit the same part of it, for then it is a revisit without one painful drawback—I mean missing here and there a face, or asking for those who cannot reply, or seeing the grey hair where the brown was, or having to note the sunken cheek where, when last we saw it, stood youth, and perhaps beauty, in its rosy plumpness. Such reminiscences are painful, but happily I have none of these.

Surely the evening hours are very long hours. How very long the last two of a twelve-hours journey seem! How they, like "the tedious Aloxandrine, drag their slow length along!" Glasgow—no, only Carstairs. But now Glasgow—no, only Motherwell; then Coatbridge, with its furnaces all a-blaze. But the train slackens at last, and the oft-snipped ticket is broken in half, and only the return bit is left me. And how am I to know the bodily presence of my host that is to be—Mr. Huie of Pouter celebrity, known to me by several kindly letters—how am I to know him, and how is he to know "WILTSHIRE RECTOR?" Well, as usual, I carry the old recognising flag in my hand—a copy of "our Journal," and by it I am at once known. And well it was that I bore that flag, for I am not personally, as was expected, "a white-haired old gentleman with a ruddy face and a pair of twinkling blue eyes." How seldom expectations are realised! how very disappointing they are! I am only a—well, never mind my personal appearance. One thing I must say, that although the fair image of the white hair, and ruddy face, and blue eyes is at once dashed to the ground, yet I am no loser, for I get the hand-pressure of old friends from Mr. Huie, and Mr. Ure, and the ring of fanciers who kindly meet me—me a stranger, only known by some vagrant trifles, kindly written, I hope, in "our Journal." N.B.—I had not to put up my umbrella, so it does not always rain in Glasgow.

A drive of two miles or so through the long lines of gaslamps, and I reach Mr. Huie's villa. A pleasant villa I soon found it to be, where I get a warm-hearted welcome. A Scotchman does not let his shake of the hand dwindle down to a two-fingered affair, neither does a Scotchwoman give four cold, straight fingers that chill the very life-blood. At once I am at home. I fear, ye great ones of the earth, ye kings and queens, ye cannot make your friends so at home. I hope you can, for their sakes and for yours. The needed supper is all ready, and then soon followed the needed bed.

Next morning, December 9th—N.B., no umbrellas wanted; how could that old bachelor friend alarm me so much, and so falsely too? Well, next morning, on looking garden-wise, I see extending from either side of the house long greenhouse-looking buildings wired in the front. These are the pigeonries, so placed that from the bow windows you command a good view of the birds. The enormous size of the Pouters strikes me at once, then the deep richness of the Reds and Yellows. A closer view after breakfast tells me of peerless Fantails, peerless in carriage and motion; good Almonds, Jacobins, &c.

But we are off from Rowan Cottage to Glasgow. Upon this, the commercial capital of Scotland and the largest city of the empire next to London, you see plainly inscribed the wealth and intelligence of its inhabitants. Width of streets, length of streets, all modern, save here and there a crow-stepped gable or two; but the new quite overpowers the old. The streets are in width what Sir Christopher Wren wished, but wished in vain, to make the streets of London. I must single out a few of the Glasgow streets: Argyll Street, the city's great backbone; lengthy Eglintoun Street; and Buchanan Street, the Regent Street of Glasgow. Straight we go to the Exchange, where business faces are around me, business telegrams before me—earth's occupations, and earth's only. By a strange yet fitting contrast we go next to the old cathedral, which looked down on Glasgow as a mere little town, and now looks down on its vastness. This is the only cathedral, save that of Kirkwall in the Orkneys, which was saved from the destroying hands of an unreasoning populace. Glasgow Cathedral is a massive pile

of the heavy earlier, and not late and lighter Gothic. It inspires awe, it forces the mind into respect. Of recent years it has been restored, but indeed as to the fabric it is so strong it needed little repair. But dirt and rubbish are gone, and every observable window in all parts, crypt as well, is of stained glass. In massiveness, as opposed to lightness, it is the very opposite to Salisbury Cathedral. On this dark but dry December day, a "dim religious light" did indeed pervade its interior. The painted windows have, many of them, an unusual but desirable practical bearing. Thus, a sick-bed scene with a motto text, instructive to the looker and reader. Then the faces and figures are natural and human, not mediæval angular distortions. The one thought that overcomes all is massiveness—how solidly built it is!

"They dreamt not of a perishable home
Who thus could build."

Down to the crypt—clean, yet how cold!—I stand by St. Mungo's Well, the Saint to whom the building was dedicated. I am placed by the pillar where Rob Roy gave the warning to Frank Osbaldistone. How Scott (Oh! triumph of genius!) has made us talk of the scenes in his fictions as if they were very facts. I linger as long as I dare in this wonderfully built crypt. A lancet window startles me. It has a picture of the Baptist—a wild, weird-looking, camel-hair-covered figure in the attitude of preaching, with the text "Repent ye," &c., beneath—a strange haunting figure. I am bidden to stoop and read a small brass. It briefly tells me that Edward Irving is there buried. How suitable a resting-place for that fiery clay! How suitable a window above his grave!

Further wanderings about Glasgow fill up the day. I mark the hill on which stood Queen Mary and saw the fatal defeat of her troops at Langside; then on to the Western Park—what a noble view from its noble mansions! Then I walk by the Kelvin (what a place for summer evening wandering!), then to the busy Docks, and view the once rural Clyde, now the Clyde vessel-laden. On still sight-seeing, passing tempting Glasgow shops. But daylight fails, and I rest, nothing loth, at the Hanover Hotel, for there I am to be present at the annual dinner of the North British Columbarian Society. N.B.—No umbrella used the whole day.—WILTSHIRE RECTOR.

TUMBLER PIGEONS.

WITH all deference to the opinions expressed by "WILTSHIRE RECTOR" respecting the homing facilities of Tumbler Pigeons, I beg to differ from him. I could mention several instances in which they have come home short distances. In the early part of last year I sold some Tumbler Pigeons to a gentleman living at Horsham: amongst them was a White Roller cock, and this bird had no sooner regained his liberty than he returned home, a distance of about eighteen miles. He was quite pure-bred, and had never been trained.—L. B.

THE SUNDERLAND BIRD SHOW.

SUNDERLAND has at last spoken, and her Committee has sent out its schedule of prizes for the next great Ornithological Exhibition, and as a whole the schedule is a good one, but I think a few alterations might have been made with advantage. There is no class either for London Fancies or Crested Belgians. Now, the former every one admits to be a pure breed, whatever may be said about the latter, and I do think that it ought to have had a class before that mongrel the Scotch Don, which is honoured with four. The schedule stands alone in the way in which the Mules are classed. Here they are divided in a manner they deserve to be, which shows both the common sense and discernment of the Committee in general, and of Mr. Blakston in particular.

Goldfinch and Linnet Mules, especially the former, are birds which every fancier likes, and which every fancier knows are more difficult to breed good than any other cage bird, and when good are most valuable, and Sunderland was the first place, indeed, is the only place, where their merits were acknowledged and prizes given to them adequate to their pretensions. I hoped to have been able to show the world at Sunderland a couple of perfectly clear Linnet Mules (the first, I believe, ever exhibited), but, unfortunately, they would not moult, and died.

I beg, in conclusion, to remind old exhibitors, and to tell all the Canary fanciers who have never been to Sunderland, that the way in which exhibitors are treated, the way in which the specimens are looked after, and the kind and courteous manner in which all the Committee and Mr. Blakston behave to their

friends, cannot be surpassed, if equalled, at any show in England.

All you who show at the Crystal Palace, you great fanciers of the far south, go to Sunderland this time, and show by your presence that you appreciate the exertions of the Secretary; and if you cannot and will not go, send your birds, and depend upon it you will not be disappointed, even if you do not take a prize.—HOWARTH ASHTON, *Polefield Hall, Prestwich.*

COLOURING CANARIES FOR EXHIBITION.

It is but a year or two ago that an exposure was made of a case of "artificially colouring birds" sent for show at an exhibition of fame in the North of England, and a year or so previous to that occurrence a case came to my notice of some birds having been bought from a man in the neighbourhood of Norwich by respectable persons residing in Gloucester, who innocently but unfortunately exhibited them at an All-England Show in Gloucester. These birds were found by the judges to be stained, which fact was proved to have been the case before arriving in the hands of the Gloucester exhibitors. Notwithstanding the name of the offending person having been given, I regret to say there were those living in Gloucester at the same time who were ever ready to damage the position of those who purchased and exhibited the birds. Now, at an exhibition held in Gloucester on the 9th instant and following two days (open to residents within forty miles of the city), I am sorry to announce two cases of stained Canaries were found out and exposed, one of which was shown by a person residing near Bristol, and the other by a Gloucester exhibitor. I think the sooner such practices are checked the better the bird cause will flourish.—DETECTIVE.

GOLDFINCH MULE CANARIES.

UNDER the above heading I have noticed an article in your Journal of November 19th, from Mr. W. A. Blakston, but I suppose he is referring to, or means, Goldfinch and Canary Mules. He states, "In some schedules 'nearest the Canary' is the standard—a definition so manifestly absurd as to need no comment." This condemnation I cannot entertain, for, "absurd" as it may appear to him, it is not absurd to others. He says (and quite correctly too, and giving preference in this particular instance to a bird "nearest the Canary"), that "the Mule most difficult to breed is one absolutely clean, and it therefore ought to occupy the highest position." Undoubtedly so, for if a schedule is issued with only one class for Jonque Goldfinch Mules, and one for Mealy Goldfinch Mules, I should decidedly think of awarding the first prize to the one "nearest the Canary," if that specimen were a clear or clean Mule. It most certainly would take precedence over other Mules. Even-marked Mules demand more attention than those odd-marked, but still evenness of marks does not always over-rule a bird. Much depends on the state or condition they may be in. Committees and Secretaries are, I am happy to say, gradually framing their schedules to one state of things, so that an exhibitor will know full well how to enter birds.

Clean Mules, and even-marked ones, should not be classed together. If there were sufficient clean Mules bred, I would (as provided by the very excellent schedule just issued for the next Sunderland Show), rather see them in classes away from any other, but owing to their scarcity, I prefer them as in the last Crystal Palace schedule, where classes are provided for clear Mules, or those only slightly ticked or marked, but a clear bird for choice of either. Having a class entirely for clear Mules is proof positive that there will scarcely be any entered, which not only bears a scanty appearance, but then it affords temptation; if an unfair exhibitor should be possessed of a specimen with but one slightly-ticked feather in the bird, to pluck it out, and show it as a clear specimen.

I have no doubt it would be annoying to Mr. Blakston to notice at the "local show" he alludes to, a bird marked on one wing displacing an even-marked bird; but the fault lies with those who issued the schedule in not providing proper classes. It would be more satisfactory, especially to the Judges, if this were done.

Mr. Blakston having mentioned my name in the latter part of the same article, and stated he had no doubt that myself, with others (Mule-breeders), would exhibit some at the winter exhibitions, I embraced almost the only opportunity, owing to my engagements as a Judge, of answering his call. I entered some of my Mules at Belford Show, and had the satisfaction of taking

a first prize with my even-marked Jonque Goldfinch Mule, "Lord Derby," and winning a second prize with a fine even-marked Mealy Mule, "The Pride of Derby."

In your following number I shall be glad to give a few remarks on Mule-breeding with the Goldfinch and Canary.—G. J. BARNESBY, *Derby.*

SCHIEBERLE'S METHOD OF CURING FOUL BROOD.

At the meeting of German bee-keepers held at Brünn, in Septemoer, 1865, the Rev. Mr. Schieberle stated that he had invariably succeeded in curing foul brood by the following mode of treatment:—

"We first excise all the combs to the very last cell, by which means the bees are compelled entirely to refurnish their hive, whilst the queen cannot immediately recommence egg-laying, and then leave them alone during the first night in order that they may lick up all the spilt honey, and clean their hive, which they will do most industriously. We then take thyme (*herba Serpylli*), and white balm (*Fol. Melissa*), if possible in the green state, with some leaves of aloe (*Aloe socotrina*), and boil the whole in water for some time. The liquid strained from this decoction diffuses an agreeable strengthening odour, and being mixed with a sufficient quantity of honey to qualify it for bee-food, must be again boiled, and well skimmed. We next grate into a feeding-pan a piece of assafoetida about the size of a hazel nut, and a bit of camphor as large as a pea, add to it a little sulphate of magnesia on the point of a knife, and pour upon this a good pint of the hot decoction; lastly, we add some drops of oil of turpentine, and stir the whole well together.

"The mixture thus prepared is presented to the bees in a tepid state, and these, attracted by the smell of the honey, and feeling its necessity for comb-building, proceed immediately with a glad hum to the feeding-pan. But soon their gay humming ceases as they retreat after tasting the food. Still, however, they return again, one by one, in order again to taste it, until, perhaps, at this first time a third or a fourth part is removed according to the strength of the colony; we then warm up the food again, and present it to them anew. In the meantime the penetrating odour of the assafoetida and camphor has permeated the entire hive, and the bees, becoming accustomed to it, have also prepared new combs for the reception of honey. For this reason they appropriate yet more the second time, and if we continue to offer them such food they will learn to remove the whole of it forthwith. When they have once entirely emptied the feeding-pan we need only pour the honey on the undissolved part of the camphor and assafoetida, adding at the same time a little sulphate of magnesia, and a few drops of turpentine, and stirring the whole well together.

"But on one point we must be very careful, and that is that we do not attract strange bees, either during the excision of the combs or by feeding; since the colony whilst it has no combs is by the intrusion of strange bees easily induced to desert its hive. We therefore remove the partially emptied feeding-pan every morning, and having warmed the food, replace it in the evening. If, however, the pan be quite empty, and there are no particles of comb therein, there will generally be no danger from strange bees, and we may leave it during the daytime also, in order that the hive may become penetrated by the scent of the camphor and assafoetida."

"The bees soon prove that they are cured by their active and industrious flight during the day, as well as by the rapidity with which combs are constructed, the brood is duly matured, the colony prospers, and no trace of foul brood is discoverable, although the bees remain in the same hive, and this latter on the same spot. Nay, I have already used in this way without injury the honey from 'foul-broody' hives, and one of my restored stocks completely cleared out the honey from the combs of two foul-broody hives which had been excised, and deposited in a room on the ground floor, the window of which was, in my absence, left open by a servant. This stock threw off two swarms during the same year, nor was it infected in the slightest degree. It is, therefore, perfectly unnecessary to destroy anything except the brood-combs from foul-breeding hives. According to my opinion and experience, infection only occurs by means of infected bees from a foul-broody stock wandering

* For this reason it would appear necessary to place the feeding-pan within the hive itself, instead of on the top as is usually done in England.—Ems.

to other hives, partly owing to a dislike for their own dwelling, and partly in order to rob, when if they like it, there they remain, and thus inoculate the stock with disease."

FOUL BROOD.

I ENTIRELY concur with the views expressed by Dr. Preuss on foul brood in the article which appeared in pages 311—313. I can, in fact, corroborate the whole of his statements; and believing him to be perfectly correct in his theory, I will, for the benefit of your readers, describe a few experiments which I have made.

I may in the first place mention, that I believe without doubt that the cause of foul brood is a certain degree of heat combined with a certain amount of moisture—that although foul brood may be engendered in a hive with a moist heat of from 70° to 90°, a hive with a perfectly dry heat even as high as 100° will remain healthy. I believe it to be to a great extent a law of nature, that animal life is destroyed by fungi; whereas in vegetable life it is only after death, or when the vitality of the plant has been impaired by some cause, that fungi appear. I have from time to time mentioned that I had used combs from infected hives with impunity, no bad results having followed; but as I had reason to believe that these statements were not credited, I for that reason refrained from describing how I effected it. Had these statements been favourably received I should have given publicity to my views before this. Having, therefore, in the first place discovered that a fungus was the cause of the disease, I was not long in finding a cure; and this was effected by simply drying my combs and hives in an oven or stove, exactly as described by Dr. Preuss, which is a very effectual mode of destroying many fungi.

I will now briefly mention a few experiments which I have made with foul brood. First, drying the combs is an effectual cure. Taking a piece of infected comb from a hive and giving it to two others was in one case fatal, whilst in the other nothing went wrong, owing entirely to the state of the hive at the time, just in the same manner as a piece of Mushroom spawn will live in one place and die in another. Again, by inoculating other hives I have found that in some cases nine weeks elapsed before foul brood appeared, but in most instances symptoms of the disease showed themselves in six weeks, and in three weeks the fungi could be easily detected.

I thus submit my views to the readers of "our Journal;" and although confident in my own mind that I am correct, I do not expect other apiarists to receive them against their own convictions. I merely state my mind frankly on the subject, and wish other bee-keepers to do the same, neither condemning nor approving anything I have said until they have proved it, since it is only by observation and experiment that we can arrive at the truth.—A LANARKSHIRE BEE-KEEPER.

[It must be remembered that Dr. Preuss recommends that infected hives should be kept for some hours exposed to a temperature equalling that of boiling water (212°); and if we bear in mind the fact that the melting point of ordinary bees' wax is as low as 142°, it appears very unlikely that a degree of heat which would destroy the vitality of fungus spores, would not at the same time prove fatal to the structure of whatever combs might be submitted to it.]

OUR LETTER BOX.

JUDGES AND COMMITTEES.—We have so many letters concerning the alleged misdoings of these officials, that except in flagrant cases we cannot afford space for them.

HAMBURGER COCKEREL (H. C.).—As he spins round and holds his head on one side, there is pressure on his brain. He is probably too fat; feed him for a week or two on mashed potatoes, boiled rice, and very little barleymeal. Give no hard food, and keep him quiet. If no blood vessel has ruptured he may recover.

POULTRY HOUSE (S. S.).—If you enclose seven postage stamps with your address and order "The Poultry Book for the Many," you will have it sent free by post from this office. It contains plans to suit you, and much useful information besides.

A TURKEY FOR COOKING (A. K.).—About the end of the year in which it was hatched a Turkey is best for table; but it is good for table purposes until it is more than twelve months old.

POLANDS PLUCKING EACH OTHER (St. Edmunds).—You must separate the Polanders. A good supply of fresh mould, and green food, especially lettuce, lessen their inclination to peck each other. It is generally considered the work on Pigeons published at our office is the most useful.

POULTRY ON A 300-ACRE FARM (J. Mason).—You may keep any number of fowls in reason on such a farm as you describe—three hundred easily. From your account they are at present, if managed at all, very much mismanaged. You will only obtain eggs in winter from pullets, not from hens, and they must be watched to see that their eggs are not

stolen. It is ridiculous to talk of one hundred eggs from one hundred hens in the laying season. They cannot lay less than three hundred. The best laying breeds are Spanish, Brahmas, and Crève-Cœurs. We believe the second will suit you best, although they are sitters. They are very hardy, excellent layers, and not large consumers of food. No fowls require meat-feeding; and with the appliances of a farm of three hundred acres, the feeding at barndoors where threshing is going on, under ricks in a stackyard, and the run in hedge and ditch and over meadow, should nearly supply them with food. If looked after we believe the eggs will pay a good profit. Hens are like many other things—they will pay well if well looked after; but if neglected they acquire bad habits, and are never profitable.

COMB OF COCHIN-CHINA COCK (Lemon Buff).—The "Standard of Excellence" is not an authority in poultry-judging. The comb you describe and figure is hardly a disadvantage, much less a disqualification.

LA FLÛCHE—SPANGLED HAMBURGH (Onechurch).—La Flèche hens should weigh more than you mention. It was a bad class at Birmingham. A moult will most likely remove all the spots from the saddle of the Spangled Hamburg cock; they are the last signs of youth. Your Dorkings should weigh from a pound to a pound and a half more at their age, but there is nothing to hinder them from being prizetakers when they are older.

BRAHMA POOTRAS (Brahma).—You cannot expect to buy a prize Brahma pullet for 15s. It is not the value of one. A good specimen should be heavy, short-legged, well-feathered; have a well-pencilled hackle, well-pencilled body and breast, good fluffy thighs and hinder parts, well-feathered legs, and a pea comb.

COLOUR OF BRAHMA POOTRAS' EGGS (Idem).—The colour of the eggs of this breed varies; some being lighter at times, darker at others. Just so in Dorkings: they sometimes lay cream-coloured eggs. The cause has never been ascertained. If your Brahma cock twists the end feather of his wings it is not from weakness. It is an incurable defect. No amount of feeding and no skill in treatment will cure it. It is hereditary.

GAME COCK'S WINGS DROOPING (M. T.).—We know nothing that would cause a droop-winged bird to carry them up. We would neither keep nor breed from such a bird. The damage of three or four wing feathers is quite immaterial. The third is a far more important accident. In close competition it would decide against the bird. Perfection is nearly necessary for success in the Game classes.

COCHIN-CHINA COCK LAME (J. W.).—If the bird is an old one he is probably breaking up. Cochins are not long-lived, and when they begin to fall away they do so rapidly. We advise you to put him in a dry place, and to feed him well with soft food, part of it being bread and ale. If he do not mend in a week we should think badly of him. All the birds are perhaps suffering from change of air, diet, and water. Give them all daily stale bread steeped in strong beer.

WRY-TAILED FOWLS (G. M.).—A wry tail is a disqualification in any breed. Do not breed from him. No defect is so certainly transmitted.

BLACK AND GAME BANTAMS (Intending Exhibitor).—Game Bantams must be Game fowls in miniature, and possess all their characteristics. Coarse heads, drooping wings, and redundant tails are the things to avoid. Black are subject to the same rules. Double combs are disqualifications.

CHOICE OF COCHIN-CHINA COCKERELS (J. M.).—Breed from the moderate-sized bird that is perfect in colour and shape. Put him to the hens that have thrown the large birds, and you will probably obtain all you require.

CLEANING WHITE FOWL'S PLUMAGE (Inquirer).—Wash the plumage with soap and water. As it is only the outer part of the feather that is dirty, you must wash them by wiping them downwards with flannel dipped in the soap and water. They must then at this time of year, when there is no sun, be put in a basket with some hay or soft straw, and placed before the fire till dry. Their legs should be washed very clean.

VARIOUS (F. K.).—Black feathers in the tail of a Buff Cochin cock will not disqualify at a show. No; a hen would lay as well if there were no cock. Ground oats are excellent food for pullets, kitchen scraps also, and meal mixed with milk. Stimulating food is injurious. Your Cochin pullets will lay within a fortnight.

SOFT EGGS (W. H. B. Whitehaven).—Your Brahma Pootras lay soft eggs because they are too fat, which arises from your "feeding them very plentifully" for exhibition. This is a great mistake, fatness is not high condition.

PIGEON JUDGING AT BIRMINGHAM.—"I am exceedingly obliged to Mr. Harrison Weir, and I beg to explain that by a typographical error, I was made to say, 'I wonder how the three [judges] managed with 120 pens more than last year.' It should have been, 'And I wonder how the three [judges] managed last year with 120 pens more than this year,' meaning, of course, that though there were this year 120 pens less than last year, the four judges had quite enough to do.—A FOREIGNER."

BREEDING FROM A WEAK-EYED CANARY (H. A. J.).—If the hen be a favourite or of a very valuable strain, breed from it and run the risk, but if it can be replaced by a bird in a healthy condition, we should rather recommend the latter course. The affection may arise from cold, and we do not apprehend it will be hereditary.

LOP-EARED RABBITS.—"One Who Wishes to Know the Reason Why," asks if a new law or rule of excellence has been introduced for the guidance of the various judges of Lop-eared Rabbits, as the judgment at the late Leeds Show appears to have been guided by entirely new points of merit, ignoring the two points hitherto considered essential—viz., length and width of ear.

A CANNIBAL DOE RABBIT (W. D.).—If a doe persists in eating her young ones, despite your changing her diet, we know of no remedy.

THIS YEAR'S SWARTS FIGHTING (M. J. L.).—The fighting is, doubtless, owing to the hives being too near together, and the bees mistaking them in consequence. Nothing should be done to remedy this until they are in full activity next season, when the hives may be moved very gradually further apart. It may be as well to contract the entrances in the meantime.

SNAKES AND ADDERS.—"How can I destroy snakes and vipers, as in some places here they are rather too numerous? If by poison, how and when? Is there any other method? What is their principal food, and how at the present time to find out their winter abode?—A. MACFARLANE."

WEEKLY CALENDAR:

Day of Month	Day of Week.	DEC. 31—JAN. 6, 1869.	Average Temperature near London.			Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year
			Day.	Night.	Mean.								
31	TH	CIRCUMCISION.	41.0	32.9	38.4	14	8 af 8	59 af 8	41 af 6	21 af 9	17	3 30	366
1	F		43.2	34.7	39.0	12	8 8	0 4	1 8	2 10	18	3 58	1
2	S		42.2	28.9	35.5	17	8 8	1 4	19 9	35 10	19	4 23	2
3	SUN	2 SUNDAY AFTER CHRISTMAS.	40.4	30.1	35.3	19	8 8	2 4	30 10	4 11	20	4 54	3
4	M	EPIPHANY.	40.9	29.0	34.9	17	8 8	3 4	56 11	32 11	21	5 21	4
5	TU		41.6	29.6	35.6	16	8 8	4 4	morn.	56 11	22	5 48	5
6	W		41.3	29.1	35.2	14	7 8	6 4	11 1	after.	23	6 14	6

From observations taken near London during the last forty-two years, the average day temperature of the week is 41.9°; and its night temperature 30.6°. The greatest heat was 57°, on the 3rd, 1869; and the lowest cold 11° below zero, on the 4th, 1867. The greatest fall of rain was 0.86 inch.

BEDDING, WITHOUT WINTERING PLANTS UNDER GLASS.



LONG ago in my native village there was a crazy man, who used to walk about crowned with an immense hat so thickly stuck over with tall showy peacocks' feathers that little or no hat could be seen, and our worthy clergyman once made use of this funny head-gear to point a moral, by remarking that "were we all to carry our follies as prominently exposed to public view, there would be many stranger figures in the town than poor Sandy." Well, here is a great feather, and there are very few hats without it. We are one and all of us, from his Grace's gardener down to the doctor's boy who sorts the garden, as well as the pigs and the pony, awfully, hopelessly imitative. We steal one another's spent thunder, and thence it over again with as much zest as if it had never before shaken our little gardening atmosphere; we keep running in a circle, treading on one another's heels so closely, that were our neighbours in other walks of life not similarly engaged, they would set us down at once as a lot of mere copyists. But it is not pleasant to dwell upon the weak points of human nature at any time, and much less at this supposed merry time of the year; and after all, if we copy only what is good in our betters, so much the better for us, and if in addition to that we imitate also their whims and weaknesses, our doing so only tends to keep under a crop of whimsicalities entirely our own.

Whether we owe the wide-spread habit of massing plants together in great numbers, so as to produce sheets of colour, to imitativeness or to the innate instinctive love of flowers on the part of the many, I cannot tell; it is enough for us to know and congratulate ourselves on the fact, that flowers from being what they once were, luxuries of the few, would seem to be now almost necessary to the happiness of every one who possesses a garden. The will and the way, however, are two very different matters. Many a man's love of flower gardening has evaporated, leaving him hard and dry, whilst looking over his first bill for bedding plants at 4d. each; and many a gardener's praiseworthy ambition has grown into disgust by his attempting the wizard trick of turning a miraculous number of half-hardy bedding plants out of one or two tiny houses; yet a great piece of the road to perfection can be passed over without the help of houses at all. Last summer I saw and made notes of more than one flower garden furnished with plants, the tenderest of which had only experienced the slender hospitality of frames and hand-glasses, and many—and these not the least striking—did not require even that. The sight of one of these glassless places in particular gave me an attack of "wholesome humility," from the effects of which I have not yet recovered.

Our list of bedding plants which, being either hardy or annuals, do not require wintering under glass, is growing longer every year, and we have, besides, a long list of plants with ornamental foliage, many of them hardy enough for the Hebrides, and handsome enough to hold up their heads beside the best of these half-hardy plants

we are accustomed to use. Of hardy perennials may be quoted:—

- | | |
|-----------------------------------|----------------------|
| Viola cornuta | Saponaria ocymoides |
| Viola lutea | Eurothera macrocarpa |
| Pansies, Cliveden Blue and Yellow | Nepeta tenebrifolia |
| | Calceolaria Gem |
| | Delphinium formosum. |

Almost lost for want of patronage, that *Eurothera* is a most showy plant; the flowers are large, 2 inches or so across, and of a delicate yellow, something like those of *Calceolaria amplexicaulis*; they are produced in great profusion considering their size, and in succession from June to the end of September. The plant is of a prostrate habit, rarely rising more than 10 inches in height, with leaves of a bright glaucous green. It is best propagated by seeds, layers, or cuttings of the roots, cuttings of the shoots striking but indifferently.

Calceolaria Gem is a most abundant bloomer in autumn, but unless the plants are forwarded under glass in spring, they do not count for much during the summer. If left in the ground during winter, the plant requires a little protection. The flowers, which are very numerous, are dark red.

Of hardy ornamental-foliaged plants we have the following, which may be kept by everybody:—

- | | |
|---------------------------------|-----------------------------|
| Cerastium tomentosum | Crimson and Purple Beet |
| Arabis lucida variegata | Stachys lanata |
| Arabis alpina variegata | Dactylis elegantissima nana |
| Polemonium caeruleum variegatum | Santolina incana |
| Sedum acre variegatum | Lonicera aureo-reticulata |
| Sedum Sieboldi variegatum | Ivy, variegated sorts |
| Tussilago farfara variegata | Variiegated Balm |
| Scrophularia nodosa " | Variiegated Strawberry |
| Festuca glauca | Variiegated Sage |
| | Purple Orach |

To these many more might be added. There is one in particular, of which I have a small patch on trial, but its green-leaved progenitor is so thoroughly detested by all honest people that I almost fear to write its ugly name, yet the variegated form of *Aegopodium podagraria* is a beautiful-leaved plant if it can be kept under control. The Variegated Strawberry, too, is no mean rival to *Manglesii Pelargonium*. Our great want in this section is a good purple-leaved plant, something like *Fresine Herbstrii* in habit and colour, but hardy as a Colewort. There is the Purple Orach, but it is tall and coarse, and except when very young, not very ornamental. We have also a dark-leaved *Ajuga*, hardy enough, but rather mean-looking, so that for our sombre shades we must fall back upon "that vulgar thing" the Purple Beet. Will nobody invent another name for it, something with an Oriental smack? and then we shall be at liberty to use one of the best dark-leaved plants known. The little brown *Oxalis* is not altogether hardy, and is further unfortunate in being only a mere weed, differing little in colour from the soil it grows in.

The following are annuals, or plants treated as such, which, if sown in spring, will flower during the succeeding summer and autumn. Those marked * can be sown in

the open air about the beginning of April, the others in a cold frame or under hand-glasses :—

Ten-week Stocks	Nasturtium Crystal Palace Gem
East Lothian Intermediate Stocks	Petunia, dark
Tagetes signata pumila	Nycteria selaginoides
French Marigold	*Saponaria calabrica
*Nasturtium [Tropaeolum] compactum	Kaulfussia amelloides
Nasturtium Tom Thumb	Brachycome iberidifolia
	Jacobaea, various colours
	*Sanvitalia procumbens
	Ageratum mexicanum

With a hotbed, by sowing the seed in February, *Lobelia speciosa* and *Verbena venosa* may also be had, but without these the list affords ample materials for making a rich and varied show. *Nycteria selaginoides* is a white-flowering *Verbena*-like plant, which continues in bloom for the greater part of the season; it is of a dense compact habit, and well fitted for making lines in ribbon borders or edging large beds. *Tagetes signata* makes as fine a yellow bed as the best of our *Calceolarias*, and it does not go off as these sometimes do. Its blooming powers are something wonderful. From its seedling state until frost takes it, it continues one flush of yellow.

While I am fully aware that none of the plants mentioned are qualified to take the places of our idolised *Pelargoniums* in the flower garden, yet if they are skilfully combined, themselves and their surroundings well attended to, and especially if they are employed on a somewhat large scale, it will be found that a most imposing display may be had without wintering a single plant under glass.—*AYESHIRE GARDENER.*

FLOWERS OF THE PAST SEASON.—No. 1.

GLADIOLUS.

THE past season was a very trying one for this beautiful autumn flower, and my notes about it are to be taken with reserve. I was enabled to grow all the best of the new varieties, and here give the result of my observations, remarking that they tally very much with those of my friend Mr. Banks, of Sholden Lodge, Deal, and I believe with those of Mr. Kelway, of Langport, also.

1. *Bernard de Jussieu*.—Violet ground, shaded and tinted with cherry red and purple. The colour is new, but neither the form of the flower nor the disposition of the spike is good, and I should certainly class it as a second-rate flower.

2. *Etandard*.—A well-formed flower. Spike long and well-arranged; white, lightly tinted with lilac.

3. *Eugène Scribe*.—Tender rose, flamed with carmine red.

4. *La Fiancée*.—Beautiful clear white, with small bluish violet spots.

5. *Molière*.—Cherry red, with white spots. A very good exhibition flower.

6. *Mozart*.—Lively rose, lightly tinted with violet, flamed with carmine. A very desirable variety.

7. *Princess Alice*.—A pretty shade of colour, light lilac; perhaps a little too washy.

8. *Rossini*.—Dark red amaranth, lined and spotted with white.

9. *Semiramis*.—Of a beautiful colour, but in other respects it has greatly disappointed me; the form was defective, and the spike lanky. I should be sorry to think that my favourable opinion formed of it was wrong, and hope it may be better next season.

10. *Thunberg*.—Flowers large, perfect form, reddish orange with white spots.

11. *Ulysse*.—This I think the best flower of the season. The flowers are well disposed on the spike; the colour a clear bright rose, spotted frequently on the lower segments. Very beautiful.

12. *Uranie*.—Clear white, largely flamed with lively carmine red. Very fine variety.—*D., Deal.*

CUCUMBER CULTURE.—No. 2.

FRUITING BED.—Dung for the fruiting bed must be prepared as for the seed bed. The bed should be made a fortnight or three weeks after the seed is sown, according to the time of year, allowing a greater interval early in the year than later. When seed is sown early in February, the fruiting bed should be made twenty-one days afterwards, or in the third week, so as to be in a fit state for the plants by the end of the month, or at latest by the beginning of March. If seed is sown at the end of February, or beginning of March, the fruiting bed ought to be made up in ten days or a fortnight, so as to be ready for the

plants when large enough, which is after they have been stopped, and have made shoots about 2 inches long, always having the fruiting bed ready for the plants by the time the heat in the seed bed is becoming too low for their free healthy growth, for the plants must be kept gently growing, and, if possible, without a check from cold, whilst over-excitement from too great heat is equally, if not more, injurious.

It is very desirable, where there is an abundance of leaves, to mix a quantity with the dung. They prevent the heat becoming too violent at the commencement, and render it more lasting. The leaves should be equal in quantity to the dung, and should be moist, and, if possible, well mixed with the dung before the bed is made up. Horse or stable dung alone is apt to become very hot, often producing a heat of 160°, or more, but by mixing with leaves or half-spent dung the heat will be moderated. Fresh cowdung mixed with stable dung only renders the heating more violent. The bed should be carefully made up, well mixing all the parts, shaking them out evenly and regularly, and beating them well with a fork, finishing off the bed with the finer materials.

If the bed is made at the end of February, it should be 4 feet high in front, and 4 feet at back; if early in March, 6 inches less in height; if at the end of March or beginning of April, a foot less than in February, whilst 2 feet 6 inches will serve very well for May. The bed being made, put on the frame and lights, and keep the latter close until the heat rises, then fork over the surface to the depth of about 9 inches, which will allow of the heat rising to the surface by keeping the material light, and permit the rank steam to escape, the lights being left open about an inch for that purpose. In about a week it will be seen whether the heat is likely to become too violent, a thermometer being plunged for that purpose in the dung to the depth of 9 or 12 inches; and by noticing its readings for two or three days it will be seen by the rapid rise or steady temperature, whether the heat is likely to be too violent or not. If too hot the fermentation must be checked, removing the upper part of the bed for about a foot in depth, and watering the part beneath, but not so as to chill the bed; yet give enough water to check the fermentation, and prevent the bed heating itself dry. Forking over the surface of the bed every second or third day, will not only sooner fit it for the reception of the plants, by preventing too violent a heat, but tend to render it sweeter, the rank steam being as injurious to the plants as too much or too little heat. Taking proper means to prevent the generation of too much heat after the plants are put in, is an important part in Cucumber culture.

If the materials are properly prepared, and the surface of the bed turned over as above described, there will be little to apprehend on account of rank steam. When the temperature of the bed at 6 inches from the surface does not exceed 90° after the bed has been made a week, or from that to ten days, it will not be liable to rise higher; but though that heat is too high for Cucumbers, we must bear in mind that the fermenting materials instead of increasing decline in temperature, therefore it is desirable to commence with the heat rather too high, taking the necessary precautions to prevent injury to the plants. When soil is placed in the frame, and raised in the centre of each light in the form of a cone, the soil at the base of the cone may have a temperature too high for the roots of the plants, but higher up it may not be warmer than is needful.

When the temperature of the bed is reduced to 90°, at the depth above indicated, and is not likely to rise higher, prepare the bed for soil. I take off the lights and frame, and rectify any irregularities resulting from the heating or settling of the materials, filling up the hollows with fresh but properly prepared hot dung, and making the surface quite even and firm by beating with the fork. I then replace the frame and lights, and under each light put a barrowful of soil, taking care to have it moist, especially early in the season, but more inclining to be dry than wet. It will absorb moisture in addition to heat from the bed, and if used wet becomes too much so, and the plants will grow too succulent and tender, and be ill-adapted for withstanding powerful sun and air, which latter at an early season is not always so warm as desirable. The soil is placed all over the surface of the bed, allowing a barrowful to each light or space 6 feet by 3 feet, and after being in the frame twenty-four hours, the lights being kept close, draw the soil into hillocks exactly under the centre of each light, which will leave a little soil over the dung, and prove advantageous in keeping down the steam, but the thickness of soil left ought not to exceed 1 inch. The hills should be raised so that their tops will be precisely 6 inches from the glass. Next day

the plants may be placed in the frame, but do not plant them out, merely stand the pots on the soil at the back of the frame, and you will have an opportunity of testing the heat whilst the plants are becoming accustomed to the temperature and atmosphere. A thermometer ought to be kept in the frame; indeed, two are requisite, one to determine the bottom heat, and another the top heat. If the bottom heat in the hills does not exceed 85° or 90°, put out the plants, one under each light, or in each hill, with the ball entire; let the hill be formed somewhat flat, and slightly dished so as to hold water. The plants should be planted slightly deeper than they were in the pots, but avoid planting too deeply. The hills should be about 1 foot in height.

After planting, if the soil is not sufficiently moist give a gentle watering, but avoid making it wet, and have the water the same in temperature as the air of the frame. Some put two plants under a light. I think one better, though for early fruiting, and when the plants are not expected to continue long, then there may be an object in planting two in each hill, so as to sooner fill the frame, otherwise one plant will produce as many fruit as two plants in the same space, and the fruit will be finer. The temperature of the atmosphere of the frame should be from 70° to 75° at night at the commencement, for it is desirable to afford a brisk heat so that the plants may become speedily established.

TEMPERATURE.—After planting be watchful to secure the proper top and bottom heat. For a time both will be sufficiently high, if anything too high, but afterwards the heat in the fermenting material will begin to decline. The bottom heat ought never to be less than 70°, better 75°; and 80° should be the maximum, though it may, for reasons above given, be somewhat higher at the commencement. The atmospheric or top heat should be from 65° to 70° at night, and not less than 60°, which ought to occur but seldom, as, for instance, in the case of sudden and severe frost. By day the temperature, ever dependant on that of the external air, will be variable; its minimum, however, must not be less than that of the night, and it is better to keep the plants in darkness, by not removing the covering, or by replacing it sooner, for a longer period each day than, by taking the covering off, to allow the day temperature to sink below that of the night. The temperature by day must never be allowed to exceed 80° without admitting air, and though it may afterwards rise to 90°, such a temperature without air would be ruinous, and yet with air high temperatures are beneficial. The temperature, therefore, by day may range from 65° to 70° or 80° without air; but if it be practicable to give a little air without lowering the temperature after it has risen to 75°, it will be very beneficial to do so. In the day, therefore, the temperature should be from 70° to 75°, with a rise from sun heat to 85° or 90°.

The bottom heat must be maintained by adding linings to the bed before the heat has too much declined, as if the heat be allowed to fall too low the plants will probably suffer, for the lining will be a few days before it warm the bed. The lining should be of prepared hot dung, though this need not be so well prepared as for the formation of the bed, and may be fresher. The front of the bed should be lined first, following in about a week with the back and ends, and it will in most cases be sufficient if the linings have a base of 18 inches, and be gradually tapered off to meet the frame within a few inches of the lights. As the lining sinks litter should be placed on the top, so as to cover the sides of the frame, for from the thickness of soil on the bed the atmospheric heat derived from the bed will not be sufficient, therefore keep the sides of the frame always covered with litter, which will retain the heat of the linings, and keep the temperature from falling too low. Beds made in or after March will hardly need linings; but when the heat is declining, and the top heat, from the increased depth of soil, is apt to fall considerably at night and in cold days, litter should be placed against the sides and ends of the frame upon the ledge of bed formed by the frame being of less dimensions than the bed: and this upper or frame lining should be attended to in about fourteen or twenty-one days after the plants are put in, and afterwards be kept well banked up as it declines or wastes, keeping it to within 2 or 3 inches of the lights, so as to permit of their sliding up or down without interfering with the lining. This top lining will not be required after May.

PROTECTION.—For a few days after the bed has been made the heat will be sufficiently high, but there will be a gradual diminution of the temperature after the maximum of fermentation has been attained, and though the temperature for a

considerable time might be high enough were the weather to be uniform in temperature, cold nights will occur, during which the temperature of the frame will be so reduced as to jeopardise the plants' continued health and growth unless means be adopted to ward off the cold or retain the heat. Mats are the best material. One thickness will be sufficient for a time after the bed is formed, but when the heat declines two thicknesses or double mats are needful, especially in severe weather. In nights of very severe frost, and when the heat of the bed or linings is not strong, a covering of dry litter or hay in addition to the mats will be a great protection. The material employed, whatever it may be, should be so placed that it does not overhang the dung, particularly if the bed be fresh lined, and the heat from the dung at all rank. The protection should be large enough to turn down a few inches without lapping over on the dung. It may be secured to the frame, which is desirable, so that it may not be displaced in case of wind.

The covering may be placed over the lights at five o'clock in February, and need not be removed in the morning until eight o'clock; or in severe weather half an hour earlier in covering up or removing may be allowed, and will be found more beneficial to the plants than allowing them to be starved. In March the frame may be covered up at 5.30 p.m., or if the weather is frosty half an hour earlier, and the covering removed when the sun is beginning to have power, or at half-past seven o'clock in the morning, allowing half an hour or an hour later on very cold, frosty mornings, whilst in those which are fine the covering may be removed sooner. In April the covering may be put on at or before 6 p.m., and removed at 7 a.m., or 7.30 a.m., or later if cold, and in May the frame may be covered up at 6 p.m., and the covering removed by 7 a.m., or in case of frost not until the sun has power. If there is no frost, and the temperature is sufficiently high, the covering cannot be removed too soon. In no case ought it to remain after the sun has power to raise the temperature of the frame; but if its temperature be low, it is well to leave the covering until there is a prospect, from the increased warmth of the air, or from sun heat, of the temperature of the frame not falling after the protection is withdrawn.—G. ABBEY.

OUT-OF-DOOR GRAPES.

My attention has been called to the interesting article on the above subject by "ARCHAMBAUD," in the Journal of December 3rd, which I had unaccountably overlooked, for I make it a rule to read everything that appears in THE JOURNAL OF HORTICULTURE.

The improvement of the cultivation of Grapes on open walls is a field especially open to the amateur and cottager, to whom, I fear, we must look for any advance in this branch of fruit-growing, for the professional gardener who has plenty of glass will always regard out-of-door Grapes with disdain. If such persevering men as those who have recently raised the fine seedling late varieties could be persuaded to turn their industry and skill to the raising of early sorts, a complete change might be effected in the open-air cultivation of the Vine.

In selecting the best from the sorts which we now possess, I agree with "ARCHAMBAUD" that the Royal Muscadine, or, as it is very commonly called, the White Sweetwater, is the best, at least the best white variety.

Though we agree about the best white Grape, I am very far from coinciding with "ARCHAMBAUD" in the wholesale condemnation of the Esperione (Espiran). This sort I consider the best hardy black Grape that can be planted out of doors, and with me is always good under glass; and it ought to be more planted in cool greenhouses and orchard houses on account of its hardiness and early productiveness. Of the two it is a better setter than the Royal Muscadine, although the latter cannot be found fault with on this point.

"ARCHAMBAUD" says that it was the late Mr. Beaton, who first gave the Esperione its false character, extolling it to the skies, not knowing at the time that the subject of all his praise was not the Esperione at all, but simply a fine example of the true Black Hamburgh. I am not in a position to say that the fine Grapes exhibited by Mr. Beaton, and which caused such a sensation at the time were examples of the Black Hamburgh or of the Esperione, not having seen them; but this I know, at the time alluded to, Mr. Beaton sent me three eyes from his Vine, to grow and compare the fruit with that which I was certain was the true Esperione, and they proved to be the same. Now, those who were acquainted with Donald Beaton know that he was not the man to exhibit fruit of one plant and send

cuttings of another to have their fruit compared to test their being true to name. There must be much confusion still existing about this Grape, but any one who desires to see a description of it will find it described to a nicety in Dr. Hogg's "Fruit Manual."

I am glad to see your able correspondent includes the White and Black Frontignan. In favourable seasons they do very well, and so does the Grizzly Frontignan. I have had this sort finer-flavoured out of doors than under glass. There are two other varieties concerning which I can speak favourably for the open wall. One is the Ciotat or Parsley-leaved; in bunch and berry it is a Royal Muscadine, but its cut leaves make it very different and very ornamental. The other is Bidwill's Seedling, a Vine not so generally known as many others. It is much grown in the neighbourhood of Exeter, where it succeeds well in the open air. Under glass I have invariably found it with a disagreeable earthy flavour which increases when the fruit gets over-ripe.

Were I capable of writing a volume on the cultivation of the Vine on the open wall, the pith of it all would be contained in the following short sentences.

Grow the wood one season and fruit it the next.

No snag-pruning. Prune early; cut out the wood that produced the fruit as the fruit is gathered.

Finish all winter pruning by the middle of December.

Nail or fasten the shoots the first week in March; before doing so paint them well with the following mixture:—Mix clay and water to the consistency of thin paint. To a quart of this add $\frac{1}{2}$ lb. of flowers of sulphur and 2 ozs. of glue. Use it as soon as mixed.

If the Vine show two or more bunches on the shoots that spring from the eyes that were left at the winter pruning, take all off but one, and stop the shoots at two or four leaves (as there is wall room) above the bunch.

Thin the berries out well, where there are three leave one; also thin out the small shoulders where they appear crowded, and do so before or when the berries attain the size of the seed of early Pears. It is in a great measure from want of this thinning of the berries that we see such rubbish of out-of-door Grapes.—A. McKELVIE, *Torrington, Devon.*

[Before Mr. Beaton's death we had an opportunity of examining the Vine he considered to be Espiran, and we found it to be Frankenthal, a conclusion which Mr. Beaton also readily admitted. There are, however, places in the southern parts of our coast, where, we are informed, the true Espiran is cultivated successfully out of doors.—Eds. J. of H.]

GARDEN LABELS.

I ENCLOSE a specimen (damaged) of a label that I have adopted for fruit trees, Roses, &c. As you will see, it is absolutely indelible, being glazed over the writing. I buy the unglazed labels, write the names on them with a quill pen dipped in cobalt mixed with turpentine, and glaze them in a small furnace. Here let me say that I do not make them for sale, and have no interest, direct or indirect, in introducing them. Of course, the objection will be raised that everybody has not a furnace to glaze them in. This is very true, and my principal object in writing to you is the hope that some enterprising nurseryman may open up relations with some manufacturer of earthenware, so as to be able to supply the public with so great a desideratum. I do not hesitate to say, speaking as a man of business, that they could be supplied at 1d. each, and give a good profit both to manufacturer and retailer; and I think there must be many hundreds of growers of fruit and Rose trees who, like myself, would gladly pay that sum rather than be bothered with the present unsightly and easily-obliterated labels, whether of wood or zinc.

Another objection that has been raised is that new Roses, &c., are constantly coming in and going out, and that it would be difficult to supply names in cases where, perhaps, only one or two would be required; but I cannot see why the nurseryman who takes the order should not send a list every fortnight to the manufacturer, so as to give the latter, with the orders he would receive from other nurserymen, enough to make a batch for glazing. Or the customer might procure his own labels—I have bought them retail at 1s. 6d. a-gross unglazed—write the names himself, and send them to be glazed. There is no patent in the matter, and, indeed, as far as I know, nobody has ever made them but myself.

To turn to another subject. Has anybody tried growing fruit

trees as cordons trained over a walk on an iron rod bent to form an arch? and, if so, how has it answered? If not, why should it not answer, and be more ornamental than vertical cordons, besides covering only useless ground?—A. O. W.

[The label sent by our correspondent is of white porcelain, and in an unglazed state; other specimens may be seen attached to trees and shrubs in the conservatory entrance of the Royal Horticultural Society's garden at South Kensington. If they were written upon with a pointed style of lead—the metal, not a common lead pencil—we think that they would remain legible for years, might have the writing scraped off when needful, and be rewritten upon.]

THE CHRYSANTHEMUM.

At this dull season, when the beauty of the flower garden has passed away for a time, and Flora, alarmed by those frosts with which Winter proclaims his coming, is preparing to take her departure, she bestows upon us ere she goes one of the choicest of her gifts—the Chrysanthemum. That this most beautiful flower is now more thoroughly understood than formerly, the rapid progress made of late, and the many splendid varieties produced year by year, will testify.

I can fully endorse the statement of your correspondent "G. S.," which appeared in page 419, as to the benefit resulting from converting the orchard house into a winter garden. In my orchard house, a span-roofed structure, I cultivate other flowers as well as the Chrysanthemum—for example, Primulas, Violets, Mignonette, Schizostylis coccinea, and Variegated Pelargoniums. The effect is exquisite, and excites the admiration of all on bright days, of which we have had but few of late. The fragrance arising from these flowers is delicious.

I do not intend making any observations on the older and proved varieties of Chrysanthemums, but on those sent out this year, which I feel certain will be decided acquisitions. The effect produced by Japanese Chrysanthemums mingled with the Large-flowering and the Pompon varieties, is all that could be wished. Their fantastic forms and brilliant colours are most novel and pleasing, many of their immense blooms having more the appearance of tassels formed of the gay plumage of tropical birds than that of flowers. I feel assured that they will become very popular on account of their merits alone.

*Wizard** is one of the most beautiful of the actinoid class; the flowers forming loose tassels of a bright reddish maroon colour. Of good habit, and a very free-blooming variety.

Red Dragon.—The flowers are very double and of very large size, composed of long subulate florets of the most novel and elegant form, red chestnut tipped with yellow. A very free-blooming variety.

Yeddo Lilac.—Rose lilac, and lighter centre. The florets take an upright position, thence arch inwardly, thus forming a complete ball.

The Tycoon.—Very bright red, with a golden orange back. The florets, which are very long, are curiously curled.

The Daimio.—Pale pink changing to rose lilac. Flowers large, double, of great substance, and very showy.

Tarantula.—A most singular flower, with a close button-like disk, and a single spreading ray of long, slender, tubular, golden florets.

Red Indian.—Flowers very large and double, red; flower flat.

Robert Fortune.—Bright orange or amber. Large and full.

Roseum Album.—Rose-tinted, and spotted with white. The flowers are of moderate size, and are very valuable for bouquets and for the dinner table.

Sulphureum.—Sulphur white, sometimes spotted with rose. The flowers are large and double, and remain a long time in bloom. A free-growing variety.

Prince Satsuma.—Bright golden yellow, large and very double. The flowers have somewhat the appearance of a rosette.

Nagasaki Violet.—Dark rosy violet, and golden disk; the florets sometimes spotted with pure white. A most attractive and curious variety.

Aurantium.—Clear golden yellow, of immense size and very double. This splendid variety is particularly distinguished by the breadth and massiveness of its wax-like petals.

Comet.—Bright orange yellow, changing to chestnut red; florets very long, and curiously twisted and curled, giving to this flower the appearance of a large bunch of gold thread.

* For this and the succeeding descriptions our correspondent is mainly indebted to Mr. Salter's catalogue.

Leopard.—Bright red, with large yellow spots on the surface of the petals—a most novel combination of colour.

Most of the varieties named are showy, and present a very chaste appearance. I usually strike them in November. When struck I place them in a pit to harden off, and then shift them into blooming pots, generally into 8 and 12 sized pots. The compost employed is a strong fibrous loam, rotten dung, and leaf mould. Liquid manure is given very frequently. In this I put plenty of decayed cow droppings—in fact, to thrive well *Chrysanthemums* require plenty of dung. This morning these called on me a gardener who is a good grower of *Chrysanthemums*, and, whilst showing him through my winter garden, he remarked that to grow them well they should have plenty of rotten dung.

Before closing this paper I wish to say a word in favour of one of the Japanese *Chrysanthemums* in particular. I believe I shall not be far wrong when I say *The Daimio* is the most superb variety named, of extraordinary size and substance. *Mrs. Haliburton*, a large-flowering variety, is the most perfect white I ever saw. It is the gem of my collection. I usually plunge the pots in sifted ashes. Care ought to be taken not to allow worms to enter the pots. I place these so as to be exposed to the sun from early morning till late at night all through the summer. On the least sign of mildew being perceived, I instantly sprinkle the foliage well with sulphur and let it remain on all night. In the morning I give a good syringing. I apply to the plants a top-dressing of sheep's droppings, and have found it very beneficial. Under this treatment I invariably meet with success.—F. P. L.

ROSE SEED AND SEEDLINGS.

THE interesting notes on the ripening of Rose seed in England, by Mr. Curtis, are valuable as affording the means of comparing results between the present, past, and future seasons, and between the climate of Devonshire and that of other districts of the country in ripening seed of the different varieties of *Rosea*. Most of those mentioned by Mr. Curtis have ripened seed with me this season, but the heps of Charles Lefebvre, which usually ripen here, have become prematurely withered before being properly coloured.

In addition to the varieties named by your correspondent, I have just gathered ripe heps from Lord Raglan, Madame Caillat, Anna de Diesbach, Madame Furtado, Madame Boutin, La Ville de St. Denis, Madame C. Joigneaux, Marie Baumann, Thorin, Antoine Ducher, Gloire de Santenay, Prince de Poireia, Prince Léon, Duc de Rohan, Beauty of Waltham, Madame C. Wood, Madame Domage, Camille Bernardin, Exposition de Brie, Abel Grand, Dr. Lindley, Comte de Nanteuil, François Louvat, Mons. Bonneville, Victor Verdier, François Lacharme, Madame Moreau, Comtesse de Paris, Le Rhone, and numerous other Perpetuals, and from Charles Lawson and Madame Zoutman amongst summer *Roses*.

I have found the past season one of the worst I remember for cross-fertilising the *Rosea*, the excessive heat early in the summer having been more damaging to successful fertilisation than our ordinary amount of moisture in most seasons.

On John Hopper and Madame Knorr, two excellent varieties named by Mr. Curtis, I have never yet seen seed, although I have, during the past twelve years, cross-fertilised and recorded nearly a thousand blooms, including many of those varieties. Experience has, however, satisfied me that cross-fertilisation of the *Rosea* is not so productive of the end sought as might be expected, in comparison with the results obtained from a similar treatment of many other flowers and plants. I have, however, been able to gain some valuable acquisitions amongst a vast amount of mediocrity and labour lost. In some seasons I have scarcely obtained a single ripe hep or seedling from upwards of a hundred attempts at artificial fertilisation. I would therefore recommend the tyro not to attempt cross-fertilisation of the *Rose* on a large scale, but to rely more upon the naturally fertilised produce of those kinds which do not easily seed, especially the light sorts, and certainly not to take much trouble about such varieties as *Général Jacqueminot*, *Maréchal Vaillant*, and other free-seeding reds.

Amongst the results of cross-fertilisation, I have obtained seedlings from Madame Vidot, Comtesse de Chabillant, La Ville de St. Denis, Anna de Diesbach, Louis Peyronny, Victor Verdier, Charles Lawson, and Gloire de Dijon, and from the latter I have some ripe heps of the offspring. Upon the whole I consider that the watchful English amateur may, with work

and patience, in this field, especially if favoured with a dry soil and climate, achieve an ample reward for his pleasurable toils.

I should add that the soil here, overlying the oolitic limestone, is dry, and suitable for the ripening and flavouring of fruits generally, although, from the prevalent east winds, the springs are excessively cold and unfavourable to the setting of early blossoms, which are frequently injured in the bud and abortive. The climate is more devoid of humidity than the central, northern, southern, and western districts.

To those who have not attempted the raising of seedling *Roses*, but contemplate doing so, I would recommend a perusal of the chapters on "Hybridising," and "Seedlings," in "*The Rose Garden*," by Mr. William Paul, a work containing eminently practical teachings; and if the instructions contained therein be followed, I feel sure much disappointment may be saved and considerable success secured; and although we may still have to go to southern climes for most of the new varieties of *Teas* and *Noisettes*, there can be no reason why, in some parts of this country, advances should not be obtained upon John Hopper and Beauty of Waltham, and *Roses* of that class, and even upon the more illustrious *Devoniensis*. One of the first steps towards securing these ends is for growers and amateurs, especially the latter, whose province, Mr. Paul justly says, it is to raise seedlings, mutually to give and receive information upon the subject. I trust, therefore, I may hear through your columns of the experiences of other labourers in the same vineyard.—THOMAS LAXTON, *Stamford*.

THE CLAIMS OF WINTER ORNAMENTAL GARDENING.

(Continued from page 478.)

BEFORE describing the mode of planting, it may be as well here to take a glance at the materials that have hitherto been sufficient for the purpose, but to which I intend making additions when advisable. First of all, I will state that the ground on which I have principally carried out the winter decoration, is laid out in two borders, each 18 feet wide, and a large oval bed measuring 90 feet by 67½. A 3-foot margin of turf reduces the latter bed by that much all round, still it presents a large extent of ground, and we have generally had a centre compartment 16 or 18 feet in diameter planted, and smaller ones as well, with a groundwork of coloured material, and that groundwork intersected with some other fancy work of similar material, with a suitable bordering.

The plants we use are in themselves simple enough, and easily obtained and grown. A few tall upright-growing plants 4 or 5 feet high seem indispensable, and they ought to be such as will readily bear removing in the autumn. Irish Yews and *Cupressus Lawsoniana* are about the best that I have used, but it is very likely Swedish Juniper, and many other plants of similar habit would answer as well, but I was not so successful with Virginian Cedar, though *Arbor Vitæ* did very well. These tall plants occupy the centres of groups, which may consist of any description of evergreen which can be removed without showing the effects of the operation. I have found *Aucubas* and *Box* about the most effective, as well as the most compact and neat-looking plants, but *Laurustinus* has done well in mild winters.

Assuming that the foregoing plants or those of a kindred character are planted round the central Irish Yews, or other conspicuous plants, it is better to surround them by a line of white-leaved plants, if such can be had. Here we have found the old *Lavender Cotton*, when forming stiff, tufty plants, almost as good as anything, and it transplants well. Much better still, only the plant is so low-growing, are good large tufts of *Arabis alba variegata*. The beautiful cream-coloured leaf which this plant has in winter renders it by far the most important winter decorative plant I know. It must be borne in mind, that the ground is damp on the surface the whole time, or nearly so, that winter gardening is required, and white-leaved plants are seen to much advantage then. The *Arabis* also transplants well, and 20° or 30° of frost do not seem to have any effect upon it. It is often necessary to plant edgings of this or other plants at the present time, and slips 6 or more inches long, taken from old straggling plants, have only to be buried in the earth up to their neck, and they invariably grow, and in spring are found to be well-rooted plants, that may be used anywhere. So large a proportion of the leaf being white, gives the plant a pre-eminence over all others I

have yet tried. I am, however, in hopes that *Barbarea vulgaris variegata*, recommended by your able correspondent, "Aynshire Gardener," and of which he has kindly sent me specimens, will form an excellent companion to the *Arabis*.

A much less effective plant is *Stachys lanata*, as its foliage becomes somewhat grey and dirty-looking, only when a sufficient number of the *Arabis* and other plants cannot be had, it may be worked in. *Cineraria maritima* I have found transplants badly, and is injured and disfigured by frost, if not killed, and the same may be said of *Centaurea gymnocarpa*. A white-leaved *Ajuga* which I have tried, is bad in habit, and I have never been able to have the ornamental *Kales* in condition before the time it was necessary to take them up, so that I have abandoned them as winter ornaments, however beautiful they may be early in spring. My object is to have all perfect by the end of November, but these varieties of *Kale* rarely show more than a sort of embryo colouring at that time.

As the site of the bed and borders which are winter-decorated is exposed to high winds, the plants named in the preceding paragraph often suffer more than might be expected, and dead or partially decayed leaves following after high winds, we have not used them much. Perfectly hardy plants with ornamental foliage not being numerous, I have for some years been on the look-out for such, and after repeated trials and disappointments I have found the best for appearance under all vicissitudes of weather to be the very old and much-neglected *Helleborus foetidus* (Bear's Foot); its Fern-like foliage spreading evenly all round the stem, contrasts by its dark green hue very strongly with the paler and more delicate tint of the inflorescence, which appears in defiance of all weather during the dark days of winter. This plant also transplants well, and in summer is not particular as to site. I have, therefore, every confidence in recommending it as one of the very best of its size for winter use. It may be had from 1 foot to 18 inches high, as even small plants look well, but I prefer those approaching the flowering condition. In addition to this I have sometimes used a broad-leaved *Saxifrage*—I believe *S. calendulacea*—but its leaves are liable to be battered by the wind; and the pretty foliage of *Pulmonaria officinalis*, rivalling that of many hothouse *Begonias* early in autumn, seems unable to hold its own against the same influence. *Sedum glaucum*, *Sempervivum californicum*, and others of their class look well when near the observer, but are scarcely visible at a distance of 50 or 60 yards; but they are admirable for vases with a plant of the *Hellebors* alluded to for the centre, where it braves the winds without sustaining any damage. Patches of *Ribbon Grass* when it has been cut down late in summer and formed a fresh growth come in very well, and I have more than once made use of a plant that baffled experienced flower gardeners, who, after admiring its outline, could not well withdraw their commendations when informed that it was the common *Sedge* from the sides of ditches and ponds. Good plants of this look remarkably well, but some care ought to be taken not to have those with too long slender leaves; but stubby, short-foliaged plants from an exposed place do well, and form no bad substitutes for *Arundo conspicua*, or *Pampas Grass*—besides, they have the recommendation of costing nothing. The wild and other *Primroses* I have also used at times, but they present but little to recommend them in November; nevertheless, a place may be assigned them. The single white *Alyssum saxatile*, although beautiful as a spring flower, is too late for my purpose; but *Crocuses* are often planted, and *Snowdrops* are better still, as they are less interfered with by mice.

Some other plants have at times been tried. A friend of mine uses plants of wild *Heath* from a neighbouring common that have been nibbled into shape by rabbits; and now and then *Wallflowers* and other neat-looking plants are worked in, but I am no advocate for great variety, and the best results which I have yet seen have been accomplished by the plants at present employed. Although I have mentioned many names, the number of different plants used on each occasion has always been small. In my case, however, perhaps the most important one of all remains yet to be mentioned, and that is plain turf, which has always been more effective than any other.

It may here be remarked, that although variegated *Hollies* of both the Silver and Golden sections would be a great addition, I have omitted them in consequence of their being difficult to obtain in quantity, and because they do not bear transplanting so well as some of the other plants. To those, however, who do not mind expense these shrubs would, no doubt, be an acquisition; probably, also, neat plants of common *Yew*, *Thuja*

aurea, and others. My plan, however, has been to make the greatest display I can with the commonest plants.

As colouring materials are an important feature in the arrangements, I may state that these, too, are the simplest and least costly that can be had. We only use three colours—red, white, and black; the last is produced by sifted cinder ashes; a good white sand found in the neighbourhood gives the white; while a cartload or two of waste kiln bricks not sufficiently burnt to be of any use for building, serve when broken up to make a bright and telling red. The beds or groups of plants are often surrounded by an edging of turf 6 inches wide, or if it is a large group a wider band is made use of, while the figures denoting the embroidery or fancywork in colours are marked out by lines of broken stones of uniform size and hue, picked out of a heap ready for road-making or mending. Pebbles would, perhaps, be better, but these are not plentiful here, and the stones answer. With these a tolerable representation of a sprig of foliage may be formed, which, being coloured differently from the ground, may be made to look well; but too much intricacy is not advisable, as confusion in plan is much to be deprecated. I well remember when the Royal Horticultural Society's garden at Chiswick was first laid out, there were four compartments in the polychrome style, representing the four plants emblematic of the countries composing the United Kingdom, but it required more discrimination than most people possessed to ascertain with certainty which was the *Thistle* and which the *Leek*. Puzzles of design in this way may be admissible and admired by some, but I have no taste for them. I would rather see a simple design carried out clearly than have to guess at a complex one, or what is more likely still, to have to hear it explained by some one in the secret of its conformation; and as a very simple figure repeated becomes one of beauty, it is better to be content with that than attempt too much in the way of enrichment.

Having said that we only use three colours, I may yet further add that some of our best designs have been accomplished with only two, white being always one. Some years ago a bordering to our large bed, which I think was upwards of 8 feet wide, was done in two colours only, and with great effect; it was simply that kind of bordering we often meet with on china-wares or other objects, and called "the Greek pattern." The limbs or lines of this figure were about 10 inches wide, and it was simply black and white, the bead-like lines of stones adding much to the general effect. I do not think I have ever excelled that pattern as a bordering, although I have tried various kinds of what is usually described as fringework. The groundwork of the main portion of the bed where the groups of plants, with their turf margin, stand wide enough apart to allow it, may be further embellished by some bold lines of scrollwork thrown in amongst them, with now and then, perhaps, a small circle of turf, or a collection of smaller plants in a group, edged either with the stones alluded to, or it may be the variegated *Arabis*. Description of this kind of work is difficult without recourse to a plan, which also only imperfectly conveys an idea of what is aimed at, and it is not easy without the inspection of an example to conceive the effect produced. It is only after repeated trials that the objections from which no design is exempt, are rendered fewer and of less importance. Enough, however, has probably been said to enable the reader to comprehend what is really meant. A few flower beds are, perhaps, so large as those here operated on every year, it may not be in the power of everyone to produce the same result, but some modification of it may be attempted in most places. I shall be well repaid if I succeed in inducing anyone to whom the winter's appearance of his flower beds is of more consequence than the spring display, to abandon the latter; and by taking advantage of the four winter months, which do not in the least infringe on the summer display, he may have the whole removed by the middle of March, and the beds undergoing the necessary working for the summer floral crop, for which the two months at his disposal give ample opportunities. Winter gardening, therefore, in my opinion is of much more importance than spring gardening, and I expect to see it still more practised than it has hitherto been, when the number of light-coloured-foliaged plants available for the purpose shall have been further increased, for I consider plants with foliage of that description, contrasting as they do with the damp earth, indispensable to effect.

Having said so much in favour of a winter display, I by no means wish to imply that some attempt at spring gardening should not also be made, but I would advise a distinct set of beds for this purpose—say those of a promiscuous class, which

most gardeners possess examples of, leaving the principal parterre, if there should be one in a conspicuous place, to be occupied by the plants and other things recommended for winter embellishment. Some early-flowering annuals as well as bulbs and perennials, are deserving everything that has been said in their favour, and although we arrange some of our beds for winter as described, others are planted with Forget-me-not, Saponaria, Silene pendula, Wallflower, Alyssum saxatile, and other plants; but those latter are in a less conspicuous place, and where a good display of bedding plants is not looked for by the middle of June. Although the season up to the time I write (the middle of December) has been exceedingly mild, these plants present but little that is interesting to look at, while those in the winter beds, with their accessories, are all that can be desired. Let, therefore, both plans be tried, and tried fairly, and excepting in the cases where an April and May display is of more consequence than one in June and July, the winter decoration of the flower garden will commend itself in preference to that in spring; and the materials, as I have shown, are neither expensive nor difficult to be obtained.

Although, like most others, I object to the eye continually resting on polychrome figures alone, yet when a pleasing design of these and foliage together can be arranged, there are few who will not admire it, especially as it is only intended for the dull months of the year; besides, each year gives scope for a fresh design, which of itself is no small incentive, and its comparison with that of former years supplies matter for remark. It is scarcely necessary to observe, that the number of different designs which may be so carried out is infinite, added to which the very-often-all-important summer planting is not in the least interfered with; on the contrary, I am not certain but the ground is in a better condition if left somewhat firm all winter than if loose and fresh dug, and as it is recommended to trench it in the autumn, ordinary digging in the spring is all that is necessary. We always dig in what sand and broken brick may have been on the ground, and even a portion of the cinder ashes is left on, but we usually take the most of them off.

The soft red brick used for colouring is broken so as to pass through an inch sieve or screen; it is well not to pound it too much into dust. Two or three boys will speedily break up all that is wanted, as we do not lay it and the other colouring matter on more than an inch thick, after having first smoothed the ground as well as can be done with the back of the spade or shovel. In marking out figures a pointed stick is all that is wanted, with, of course, the measuring rod to determine the true position; practice, however, enables one to do this more rapidly than might be expected, and as fine dry days are not over-plentiful in November when this work has often to be performed, the most must be made of those that do offer themselves. A transformation from a mass of Pelargoniums and other plants, hopelessly destroyed by frost, to a pretty device worked out as described, is the more relished, perhaps, when it has been accomplished during the few days' absence of those for whose pleasure it has been made.

I hope that some one who has successfully practised winter decorative gardening in a different manner from that which has been here described, will be so good as to give an account of his practice. There is much to learn, at the same time do not let us confound winter with spring gardening; the latter has had its advocates plentifully enough, while the former, though embracing a longer space of time, has never yet had full justice. Let us hope the time has come when it can be practised as advantageously as other kinds of gardening, and let those whose winter sojourn in the country is gladdened by no floral display, have no cause to complain that objects of natural or artificial beauty are so scarce as at present. It may be the case that some plant or material available for winter decoration may have never yet been thought of; let, therefore, all interested in such matters turn their attention to the subject, and the Antipodes will have to yield their treasures ere we be satisfied.—J. ROBINSON.

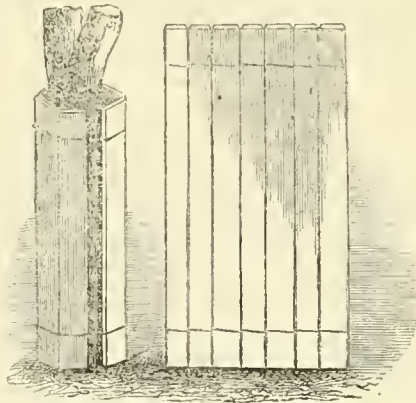
THE WINTER.

MILD as it is here, yet at St. Petersburg the cold is as intense as usual; and the following is an extract from a letter we have just received from Canada. It is dated Dec. 12th:—"There is every indication of a very severe winter setting in here. The snow has lain on the ground for two weeks already,

and the mercury goes down to about 15° Fahr. every night, and has been once down to 5°, and in Toronto to 2° below zero. This is unusually severe for this time of year. In the back settlements, bears and wolves are very numerous, having come into the inhabited districts in search of food.—W. T. G."

A TREE-PROTECTOR.

HERE you have a tree-protector that will ward off the rabbits; One may be made of strips of lath tied together with annealed wire. It can be made of any size or length desired, according to size and height of tree. You simply wind it round the tree, and fasten with the wire or a tarred string. It may be made



large enough for any tree, and then can be used on small ones by wrapping it further round. When not wanted it will straighten out and pack away in small compass. It is simple, any boy can make it. It is cheap and effective, and properly cared for will last a lifetime.—L. L. F. (in *Prairie Farmer*.)

CULTURE OF ASPLENIUM TRICHOMANES, AND A FEW OTHER FERNS.

SEEING at page 437 of the Journal, that "G. H. T." says *Asplenium trichomanes* is "very unwilling to be domesticated," I beg to state for those who may wish to grow that most beautiful and interesting evergreen Fern, that of all the British Ferns that I have cultivated, I find this the most accommodating. I have had beautiful plants from 8 to 10 inches high, grown in peat and leaf mould in pots in the greenhouse, and have them now in the fernery out of doors, beautiful dark green tufts, with fronds 9 or 10 inches long, and looking at this season better than any other Fern there. I have *Ceterach officinarum* with fronds 6 or 7 inches long, and *Asplenium adiantum-nigrum*, with fronds 10 or 11 inches long. All these may be seen by hundreds on walls in Gloucestershire, but I have never seen them so fine as those artificially cultivated. I have also seen *Asplenium lanceolatum* growing abundantly at a place about 4 miles from Bristol, fortunately where the public have not access. I have also *Asplenium viride*, very fine, fronds 7 or 8 inches long; *Polystichum lonchitis*, with fronds from 14 to 15 inches long; and *Asplenium marinum*, with fronds from 9 to 10 inches long.

All those I have mentioned are planted out in artificial rockwork, in a mixture of loam, leaf mould, and peat, with a little silver sand. The aspect is north, and sheltered from the wind. I should like to know the reason why no Ferns are found growing wild in this neighbourhood, yet they appear to do well when planted.

There are two Ferns I cannot do anything with—namely, *Asplenium septentrionale*, and *Allosorus crispus*. I have had several in-doors and out, which live for about one season, and then die. If any of your correspondents have grown them successfully, I should be very much obliged for the treatment they give them.—JOHN BRYAN, *Audley End Gardens*.

Your correspondent "G. H. T." speaks of *Asplenium adiantum-nigrum* as "never found, I fancy, in great abundance." It is most abundant in this neighbourhood, but not easy to grow in the hardy fernery. I think the reason is, that

liking a light soil, when removed it does not readily recover itself. I planted a hardy fernery some three years back, and filled the crevices of the stones with this Fern, and have now some good specimens.

The same rule applies to *Asplenium trichomanes*, which your correspondent states "is very unwilling to be domesticated." I own, I lost many plants at first, but now I have plenty of good plants, even more than I require.

It may, perhaps, interest some of your readers to know that *Woodwardia radicans*, *Polystichum setosum*, *Lastrea opaca*, *Lastrea decurrens*, *Cyrtomium falcatum*, and *Adiantum pedatum*, do well here out of doors, and with the exception of the last have with me stood three winters. By this I mean that they are really quite as hardy, and as vigorous in growth, and are now (December 12th) looking as well as our ordinary English Ferns. The same may be said of the American *Osmundaceæ*.—H. A. Box, *Parker's Well, Exeter*.

MUSHROOM CULTURE.

As your correspondent, "FAILURE" (see page 466), wishes to know what is the kind of structure in which my Mushroom beds are made, I will state for his information that it is a small house which I have lately put up on the Oldaker system. It is 15 feet long and 9 feet wide (inside measure); there are six beds in it, three on each side, 3 feet wide, with a path 3 feet wide in the centre, underneath which runs the flue, which passes up one side the whole length of the house, and returns in a parallel direction down the other. The floor beds are sunk beneath the level of the ground about 1 foot, so that the tops of the beds are level with the path. The other beds are 2 feet apart and 9 inches deep. A floor or ceiling is then formed with boards 1½ inch thick, resting on the two wall plates, and on the standards which support the front of the beds in the centre; the whole is then covered over with 2 inches of sand. Square holes, 9 inches in diameter, are left in the ceiling, along the middle of the house, at 3 feet apart, and they are provided with slides to ventilate when needed. The whole is then covered in with a hipped-tiled roof. Square holes are left in the back wall (which is 18 inches higher than the front), at 3 feet apart; each of these is also fitted with a slide board, which admits air into the space left between the ceiling and the roof.

I use half a bushel of spawn to two of these beds; this I find quite sufficient.—AGARICUS.

CINERARIA LEAVES CURLING—TRAPPING MICE.

I saw in your number for December 17th an answer to a correspondent who complained of his *Cineraria* leaves curling, and I have experienced the same evil in the case of my own *Cinerarias*, which I lately removed from a frame to the greenhouse, where the air is kept very much drier than in the frame. I was quite at a loss for a long time as to what was the cause, for no insect was to be seen; but I replaced in the frame one of the plants that looked worse, and I soon found it recover. I then determined to give those in the greenhouse a slight syringing every morning, and they have quite recovered. Perhaps similar treatment will cure "A CONSTANT READER'S" plants.

I observe frequent inquiries as to the best way of catching mice, and many methods of doing so have been pointed out. I have seen and tried numbers of these with some success. As the mice began last week to make great havoc among our *Crocuses*, I told one of my men to set some traps, and to strew coal ashes over the bed. The traps, which are of a kind quite new to me, proved very effective, and are so simple that they can be made in five minutes, even by a boy. It may, therefore, be of service to the readers of the *Journal* to describe them, as I know how destructive mice are to bulbs at this season, and to Peas, Beans, &c., in spring.

In the first place take a No. 1 flower pot, stop up the drainage hole with clay or a cork, then fill the pot with water to within 4 inches of the rim, make a hole in the ground near the bulbs or other plants which it is desired to protect, and sink the pot to within 3 inches of the rim. Plant two forked sticks, one on each side of the pot, the forks to be of just the same height above the surface as the rim of the pot; take a stick, such as you tie up plants with, about 2 feet long, round and small at each end, and square in the middle; cut likewise

two small pieces, about 6 inches long, with pointed ends; split the long stick in the middle, and insert the two small ones in it, so as to form a cross like the toy windmills which children run about with, only for the mouse trap the cross part is in the middle. Instead of paper, as in the toy, a Bean or a piece of *Crocus* is placed on each point, and the mouse travelling along the long stick to the top of the cross stick where the bait is, his weight turns the spindle round, he falls into the water, and the next point comes up to take its place. In this way scores of mice may be caught in a single night. We caught four in one night last week, and one of my men tells me he caught as many as twelve in one night last Pea-sowing time.—JOHN TAYLOR, JUN.

SANDRINGHAM WHITE CELERY.

I WAS induced this spring, from seeing an advertisement of a well-known firm, to purchase a packet of the Celery seed they were sending out as the Sandringham White. During the autumn, I mentioned to a neighbour who had called with me, that I had my suspicion that it was an old friend under a new name. "Oh," replied he, "the seedsmen did not send it out as a new one, only as a sort the Prince of Wales was fond of." A few days afterwards I visited Mr. Welch, Armagh, and seeing some very fine Celery growing there, I was led to speak of the Sandringham White. Judge my surprise when told that the seedsmen had laboured hard to convince Mr. Welch that it was distinct from the well-known variety, Turner's Incomparable, and as a convincing proof, sent a packet of each. They were growing side by side. Now, had a little seed of all the known and unknown varieties of white kinds been shaken on the counter, swept up, and sent out for Turner's Incomparable, the mixture could not have been more complete. I do not like to meet old friends under new names in this way. How much better to have sent it out under its own name as a selected stock of Turner's Incomparable. I had for some years given over growing the above sort, for the very reason of its being so mixed. Nor is it equal for table use to some of the others now in cultivation, such, for instance, as Williams's Matchless. There may be larger-growing sorts, but for quality it has few equals.

I find that it is the fate of a great many of our vegetable seeds to get mixed and spurious, and when grown it would puzzle anyone to say what kind they are, although when making out our seed lists, we choose such as are represented as "true" "very fine selected stock," &c. Now, whether we ought to blame the grower of seed, or the seller, either wholesale or by retail, I will not venture an opinion. One thing I know, the gardener is always the sufferer, and that often when too late to be remedied. Are there not enough of disappointments fall to our lot without old varieties being sent out under new names?—NORTH OF IRELAND GARDENER.

MILDNESS OF THE SEASON.

I HAVE regarded the late mild weather as very favourable to the ripening of wood buds and the perfection of fruit buds, with which most trees are well supplied; but on looking round to-day (December 19th), the thermometer reading 59° in the shade, I perceive vegetation is in some instances acting upon the old but wise maxim of "early to rest and early to rise," for Lilacs, Rhododendrons, Honeysuckles, Roses, and Gooseberries are showing unmistakable signs of starting. Mignonne is flowering freely, and some Trencham Rose Pelargoniums and Purple King Verbenas that were left out of doors are flowering tolerably well; but unless we have a winter as exceptional for warmth as the summer has been, the above-quoted maxim will not apply to vegetation with such truth as it does to ourselves, and unless more reasonable weather soon occur, we gardeners must make ample preparation against injury from spring frosts.—THOMAS RECORD, *Hawthurst*.

WORK FOR THE WEEK.

KITCHEN GARDEN.

AS the weather still continues much the same the operations recommended during the last few weeks should be proceeded with. Everything used for the protection of tender plants should be in readiness in case severe frost should suddenly set in. *Cauliflowers*, if the autumn sowing failed it will be advisable to sow in a box, which may be placed in a forcing-

house, and when the plants are of sufficient size prick them out in a frame on a slight hotbed. *Celery*, the trenches should now be dug out, so that they may receive the benefit of the frost. In the spring Cauliflowers may be planted in them, or dwarf Peas or Lettuce between, which crops will be off by the time the trenches are wanted. *Potatoes*, if young ones are required very early, some of the Early Frame or any of its varieties may be planted on a slight hotbed; if it is not convenient to plant them immediately, they may be placed in a forcing house till they begin to shoot. *Radishes* may now be sown on a slight hotbed. Dung should be prepared for forcing vegetables which are required early; a considerable quantity of leaves may be used with it. In conclusion I would say to gardeners, as a general maxim, Take the advice of a celebrated nurseryman and "Sow thickly and keep friends with the cook," but attain that object by sending in an abundant supply, and by rendering it imperative on the man who serves the house to keep a regular account of all the garden produce.

FRUIT GARDEN.

Orchard trees of large size are often much neglected as to pruning, the heads being allowed to become so thick of wood that fruit cannot be expected except from the points of the outside shoots, and, except when the crop becomes accidentally thinned to something considerably below an average, the fruit is small and indifferent in quality. Dry frosty weather offers a favourable opportunity for properly thinning the trees, as men can work at this with comfort when it would be too cold for nailing, and advantage should be taken of the first spare time to give a careful pruning. The heads should be liberally thinned, cutting out all branches that cross the others, and dead pieces, leaving the shoots sufficiently far apart that light and air may have free access among those left when the foliage is on. In removing large branches care should be used to make close clean cuts, and if the wood be coated with strong thick paint this will help to prevent its decaying before the wound be healed over. Let all kinds of fruit bushes be pruned.

FLOWER GARDEN.

Every advantage of the present favourable weather should be taken for transplanting shrubs, trees, &c., so that all the principal and choice plants in this department may have sufficient scope to develop their natural characters. There are few situations in a garden more interesting than a well-regulated and well-arranged shrubbery, where every plant from the largest to the smallest has had room sufficient to form perfect specimens. Collections of shrubby plants appear to be much less attended to than their true merits entitle them to. In planting a shrubbery the object is either to form shady walks among fine trees, to hide unsightly views, or to form screens or shelter against strong winds. Suppose the principal object to be a love of trees and a desire to possess large and perfect specimens, then it must be wrong to permit them to become so crowded as to destroy their forms; and it is contrary to nature to dig the ground among them, because in nature we never find them so situated, and though every pleasure ground ought to be avowed a work of art, the trees should not have the appearance of having been placed there by art, as they must have if surrounded by dug ground, but, on the contrary, we wish to make them specimens of nature in a refined and highly-cultivated state. A Persian Lilac, a Ribes, or Rhododendron, if properly planted and managed, will form a bush from 8 to 10 feet high and the same in diameter, in a period of from six to ten years. But where do we meet with such plants? Not in crowded and dug shrubberies, but where the great essentials to vegetable existence—light, heat, air, and water can play their proper parts.

GREENHOUSE AND CONSERVATORY.

A free admission of air to the greenhouse at all times if the weather is favourable will be advantageous, at the same time care should be taken to prevent as much as possible strong currents of dry wind from passing through the house, for they invariably prove extremely injurious to vegetation. A few of the earliest, strongest Calceolarias, Cinerarias, and Pelargoniums adapted for forcing may now have their final shift, using either 6 or 8-inch pots, according to the size of the plants. After potting let the shoots of the Pelargoniums be carefully pegged down as near to the rim of the pot as possible without breaking, they will require to be sparingly watered for a time, and placed as near the glass as possible. The general collection of Pelargoniums should now be stopped-back for the last time, unless required to flower very late in the season. A liberal supply of water will be requisite for Camellias now swelling their flower buds. When they are planted out in the open

border in the conservatory, they should be carefully examined for fear of any deficiency of moisture at the roots. Should any signs of over-dryness be apparent, let the soil be forked-up as deeply as the situation of the roots will allow, and give them a good soaking of soft or rain water. Two or three such applications at short intervals will do no harm, provided the flower buds are fast swelling, more than ordinary dryness is perceptible, and the drainage of the border such as it ought to be. The same kind of treatment may be advantageously applied to many plants under similar circumstances. Keep the supply of flowers as abundant as means will permit, and attend strictly and carefully to a judicious arrangement of colours. To keep a house well furnished with handsome plants in bloom at this season, and everything about it in perfect order, is an impossibility when there is not sufficient accommodation for growing plants with which to furnish it; and when this is the case it will generally be found good policy to secure a tolerable display for the winter season, if at the expense of keeping the house somewhat bare when flowers are plentiful out of doors, and if plants in flower are scarce their effect will be greatly enhanced by proper arrangement and strict attention to order and cleanliness.

PITS AND FRAMES.

The bedding plants must have attention, for in all likelihood many things are suffering from damp, and such plants as appear to be most affected should be removed to other quarters where a drier temperature is maintained. Keep the stock in pits and frames well ventilated, and the surface soil of the pots frequently stirred. Dust with sulphur Verbenas and similar plants attacked with mildew.—W. KEANE.

DOINGS OF THE LAST WEEK.

THESE have been much modified, owing to the Christmas week and the character of the weather. Provided receptacles large enough had been obtained, there need have scarcely been a place in the country but could have laid up a reserve of water to last through the hottest and warmest summer. After such a saturation of the ground, it is not likely that we shall feel the effects of a dry summer so much as we did the last.

KITCHEN GARDEN.

In this department very little could be done, and the soil having been beaten firm by the rains, the first opportunity of fine dry days must be taken to stir the surface soil, among all young crops especially. We have much *wheeling manure*, &c., still to do, but we do not like to commence it in such weather, as when other work can be done it is always bad policy in doing work to make work, which wheeling to any extent must do at present. In such work as making hotbeds, adding to the bottom heat in forcing pits, &c., much of this making work may be avoided by using planks for wheeling on, and what is often a simpler and more generally practicable mode, spreading a thin layer of long litter, say a yard wide, on the path on which there is much wheeling. When the work is done, this will only form a part of the sweeping up, and will leave behind the sweeping a clean unbroken path. Wheeling so as to break up paths into deep ruts and slimy mire, almost burying the wheels of the barrows, is such a waste of labour, and that of an unpleasant kind, and in general makes so much work afterwards, that the practice can only be justified in cases of peculiar emergency. The maxim is not half so much attended to as it ought to be, "Do not make work in doing work." The man who keeps this before him as a principle of action will go through much more work than one who does not, and with much more ease and comfort to all concerned. We have seen work done under unsuitable circumstances, when, without taking into account the great additional strain on muscle and sinew, even on the score of the extra work thus rendered unavoidable, it would have been truer economy to have kept the men in the dry doing nothing, and we have never met with a garden, however small, where there was the slightest necessity for remaining a minute idle under cover. When work is thus timed men will not be seen nailing trees against a north wall with the snow and hail blinding them, and then in a few days cleaning and working under glass, with the sun bright and clear enough to scorch them.

FRUIT GARDEN.

The chief object now is to have all planting finished as soon as possible, pruning and nailing and tying proceeded with, and birds watched and frightened where they are troublesome, as a few hours of their nibbling will make wrecks of the finest-looking fruit trees. More especially shall we require to be

watchful, if a severe frost should succeed this very mild weather, which resembles the end of April more than the end of December. For bad weather, *cleaning glass and woodwork* of houses and frames, is suitable work. In washing, we have no objection to just a little soap in the water, so as to make the latter slightly soapy—say 1 oz. of soft or yellow soap in two gallons of water; but we are very shy of using it stronger, as then there is a danger of taking the paint away with the filth. In all particular cases, however, we rely more on warm water—say from 130° or so, than upon its having anything in it. We frequently throw it on glass and woodwork warmer than that, and then use water at or near the common temperature of the air for washing. The dash of warm water is one of the best modes of destroying the eggs of insects, though some of these eggs when quite dormant will stand a fair scalding with impunity. There is hardly anything more depressing than sitting in a room and looking at a window encrusted with dirt, and spider webs clustered in the corners, and could plants speak, they would tell us that nothing grieved them more than observing glass over them in winter so green and greasy that only a few of the weak rays of light could reach them.

We would direct the attention of "A SUBSCRIBER" to the above, who in washing his sashes has taken the paint off like the peeling of an Onion. We have no doubt, first, that the paint had been rather new, and, secondly, that an extra dose of soap, or, perhaps, soda or potash added, had been mixed with the water. It is safest to use plain water, and a little more exertion instead.

ORNAMENTAL DEPARTMENT.

The cleaning of glass and the fresh arranging of plant houses have here been prominent matters of work and of consideration. On the principle already adverted to, we have huge mounds of turf laid up for fresh pieces of lawn, because the ground was too wet to be levelled and the turf to be laid, and we could not take the turf to the place without tearing up the lawn ground, and thus making more work. When the weather changes we can move the turf by something lighter than two-horse carts. The ground that was fairly levelled we could manage to turf with the assistance of planks and boards, but the unlevelled ground was too wet for working at all profitably. Pruning and transplanting could be done; and as there are some large trees to be transplanted, that can be well done where the ground is firm and less dressed than a lawn. It is as late as we wish for removing large trees, but the ground is still warm, and as we cannot at present proceed with some particular groundwork, we will most likely do some of this transplanting that otherwise should have been left to a subsequent autumn.

Changing Flower Gardens, &c.—Some of our new subscribers are in doubts as to some hints thrown out in this respect. Well, then, in the smallest places changes are pleasant, even if everybody should not consider them improvements. There are few that have the inventive genius and such a ready use of the pencil as our friend Mr. Robson; but there can be no doubt that one of the great charms of the chief flower garden—the huge bed of flowers at Linton, is not so much its fine position as the simple fact that every winter and every summer there is a fresh plan and fresh arrangement to look at. Monotony is thus altogether prevented. It is true that the arrangement, especially in summer, would tell for but little if the practical details were not well carried out; but supposing that the carrying out of the details were as perfect year after year at it would be possible to make them, who is there that does not feel that the thorough change in form and arrangement of itself constitutes a charm? Now, in the smallest places—whatever be the plan or the arrangement of the smallest flower gardens, it is always easy to change the form and the position of the beds, and, as already stated, even if the change should not to the arbiters of taste be an improvement, still the change will be pleasing to those who make it. But for always having more work than we can well perform, we would be one of Mr. Robson's foremost disciples in thus changing the appearance of the flower garden. What we have been chiefly obliged to content ourselves with is to change the cropping every year, but this, of course, leaves all the outlines the same, and therefore these very outlines become monotonous.

We find that the changing of the flowers becomes as necessary to us as the rotation of cropping is in the kitchen garden. We thus to a great extent avoid the necessity of procuring fresh soil for the flower beds, and this suits a great many of our readers who can manage to form a flower garden at once, but who could not well bear the expense of the frequent renewals of soil for the flower beds. Now, as in our case, we feel that

the time may come when, after deep stirring, adding even a little of the subsoil and a little manure, still the soil may require a rest from flower-growing, and in such a case, supposing the flower garden to be on a lawn, what more simple plan could be used than a new design, in which as much as possible of the old flower beds should be turfed down into lawn, and the lawn part turned into flower beds, giving thus fresh soil for a fresh flower garden in much the same position? Even by doing this gradually, fresh soil could be frequently obtained without the trouble of collecting and carting.

Arrangement of a Small Greenhouse.—In answer to an "OLD SUPPORTER," we would follow up the same principle in every plant house, however small. Hence for all small places the greenhouse, with most of the plants moveable, is superior for the interest it yields to a house with all the plants fixed or planted out. The latter, looked at daily, becomes monotonous, and the finest objects thus become wearisome to the eye. In the greenhouse, on the other hand, you may so change the position of the plants every week or every month as to present fresh combinations, and in such cases the very change will be pleasing. In further answer we would say that an "OLD SUPPORTER" may do well all that he attempts in his single house. For instance: Place all the Heaths at the coolest end, and where, in favourable weather, whenever the outside temperature is from 35° to 40°, there will be a play of fresh air over them, the opening being contracted or expanded according to the weather. A similar position will suit his Cinerarias that are growing. Those coming into bloom should be placed more in the centre of the house, where they will have a temperature a few degrees higher. The middle of the house will do for Camellias, Oranges, and the softwooded florists' and fancy Pelargoniums. At the warmest end keep the Bononias, Croweas, and the Epacrises until the latter begin to open their flowers, when they may either remain, or be placed behind the Heaths or among the Camellias. The Camellias that are late and in good bud, that you wish to come into bloom, may have the warmest end, but as soon as the blooms begin to expand, they will keep much longer at the end that is coolest and more airy. Thus, independently of artificial heat, merely by giving more air at one end of a house than another, a considerable difference in temperature and atmospheric moisture can be obtained in the same house, and plants will thrive all the better in pots when frequently moved, cleaned, the pots washed, the surface dressed, &c.

Camellias and Azaleas.—These are themes that would well fill pages, but we can only spare a few lines to reply to "J. C." Camellias, properly speaking, do not like forcing in winter. They open their buds best and keep them open the longest in an average temperature of 45°, allowing, of course, for sunshine. The forcing that suits them, is to have their wood firm and the buds set early in summer, then they will swell and open their buds early in winter and late in autumn. To have Azaleas early in winter they should be treated in the same way in spring and summer, and then with well-set buds these will soon swell and open their buds when placed in a moist gentle heat, and will remain long in bloom when transferred to the greenhouse or conservatory.—R. F.

DEATH OF MR. WILLIAM HURST.—It is with much regret that we announce the decease of Mr. William Hurst, senior partner of the firm of Hurst & Son, seedsmen, of 6, Leadenhall Street, City, which took place at his residence, 38, Highbury Place, on the 24th of December. He was 69 years of age, and had been ailing for the last two years, and unable to attend to business.

COVENT GARDEN MARKET.—DECEMBER 30.

WITH the Christmas holidays has passed away what little improvement we had to notice in business here, and stocks are ample. French importations are heavy and not remunerative, and the general tendency in prices is again downwards.

		FRUIT.					
		s.	d.	s.	d.	s.	d.
Apples	..... ½ sieve	1	6	2	0	0	0
Apricots	..... doz.	0	0	0	0	0	0
Cherries	..... lb.	0	0	0	0	0	0
Chestnuts	..... bush	10	0	15	0	0	0
Currants	..... ½ sieve	0	0	0	0	0	0
Black	..... doz.	0	0	0	0	0	0
Figs	..... doz.	0	0	0	0	0	0
Filberts	..... lb.	0	9	1	0	0	0
Gobs	..... lb.	0	9	1	0	0	0
Gooseberries	..... quart	0	0	0	0	0	0
Lemons, Hothouse	..... lb.	3	0	6	0	0	0
Grapes	..... 100	4	0	8	0	0	0
Meions	..... each	2	0	to 5	0	0	0
Nectarines	..... doz.	0	0	0	0	0	0
Oranges	..... 100	2	0	6	0	0	0
Peaches	..... doz.	0	0	0	0	0	0
Pears (dessert)	..... doz.	2	0	6	0	0	0
Pine Apples	..... lb.	3	0	5	0	0	0
Plums	..... ½ sieve	0	0	0	0	0	0
Quinces	..... doz.	0	9	1	6	0	0
Raspberries	..... lb.	0	0	0	0	0	0
Strawberries	..... per lb.	0	0	0	0	0	0
Walnuts	..... bush	10	0	15	0	0	0
do.	..... per 100	1	0	2	6	0	0

VEGETABLES.

	s.	d.	q.	d.	s.	d.	q.	d.
Artichokes..... doz.	3	0	6	0	Leeks..... bunch	0	4	0 to 6
Asparagus..... 100	10	0	0	0	Lettuce.... per score	2	0	4
Beans, Kidney per hd.	2	0	3	0	Mushrooms... pottle	2	0	0
Beet, Red..... doz.	2	0	5	0	Mustd. & Cress, punnet	0	2	0 to 3
Broccoli..... bundle	1	0	2	0	Onions.... per bushel	5	0	7
Brna. Sprouts ½ sieve	2	0	0	0	Parsley..... per sieve	3	0	4
Cabbage..... doz.	1	9	2	0	Parsnips..... doz.	0	9	1
Capisiums..... 100	0	8	0	0	Peas..... per quart	0	0	0
Carrots..... bunch	4	0	8	0	Potatoes..... bushel	4	5	6
Canthflower..... doz.	3	0	6	0	Kidney..... do.	4	0	7
Celery..... bundle	1	8	2	0	Radishes doz. bunches	1	6	0
Cucumbers..... each	0	9	1	6	Rhubarb..... bundle	0	0	0
Endive..... doz.	2	0	0	0	Sea-kale..... basket	2	0	3
Fennel..... bunch	0	8	0	0	Shallots..... lb.	0	8	0
Garlic..... lb.	0	8	0	0	Spinach..... bushel	2	0	3
Herbs..... bunch	0	8	0	0	Tomatoes..... per doz.	1	0	2
Horseradish.. bundle	3	0	5	0	Turnips..... bunch	0	6	0

TRADE CATALOGUE RECEIVED.

Charles Turner, Royal Nurseries, Slough.—Catalogue of Seeds for the Kitchen Garden, Flower Garden, and Farm.

TO CORRESPONDENTS.

... We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

COTTAGE GARDENERS' DICTIONARY (T. T.).—If you send a post-office order for 7s. 2d. you can have it, with the supplement bound up with it, free by post. It contains the names of plants introduced into Great Britain down to the end of 1867, translations of the generic and specific names, culture, insects, diseases, operations, structures, &c.

VINES FOR A GREENHOUSE (Bath Subscriber).—We presume you wish to grow plants in summer in addition to Grapes; if so, your Vines must be further apart than if you dispose with plants in summer, or grow such as will endure a considerable amount of shade. Mrs. Pince's Black Muscat, Golden Champion, and Royal Ascot are first-rate Grapes, and will succeed in a greenhouse, a little assistance being given them in dull and cold periods, but we are not prepared to say they will ripen without heat. If you have plants we would not have the Vines nearer than 4 feet apart, placing the end ones 1 foot from the ends, and allowing 4 feet between each Vine which will give you eight. These may be four Black Hamburgh, two Foster's White Seedling, one Calabrian Raisin, and one Lady Down's. The size of the border is ample. Charcoal will not answer as a substitute for lime rubbish, but it is an excellent material to form a part of every Vine border; one barrowful to every nine of the other material, will be sufficient. For lime rubbish you may substitute chalk, in pieces from the size of a hen's egg to that of a hazel nut. It may form one-sixth of the whole.

SOWING LARCH, SPRUCE, FIR, AND CRAB SEEDS (J. H. D.).—The seed of Fir, Spruce, and Larch should be sown early in March in light sandy soil. Crab pips may be sown now or before March, and Hawthorn haws now or before the time above named, but the earlier the better. The plants from the latter will not appear next year.

SOWING COLEUS SEED (Idem).—The best time to sow the seed is early in March, in a hotbed.

PLANTING STOCKS FOR GRAFTING (Idem).—Crab, Pear, Plum, and Cherry stocks planted now may be grafted next year, but are best when established a year before grafting. The latter two are better budded than grafted.

BOX EDGING (F. J.).—We fear you have misunderstood us. We did not mean to put an edging to the grass, but to remove the grass verge, and plant in its place an edging of Box. This may be planted from the present time up to April, and may be kept very dwarf and neat by clipping as required. We think it would please you better than an edging of tiles. Tiles are too cold and lame, and we would not place them where Box would live. In small confined places grass edgings or verges are not often satisfactory, and we can with confidence recommend Box, though if you live in a town and your place is much confined it will not thrive, and you will have no alternative but to have tiles in place of Box.

WHITE AND RED CAMELLIAS FOR STANDARDS IN A CONSERVATORY (A. B.).—Alba plena or the old Double White and Compacta alba are good whites. Fimbriata is also good and prettily fringed. Dampieri and Kossuth are good scarlets. Monarch, bright red, and Bealii or Lecana superba are calculated to make good heads. They are all decided in colour.

CULTIVATION OF HARD-WOODED PLANTS (Dulcibella).—We fear we can be of little service to you. Camellias and Aucubas can be grown well in a greenhouse amongst a miscellaneous collection of other plants. A separate house is not required, though it is well when there is separate accommodation for every description of plant. Our advice is, state fully to your gardener what you wish, and give him to understand that others with the same means as are at his disposal have a result such as you wish for. Give him "In-door Gardening," which can be had from our office, free by post, if you enclose twenty postage stamps with your address. Upon any question he may not have found treated in the Journal we shall be glad to render what assistance we can.

RAISING AUCUBAS FROM SEED (E. B. B.).—It is not an unusual occurrence for Aucubula seed not to grow, as that saved from first-rate flowers is frequently abortive. We have not only been disappointed by seed purchased, but by seed home-saved. It should be sown early in March in pans filled with light rich soil, covering it lightly with fine soil. It should be sown somewhat thickly, and placed in a cold frame, keeping the soil moist but not very wet, and giving air abundantly after the plants appear. In from eight to ten weeks they should be removed to a shady situation, and in June they will be fit to prick off.

COVERING CHERRY TREE WITH FRIGI-DOMO (J. W. K.).—Frigi-domo, we think, is too close a material for covering Cherry trees to protect the fruit from birds, and yet allow of sufficient air for the fruit hanging late. Thin muslin or tiffany would be better, and best of all netting with half-inch meshes, sufficient to keep out birds.

FRUIT-GARDEN ARRANGEMENT (Ignoramus).—We think your garden well laid out, the walks very conveniently placed. On the right hand of the walk No. 2, the border being 15 feet wide, we would have two rows of Pears on the Quince stock, planting the first row 3 feet from the walk, and allowing 7 feet from row to row, and 4½ feet from tree to tree. They should be pyramids or bushes, whichever you prefer, and the kinds—Alexandre Lambre, Citron des Carnes, Colmar d'Ele, Williams's Bon Chrétien, Fondante d'Antonne, Beurri Diez, Beurri d'Aremberg, Bergamotte Esperen, Louise Bonne of Jersey, Baronne de Mello, and Zephrin Grégoire. On the other side of the walk No. 2 we would have Apple trees as lateral cordons, 1 foot from the walk, and 6 feet apart. You will see a list of kinds at page 340 of the present volume. In the border to the right of No. 3 walk we would have pyramid Apple trees at the same distance apart as the Pears, and on the other side continue the lateral cordon Apples, and we would have them to the right and left of No. 1 walk. In the border to the right of No. 5 walk we would have a row of vertical cordon Pear trees, planting them 2 feet apart, and the same distance from the walk, and would not allow them to exceed 7 feet in height. On both sides of the central walk No. 4 we would plant pyramid Plum and Cherry trees on the Mahaleb stock 6 feet apart, and 3 feet from the walk. Of Cherries—May Duke, Late Duke, and Florence; and of Plums—Jefferson, Kirke's, Green Gage, July Green Gage, and Coe's Golden Drop. The border to the left of No. 1 walk will be suitable for Strawberries, and you may have a row of them to the right of No. 2, 3, and on both sides of No. 4 walk, about 15 inches from the edge of the walks, which will, no doubt, be enough. You will by this arrangement have the central portion of two beds or borders—that is, between No. 5 and 4, and between No. 4 and 3 walks, for Raspberries, Gooseberries, and Currants, the latter two of which should not be nearer the other trees than 6 feet, allowing 4½ feet between the rows, and 3 or 4 feet between the plants, according to their size. The Raspberries should be 7 feet from the fruit trees, and 5 feet ought to be allowed between the rows, and 3 feet between the stools. The Pears should be on the Quince, the Apples on the English Paradise stock, and the Cherries on the Mahaleb. We have given what we consider a fair proportion of each description of fruit. The fan mode of training is not eligible for the form of trees above-named. You will find a list of the trees best suited to your purpose in page 387-388, referred to by you. The distances there given for the trees, &c., are, owing to the circumstances, less than yours, but the latter are all the better.

BOTTOM HEAT (S. S.).—We do not see why your plan will not answer.

JOINTS OF HOT-WATER PIPES LEAKING (Belfast).—We have known several cases of leakage when the joints of hot-water pipes were run with molten lead. If you had rammed the joints well, as you say, with oakum, and then with lint and red or white lead in the soft state, there would have been no leakage. As a partial remedy now, we would drive the lead all round as much as possible, then empty the pipes and use red lead all round, the more of it the better. Let it settle for twenty-four hours before admitting the water, and then paint the joints. If this do not answer you will have to melt the lead in the joints by means of a brazier of charcoal beneath them, and then fill as above, or with iron filings and ammonia in the usual way.

GALVANISED WIRE FOR TREE-TRAINING (H. W. R.).—Galvanised wire is the best that can be used for training Peach and Nectarine trees against open walls. It does not rust, and never requires painting as the ordinary wire does. We have seen instances of the gumming and cankering of the young shoots where galvanised wire has been used (we believe the very instances which have given rise to its objection), the cause of which must be ascribed to some other outward influence. Wired walls are very neat, and facilitate training, but the trees trained on them are about as liable to the attacks of insects as those that are nailed in the usual manner.

ORCHARD-HOUSE ARRANGEMENT (A. D.).—The plan you propose will answer. If your wall will admit of it, have the back wall 12 feet above the floor, and the front, partly of glass, from 5 to 6 feet. You may vary these heights respectively. We have a useful house, height at back 11 feet; width, 11 feet; height in front, 4½ feet. When you have settled on the plane of the roof, take length and breadth, and that will show very nearly the number of feet of glass required. As fruit is the object, you have nothing to do with a stage in the house. Devote the back wall as you propose to Peach trees, and the front of the house to trees in pots partly plunged in the ground. The simplest way to do this is to have a narrow wooden-trellised path to walk upon at 3 feet from the back wall, and then fill the front thinly. In an 18-foot length, three Vines up the house will be better than nine, as the more the Vines shade the less will the other trees succeed. A small iron stove lined with firebrick, which will cost about 50s., will be the best for heating.

PERSIAN MELON SEED.—"A. A. C." and others inquire where they can purchase seed of the Persian Melon, described by Loudon, and in the "Transactions" of the Royal Horticultural Society. We shall be obliged by a reply.

GRASS UNDER A TREE'S SHADE (R. W. Burleigh).—The Grass which best endures such shade is the Sweet-scented Vernal Grass, Anthoxanthum odoratum. It may be obtained true of any of the well-known seedsmen who advertise in our columns. No treatment is needed except forking the surface just before sowing the seed in early spring, and rolling lightly after sowing.

INSECTS (A. T. E.).—The insect you have sent, which clusters very thickly in warm places in cracks and crevices about your house (having

apparently made their first appearance during the past summer), is the *Blatta lapponica*, a small species of cockroach, common in Lapland and the north of Europe, which is occasionally met with in this country. It must be attacked in the same way as the common cockroach. Boiling water or phosphorus paste, to be had at any chemist's, will destroy them. —W.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending December 29th.

DATE.	BAROMETER.		THERMOMETER.				Wind.	Rain in inches.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed. 23	29.132	28.999	50	28	49	47	W.	.32	Densely overcast; fine; cloudy; clear and fine.
Thurs. 24	29.704	28.896	52	32	48	47	S.W.	.03	Cloudy but fine; showery; boisterous, clear and fine.
Fri. 25	29.321	29.119	50	35	45	46	W.	.00	Clear and fine; very fine; fine and very clear.
Sat. 26	29.500	29.216	54	40	46	46	S.W.	.54	Fine; clear and fine; showery, boisterous with rain.
Sun. 27	29.139	28.820	48	32	48	45	W.	.04	Boisterous with rain; showery; barometer very low, very boisterous.
Mon. 28	29.346	29.165	49	34	45	43	S.	.04	Very boisterous; showery; exceedingly boisterous at 4 P.M., overcast.
Tues. 29	29.301	28.967	48	24	44	44	S.E.	.60	Rain; very dark, heavy rain; clear and frosty.
Mean	29.349	29.026	50.14	32.14	46.43	45.71	..	1.56	

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

PROTEST AGAINST TRIMMING FOWLS FOR EXHIBITION.

We, the undersigned exhibitors of poultry, desire to record our emphatic protest against the widely prevalent and fast increasing practice of trimming or altering the plumage of fowls for exhibition. We cannot but feel that such practices are not only in themselves fraudulent and unjust, but tend to place all real amateurs at the mercy of a few skilled and unscrupulous individuals; and if unchecked by committees and judges, must ultimately so degrade the character of poultry exhibitions that no honourable man will take part in them.

We consider that to make any alteration in the plumage or appearance of fowls beyond washing and cleansing, or the removal of an occasional damaged feather, with the sole exceptions of dubbing Game or Game Bantams and dressing the faces of Spanish, is fraudulent, and should be dealt with in every case by disqualification, and publication of the offender's name—such penalty to be as far as possible inflicted by the judges themselves, but to be enforced by the committee of a show in case of oversight, if proved to their satisfaction, even after the awards are made.

And without binding ourselves at present to any specific line of action, we pledge ourselves in general to oppose both judges and exhibitions which shall refuse to carry out these moderate conditions, and to support by all means in our power such as shall, by their action, prove their anxiety to promote fair and honourable competition. (Signed)

- Elizabeth Allsopp, Hindlip Hall, Worcester.
- *T. W. Amis.
- William Blinkhorn, Waterdale, St. Helen's.
- John Bowen (the Rev.), Llangorse Vicarage, Talgarth.
- M. Brooksbank, Manchester.
- *Louisa Charteris (Lady), Eccles Hall, Attleborough.
- A. K. Cornwall (the Rev.), Bencombe, Dursley.
- *Frederick Crook, Forest Hill.
- James F. Dixon, Cotgrave, Nottingham.
- James Ellis (the Rev.), Bracknell.
- W. Baker Etches, Whitchurch Salop.
- H. W. Fitzwilliam (the Hon.), Wentworth Woodhouse.
- W. C. W. Fitzwilliam (the Hon.), Wentworth Woodhouse.
- John Gardiner, Beaufort House, Terrell Street, Bristol.
- L. Harvey, Miss, Sarisbury, Southampton.
- Francis B. Heald (the Rev.), Whitemoor, Nottingham.
- Alfred Heath, Calne.
- A. Herbert, Egham, Surrey.
- Edmund Herbert, Powick, Worcester.
- Sarah R. Herbert, ditto.
- *Joseph Hinton, Hinton, near Bath.
- Alice Hurt, Alderwasley, Derby.
- J. R. Jessop, Beverley Road, Hull.
- Keith Jopp, Aberdeen.
- H. B. Lane (Lieut.-Col.), Bracknell.
- Edward Leech, Greave House, Rochdale.
- Henry Lingwood, Barking.
- Horace Lingwood, Martlesham, Woodbridge.
- G. Leicester Macpherson, Bracknell.
- H. M. Mynard, Holmewood, Ryde, Isle of Wight.
- John F. Newton (the Rev.), Kirkby-in-Cleveland.
- John Pares, Postford, near Guildford.

- *F. Powell, Kuareshorough.
- John Robinson, Vale House, Garstang.
- John R. Rodbard, Aldwick Court, Wrington.
- H. Shumack, Southwell, Notts.
- Uriah Spary, Dunstable.
- Henry V. Story.
- Thomas Stretch, Ormskirk.
- John Stuart, Thistlebank, Helensburgh, N.B.
- *M. Sugden (the Hon. Mrs.), Wells.
- *Frank Taylor (the Rev.) Kirkandrew's Rectory, Longtown.
- *F. Tearle (the Rev.), Gazeley Vicarage, Newmarket.
- W. H. Tomlinson, Newark.
- *Turnour (the Right Hon. Viscount), Shillinglee Park, Petworth.
- Richard White, Broomhall Park, Sheffield.
- Robert B. Wood, Woodland Park, Uttoxeter.
- Lewis Wright, Kingsdown, Bristol.
- William Wykes Wolvey, Hinckley.

The exhibitors whose names are accompanied by an asterisk (*), have specially requested that they should be distinguished as including the dressing of Spanish faces in their protest against trimming; and I have reason to believe that half the remainder would have done so had there been time to consult them on the point. Having the chief responsibility of drawing up the terms of the above, I can only say that in inserting the above exception, I was guided solely by what I thought practicable, being perfectly conscious that the practice of trimming Spanish is in itself utterly incapable of defence. But there are some peculiar facts in this special case. An exhibitor who signs this document, some time since protested repeatedly against the practice in vain. He did more, he persevered (heroically, I consider), in showing undressed birds, losing invariably, for a long time. It is within my own personal knowledge, that a well-known judge expressed his opinion at a first-class show, to the effect that Mr. ——— "deserved to lose for not trimming his faces like the rest did." [?] Whether this opinion came to that gentleman's ears I cannot say, but at length he got weary of protesting, and publicly announced, through the recognised organs of the fancy, that he should in future trim, as he found it was no longer considered dishonourable. He immediately began to take prizes, and after trying both plans, writes me in the note accompanying his signature, he does not consider that "the beauty of the birds can be seen without it." Now, remembering the facts stated above, which may be new to some, I can hardly put him on the same level with a man who fastens a false tail to a Game Bantam. He was literally driven into trimming by the judges themselves. At the same time I must express my entire concurrence in the opinion, that Spanish fowls, equally with others, ought to be shown in a natural state, and that, if not hopeless, this practice also should be put down. But while I believe we have trimming in general very much in our own power to stamp out, even if judges will not act, this particular point seems to me, so far as regards the possibility of abolishing it, to rest entirely with the judges, seeing that there is no sense of fraud on the part of Spanish exhibitors to appeal to.

I wish also to say, that "publication of the offender's name" we only regard as possibly necessary if honest exhibitors be driven to extremities. If judges, now their attention is drawn to the matter, use their power and influence legitimately, as we trust they will, the simple ticket of disqualification on the pen at a show will be enough. The pen may even, as I have been reminded by an eminent judge, and an equally eminent exhibitor, have been just previously purchased, and shown quite innocently, and in any case I would never debar an offender, however gross, from acknowledging his error, and showing again.

I am most anxious to disclaim any idea of casting censure on those gentlemen who perform the arduous duties of either judges or committees. The evil practice in question has been so gradually and insidiously increasing, that it was very possible till quite lately scarcely to notice it. Then, one of our best judges did express to a friend of mine his intention to "disqualify right and left," at Birmingham, if

needful. That he did not, I can only attribute to the fact that trimming there was so gross and general, he may have been fairly frightened at the task before him. I know what judging often is, and that the first judge who shall do his duty may expect such a "black-guarding" as any gentleman may be pardoned for shrinking from. Still, truth is truth, and the last paragraph was chiefly meant as an assurance to arbitrators, that whatever the consequence may be of doing justice, they shall have the support of the best names in the fancy. And only in the improbable event of their deliberate refusal, now that attention has been drawn to the matter, to act righteously, will any censure attach to them in the matter.

Finally, Let me apologise to any who may not have received a copy of the protest for signature. It has been conducted entirely by correspondence, and mere number of names was no particular object. In some cases former acquaintances or friendly intercourse guided the application; but want of time on my own part, and an anxiety to publish the document at least before the last great show of the season, prevented many desirable names from even receiving a copy. I can only, while recording the fact that nearly all applied to have gladly signed, most of them adding kind expressions of the warmest sympathy, ask those who have not had an opportunity of doing so, to accept my sincere apologies for the apparent neglect, and I have no doubt that the Editors will, if any desire it, add their names in a subsequent list, as desirous of joining in the movement.—NEMO.

[We will readily publish not only additional names, but suggestions towards preventing the fraudulent practices thus protested against. We would not admit any exceptions except those relating to dubbing.—EDS.]

THE BIRMINGHAM MEETING OF POULTRY EXHIBITORS.

ALLOW me to suggest the following additions to the resolutions unanimously adopted at the above meeting—viz.

1st, The judges, without knowledge of the names or residences of exhibitors, shall award the prizes by reference to the number affixed to each pen, and solely in accordance with the merits of the birds.

2nd, No exhibitor, or other person, shall be allowed to be present while the judges are making their awards.

3rd, That the secretary and other officials immediately connected with the show, be prohibited from exhibiting either in their own names or in those of other persons.

I think the necessity of these restrictions will be acknowledged by the great majority of exhibitors, for what can be more unsatisfactory than the plan at present generally followed? A catalogue containing the names of all exhibitors, with the numbers of their pens, is published before the awards are made, and placed in the hands of the judge, who makes his awards, marking off the prizes on the margin opposite to each name. Of this fact I have the strongest evidence, in one case at least, and there is a general feeling amongst exhibitors that it is the rule, and not the exception, at our local shows. How much better to do away with all suspicion of unfairness by adopting Rule 1. However just our judges may be, and I for one believe that as a rule they conscientiously award the prizes according to the merits of the specimens, judges are mortals, and a great name in any particular class may exercise an influence of which even the judge himself is almost unaware.

The practice condemned in Rule 3, has increased so much of late, and is so very objectionable, that two opinions can hardly exist respecting it. In the early days of my exhibiting, even members of the committee were too modest to exhibit their own birds. Rule 2 requires no defence; except, perhaps, where one judge only is employed, an assistant should be allowed.

In the hope that Mr. Walker may undertake the somewhat, I fear, difficult task of making these few additions to the excellent resolutions published in your last number, I beg to ask him to add my name to his list of approvers.—GEORGE RAXNOR, *Bordyke, Tonbridge.*

OAKHAM POULTRY SHOW.

WHEN men have given much time and care for no other purpose than for the public good, they are surely entitled to the sympathy, if not the praise and thanks, of those for whom they have more particularly laboured; yet there are some who are always too glad and ready to heap insult upon injury, and pronounce everything sour they cannot grasp. As one of the committee of the Oakham Poultry Show, I must select a few of the many complimentary remarks accorded to us by

exhibitors who have written in those terms since the close of our exhibition. 1st, Dr. Campbell writes, "I was much pleased with the condition the birds returned in from Oakham, contrasting most favourably with some other shows." 2nd, Mr. W. Tiekner, "Allow me at the same time to thank you for the care bestowed on my fowls, they arrived home quite safe, apparently none the worse for their long journey." 3rd, the Rev. G. Raynor, Tonbridge, "And to thank you for the care bestowed on my birds, which reached home in excellent condition." 4th, Mr. Tomlinson, Newark, "I am obliged for the attention my birds had whilst at your show, and for the good condition I received them in on their return." 5th, Mr. G. W. Boothby, Louth, "I received the fowls back again in very good condition." Surely I need quote no more from such letters, because I feel these are already more than enough to prove that great care and attention were paid to the many valuable birds entrusted to our care at the late exhibition, contrary to the assertion put forth in your impression of December 10th, by your correspondent "J. W."

I make bold to say we afford such comfort to all birds sent us as is seldom afforded at other shows, and to which comfort I very much attribute their clean and capital appearance and condition when reaching their owners again—viz., that we have some good, clean, dry straw cut into long chaff, and their pens kept constantly and well bedded, thereby keeping their feathers from getting dirty, and making their new lodgings quite warm and comfortable.—WILLINGHAM FOWLER.

NOTES AT LEIGHTON BUZZARD.

A VISIT to the Leighton Buzzard Poultry Show has suggested one or two points to my mind, which you may consider worthy of notice in your Journal.

First, the Corn Exchange in which the Show was held is admirably adapted for the purpose. A handsome building in itself, it affords ample light and air, while the birds are exposed to no risk, such as appears to have been the case at Ashford and Oakham. All the pens could be readily inspected, and the arrangements generally were good. Great credit is due to Mr. Gotto, the Secretary, upon whom the lion's share of the work seems to have fallen, and who was indefatigable in his endeavours to make matters work well, and, moreover, succeeded. I was glad to find that the entries were one hundred more in number than last year, and that the financial success of the Exhibition was assured.

One change, however, might be made with advantage before next year. In the prize list it was stated, that prizes in certain classes would be awarded to a "a cock and one hen." To my surprise I found cockerels and pullets entered in these classes, and some of them noticed by the Judge. Of this I do not complain; it would, however, simplify matters, and probably increase the entries, if in future the words "of any age," were added. Had they been so in this case, I certainly should have sent some birds which remained in their yards.

A question arose there upon which I should like to have the opinion of experienced fanciers. "What fault can you find," I asked of an eminent breeder who is probably one of the best judges in England, "with those birds?" pointing to some Dorking cockerels which I happen to know.

"They are excellent birds, one of them particularly, just the colour I like, with a faultless comb; but there is, I fear, something wrong in your breed. They each have a white feather in their tails."

"Surely this is no defect in Coloured Dorkings," said I. "In Silvers, I admit a white feather is fatal to success; but the case here is different."

"Go to the large shows," he replied, "and you will never see a prize bird with a white feather in his tail."

Puzzled and somewhat concerned, I mentioned the matter to another friend, one or two of whose birds were noticed this year at Birmingham.

"I think Mr. — is wrong, white feathers are quite allowable in Coloured Dorkings."

Arrived at home, I went to my poultry shelf, and turning to "Baily on Fowls," read as follows—"Exhibition fowls, Dorkings, cocks, black, or black and white breast and tail, light hackle and saddle." Not content with this, I proceeded to consult Mrs. Ferguson Blair, who in her "Henwife," writes thus—"Tail, black, large, and sweeping; a white feather will not cast an otherwise perfect bird."

Here the doctors somewhat differ, which of them is right

My own opinion, I confess, is in favour of the lady, but I should like to hear what the learned say on the subject.—E. M. B. A.

[When there is but one class for a breed, it is understood that all ages are eligible to compete. The words cock and hen are not indicative of anything but sex. We fear "one of the best judges in England" enjoys a reputation he does not deserve, and that he visits very few of the large shows. White feathers are not even a disadvantage in the Coloured Dorking classes, and the breeders of Silver-Greys know how often they are produced, even by their best and purest birds.

The truth is, Dorkings are not birds of feather. The Silver-Grey class was formed to meet the views of those who believed in colour, and the most successful know better than anyone else, that white tail feathers will come.

It was attempted both in Scotland and Ireland, to admit none to be genuine but the Silver-Greys. Those who did so, however, have given way, little by little, till white feathers are overlooked. They are as wise as the Mahomedans, who beg their prophet to shut his eyes when they drink wine.]

TRIMMING AND OTHER ARTIFICES AT SHOWS.

Every honest exhibitor will rejoice at "NEMO's" pluck—not at the feather, but in bearding some of the exhibitors. The remarks of "our Editors," appended to Mr. Stewart's defence (1), are, I humbly think, perfectly just. I confess I would go further than "NEMO" proposes to go. I have before now in the pages of "our Journal" expressed my own opinion that all trimming, except of an occasional foul feather, is unlawful, and should be a disqualification. In the case of the vulture hock, the discovery of the practice, especially in heavily-feathered specimens, seems to prove what I long ago maintained in the vulture-hock controversy, that heavy-leg feathering and covered hocks go together; that, in fact, the former depends somewhat on the latter. I have seen beautiful first-prize Brahmas in their pens heavily feathered, and I have felt convinced that the hocks were tampered with. Some of them, possibly, might not have had an objectionable vulture hock, and I cannot but think the "plucking" practices has arisen in consequence of the extreme views of some judges on the matter of hock feathers. Be this as it may, there is no question that it is high time the practice were put an end to.

We must not, however, stop at the hocks. A friend of mine called on a Ilamburgh breeder, whose name is often seen in the prize lists. Comb-trimming was going on at the time. A noted judge once said in my hearing, "Ah! that is a very fair bird, but he has a twisted comb. If I had him, I would set it right in a month, and it should never droop again." Now, is this just? Is it just to remove a sprig from a Dorking or Spanish cock's comb? I ask for information. Again, is it allowable to remove the horns of a Polish cock? they are very objectionable. I myself think it decidedly unjust. Birds reserved wholly for breeding may be served as we like. There may be reasons why we should remove defects from the eyes of the hens. I cannot see why Spanish and Game should be exempt from censure. It is the allowing it in these breeds that has led to its adoption in others. I should like to see Game fowls exhibited undubbed; indeed, there is no question that dubbing a Game cock gives it an advantage in a cup competition possessed by no other breed. The Game cock may have owned a comb exceedingly objectionable, but the clever dubber has removed all traces of the defect. Undubbed, the Game bird must have resigned the "pride of place;" this I consider an unfair advantage. We have shaken off the trammels of the cockpit, why should we retain the dubbing and trimming which originated there?

If Committees intend to disqualify for trimming, it should be a rule that notice of the reason for disqualification should be affixed to that pen, and entered in the prize list.—Y. B. A. Z.

Will you allow me to add my thanks to "NEMO" for his just remarks in your valuable Journal upon the unfair and dishonest practice of trimming birds at poultry exhibitions? At the last Birmingham Poultry Show I purchased by auction a Cochinchina cock for £7 15s. When he arrived at home, and could be examined, to my great disappointment I found that a number of feathers had been removed from his hocks, and have no doubt he is naturally a vulture-hocked bird, and a bird I should not have purchased with such an objectionable defect. Unless some notice be taken of these dishonest practices by the judges of poultry, it will deter many from buying

birds which they cannot examine. If judges do not disapprove of such practices, it ought to be so stated, in order that all exhibitors may trim at their own discretion.—H. C. WOODCOCK, *Rearsby, Leicester.*

MANCHESTER POULTRY SHOW.

THIS great Show was held in the Zoological Gardens, Belle Vue, Manchester, on the 24th, 26th, and 23rd of December. The entries of poultry amounted to 1063, of Pigeons to 316. The following list of the awards, from its length, and the names which it contains, is of itself a testimony of the general merit of the Show, and we hope to give further details next week.

DORKINGS (Coloured, except Silver-Grey).—Cock.—First, Admiral W. Hornby, Knowsley Cottage, Prescott. Second, J. Longland, Grendon, Northampton. Third, J. Martin, Claines, Worcester. Highly Commended, T. Statter, Stand Hall, Whitefield, Manchester. Commended, Mrs. F. S. Arkwright, Etwell Hall, Derby. **Hens.**—First, Admiral W. Hornby. Second, G. Clarke, Long Sutton. Third, Duke of Newcastle, Clumber. Highly Commended, Mrs. F. S. Arkwright; R. Smalley, Lancaster; J. White, Warlaby; Hon. H. W. Fitzwilliam, Wentworth Woodhouse. Commended, A. Bamford, Middleton, Manchester; T. Statter; L. Patton, Bishop's Hall, near Taunton.

DORKINGS (Coloured, except Silver-Grey).—Cockerel.—First, T. Statter. Second, E. Ryder, Harrytown Hall, Stockport. Third, Mrs. F. S. Arkwright. Highly Commended, D. Hardie, Sorbie, Langholm; Mrs. F. S. Arkwright; Admiral W. Hornby. L. Patton. Commended, Mrs. F. S. Arkwright. **Pullets.**—First, Mrs. Arkwright. Second, Admiral W. Hornby. Third, Hon. H. W. Fitzwilliam. Highly Commended, Duke of Newcastle; F. Schofield, Brookfield, Wilmslow; T. Statter; Miss Milne, Otterburn; T. Raines, Bridge Haugh, Stirling; J. Martin; J. White; Hon. H. W. Fitzwilliam; H. Pickles, jun., Earby, Skipton. Commended, Mrs. F. S. Arkwright.

DORKINGS (Rose-combed).—First, J. Martin. Second, Duke of Newcastle.

DORKINGS (Silver-Grey).—Cock.—First, R. Smalley. Second, T. L. Jackson, Bush of Ewes, Langholm. Third, C. W. Brierley, Middleton. Highly Commended, Mrs. F. S. Arkwright; S. H. Stott, Rochdale. Commended, W. H. King, Mosa Mills, Rochdale. **Hens or Pullets.**—First, T. Raines, Ryde, Isle of Wight. Second, Rev. W. J. Mellor. Third, T. L. Jackson. Highly Commended, J. Longland; R. Smalley; T. Statter.

DORKINGS (White).—First, H. Lingwood, Barking, Needham Market. Second, D. Parsons, Cuderton, Preston. Commended, J. Robinson, Garstang.

SPANISH.—Cock.—First, Hon. Miss Douglas Pennant, Penrhyn Castle, Bangor. Second, E. Brown, Sheffield. Third, H. Beldon, Goitstock, Bingley. Commended, W. A. Taylor, Manchester. **Hens.**—First, H. Beldon. Second, J. Thresh, Bradford. Third, T. & E. Comber, Middleton Hall, Warrington. Highly Commended, W. A. Taylor, Hon. Miss Douglas Pennant; J. S. Senior, Dewsbury; J. Newton, Silsden, Leeds. Commended, E. Brown; Hon. Miss Douglas Pennant.

SPANISH.—Cockerel.—First and Second, R. Teebay, Fulwood, Preston. Third, T. & E. Comber. Highly Commended, H. Beldon; W. R. Bull; W. Rone, Bristol; Burch & Boulter, Sheffield. Commended, W. A. Taylor; R. Teebay. **Pullets.**—First and Third, J. Thresh, Bradford. Second, T. & E. Comber. Highly Commended, A. Heath, Calne; W. Rone; W. A. Taylor; R. Teebay; J. Newton. Commended, J. Walker, Burslem.

COCHIN-CHINA (Cinnamon and Buff).—Cock.—First, W. A. Taylor, Sheffield. H. Mapplebeck, Moseley, Birmingham. Third, Mrs. R. White, Sheffield. Highly Commended, J. C. Brierley, Lauriston House, Rochdale; Duke of Newcastle; H. Mapplebeck; C. W. Brierley; C. Sidgwick, Ryddlesden Hall, Keighley; W. A. Taylor; Mrs. R. White. **Hens.**—First, J. Sichel, Timperley. Second and Third, H. Mapplebeck. Highly Commended, T. Bott, Woodlands, Bury; C. W. Brierley; W. A. Taylor; J. Cattell, Birmingham; Mrs. R. White; J. Dyson, Glossop. Commended, Duke of Newcastle.

COCHIN-CHINA (Cinnamon and Buff).—Pullets.—First, H. Mapplebeck. Second, Mrs. A. Woodcock, Rearsby. Third, F. W. Rnst, Hastings. Highly Commended, J. C. Brierley; A. Darby, Bridgenorth; Mrs. A. Woodcock; Mrs. Christy, Glyndebourne, Lewes. Commended, C. W. Brierley; H. Mapplebeck; T. Stretch, Ormskirk; C. Sidgwick; W. A. Taylor.

COCHIN-CHINA (Brown and Partridge-feathered).—Cock.—First, E. Tadman, Whitechurch. Second, H. Crossley, Broomfield, Halifax. Third, R. White, Sheffield. Highly Commended, C. W. Brierley; T. Stretch. **Hens.**—First, E. Tadman. Second, C. Sidgwick. Third, C. W. Brierley. Commended, H. Crossley; T. Stretch; H. Lingwood.

COCHIN-CHINA (Brown and Partridge-feathered).—Pullets.—First, J. A. Taylor. Second, C. Sidgwick. Third, H. Crossley. Highly Commended, R. Andrew, jun., Harpurhey; J. A. Taylor; E. Tadman; H. Lingwood, Martlesham. Commended, E. Shaw, Plas Wilnot, Oswestry; T. Stretch.

COCHIN-CHINA (White).—Cock.—First, R. Smalley. Second, J. A. Taylor. Highly Commended, R. Chase, Balsall Heath, Birmingham; R. Smalley. **Hens or Pullets.**—First and Second, R. Smalley. Highly Commended, E. Chase; C. W. Brierley.

BRAHMA POOTRA (Dark).—Cock.—First, J. Sichel. Second, W. Hargreaves. Third, Rev. E. Alder, Etwell Vicarage, Decbr. Equal Third, E. Ryder. Highly Commended, J. Anderson, Meigle, N.B.; E. Leech, Rochdale; Duke of Newcastle; R. White; B. Wharton, Sheffield; Hon. Miss Douglas Pennant. **Hens or Pullets.**—First, H. Lingwood, Martlesham. Second, T. Pomfret, Preston. Third, W. Hargreaves, Bacup. Highly Commended, E. Leech; Hon. Miss Douglas Pennant.

BRAHMA POOTRA (Light).—First, H. Lucy, Hebdon Bridge. Second, H. Dowsett, Pleshey, Chelmsford. Third, J. Parea, Postford, Guildford. Commended, Rev. G. Hustler, W. Whiteley, Sheffield. **Hens or Pullets.—First, H. Lucy. Second, J. Pares. Third, H. Dowsett.**

POLISH (Any variety).—Cocks.—First, N. Nichols, Post, Isle of Man. Second, G. Adkins, Lightwoods, Birmingham. Third, W. Harvey, Sheffield. Highly Commended, H. Beldon; P. Unsworth, Lowton, Newton-le-Willows; J. S. Senior. **Hens or Pullets.**—First, J. S. Senior. Second, G. E. Adkins. Third, H. Beldon. Highly Commended, H. Beldon; P. Unsworth; W. Harvey. Commended, G. E. Adkins.

CRÈVE-CŒUR.—First, Col. Stuart Wortley, Grove End Road, London. Second, W. Blinkhorn, Waterdale, St. Helens. Third, J. C. Cooper, Cooper Hill, Limerick. Highly Commended, H. Beldon; W. Blinkhorn; Hon. H. W. Fitzwilliam.

HODDAN.—First, J. Sichel. Second, W. O. Quibell, Newark. Highly Commended and Commended, L. Binoy.

LA FLÈCHE.—Prize, J. C. Cooper. Highly Commended, Col. Stuart Wortley.

GAME (Black-breasted Reds).—*Cock.*—First, C. W. Brierley. Second, L. Binoy. Third, S. Wilcox, Oswestry. Highly Commended, E. Aykroyd, Bradford; J. Linnel, Anstey, Coventry; C. W. Brierley; G. R. Smith, Scarborough; C. Challoner, Whitwell, Chesterfield. Commended, Duke of Newcastle. *Hen.*—First, C. Richardson, West Gorton. Second, E. Aykroyd. Third, L. Binoy. Commended, Duke of Newcastle.

GAME (Black-breasted Reds).—*Cockerel.*—First, J. Challoner. Second, S. Matthew, Stowmarket. Third, Rev. T. O'Grady, Hognaston Vicarage, Ashbourne. Highly Commended, Rev. T. O'Grady; J. Linnel, Manchester; J. Linnel; J. Stubbs, Stafford; S. Wilcox. Commended, Duke of Newcastle; G. Ponder. *Pullet.*—First, J. Poole, Ulverston. Second, S. Matthew. Third, G. Noble, Stainfield, Batley. Highly Commended, Rev. T. O'Grady; G. R. Smith; J. W. Pope. Commended, Rev. T. O'Grady; E. Toder. Little Carlton, Newark.

GAME (Brown and other Reds, except Black-breasted).—*Cock.*—First and Second, J. Wood. Third, S. Matthew. Highly Commended, L. Binoy; R. Payne, Brierfield, Burnley; F. Sales, Crovic. Commended, J. Hodgson, Whittington; C. Challoner. *Hen.*—First, C. W. Brierley. Second, G. R. Smith, Scarborough. Third, F. Sales. Commended, J. Anderson; W. Bourne; C. Challoner.

GAME (Brown and other Reds, except Black-breasted).—*Cockerel.*—First, C. W. Brierley. Second, J. Hodgson. Third, T. Mason, Green Ayre, Lancaster. Highly Commended, W. Bourne, Heavily, Stockport; C. W. Brierley; J. Wood; S. Matthew; F. Sales; C. Challoner. *Pullets.*—First and Second, C. W. Brierley. Third, J. Woods. Highly Commended, E. Brough, Ball Haye Park, Leek; J. Woods; R. Payne, Brierfield, Burnley. Commended, J. Anderson; J. Bonness, Newburch.

GAME (Duckings, and other Greys and Blues).—*Cock.*—First, E. Aykroyd. Second, H. M. Julian, Hull. Third, E. Consterdine, Littleborough, Manchester. Highly Commended, J. Holland; J. Halsall, Ince, Wigan; C. Travis, Frogland, Sheffield. *Hen.*—First, A. K. Briggs, Bradford. Second, G. Noble. Highly Commended, W. Bradley, Worcester.

GAME (Duckings, and other Greys and Blues).—*Cockerel.*—First, Miss E. Sadler, Whitechurch. Second, J. Halsall. Highly Commended, G. Noble; S. Matthew; W. J. Cope, Barnsley; Rev. W. J. Mellor, Ryde, Isle of Wight. Commended, D. Ashworth, Halifax; J. Thresh, Whitechurch; Rev. W. J. Mellor. *Pullet.*—First, J. Halsall, Ince. Second, W. J. Cope. Third, A. K. Briggs. Commended, W. Bradley; J. Holland; W. Parker, Clay Cross.

GAME (Any variety not before named).—*Cock.*—First, C. W. Brierley. Second, Rev. T. O'Grady. Highly Commended, A. D. Edwards, Huddersfield; Furness & Bamber, Accrington; Fould & Hargreaves, Burnley; J. W. Thompson, Southwram. Commended, E. H. Woodcock, Holme, Wigan. *Hen or Pullet.*—First, R. Butcher, Cresswell. Second, C. W. Brierley. Highly Commended, J. Halsall.

HAMBURGHS (Black).—*Cock.*—First, J. Garside, Looglands, Slaithwaite. Second, H. Mason, Denton. Third, Rev. W. Serjantson. Highly Commended, J. M. Kilvert, Ludlow; J. Smith; S. Butterfield, Keighley. *Hens or Pullets.*—First, Mason & Walker, Denton. Second, S. Butterfield. Third, H. Mason. Highly Commended, J. Garside; J. M. Kilvert; J. Lancashire, Chadderton; G. Lingard, jun., Birmingham; C. Sidgwick.

HAMBURGHS (Golden-spangled).—*Cock.*—First, J. Walker. Second, J. S. Senior. Third, N. Marlor, Denton. Highly Commended, J. Munz; J. Roe, Hadfield, Manchester; T. Scholes, Hollingwood. Commended, J. Buckley, Taunton, Ashton-under-Lyne; E. Brierley, Heywood; N. Marlor; T. Scholes. *Hens or Pullets.*—First, J. Buckley; J. Ogden. Third, J. Ogden, Hollingwood. Highly Commended, E. Brierley; F. Greenwood, Roehdale; J. Munz; J. Ogden; J. Roe; J. Wild, Ashton-under-Lyne.

HAMBURGHS (Silver-spangled).—*Cock.*—First, J. Smith. Second, J. Fielding. Third, J. Walker. Highly Commended, H. Beldon; J. Fielding, Newchurch, Manchester. Commended, J. S. Senior. *Hens or Pullets.*—First, Ludham & Ashton, Mottram. Second, H. Pickles, jun. Third, J. Fielding. Highly Commended, H. Beldon; Ludham & Ashton.

HAMBURGHS (Golden-pencilled).—*Cock.*—First, J. Bonness. Second, T. Wrigley, jun., Tonge Hall, Middleton. Third, H. Beldon. Highly Commended, H. Beldon; C. Sidgwick. Commended, H. Pickles, jun. *Hens or Pullets.*—First, W. R. Park. Second, H. Beldon. Third, T. Wrigley, jun. Highly Commended, J. Walker, Knaresborough.

HAMBURGHS (Silver-pencilled).—*Cock.*—First, J. Walker. Second, H. Beldon. Highly Commended, G. Clarke; T. & E. Comber; T. Sharples, Rawtenstall. Commended, H. Pickles, jun. *Hens or Pullets.*—First, H. Beldon. Second, H. Pickles, jun. Highly Commended, J. Walker; J. S. Senior.

GAME BANTAMS (Black-breasted Reds).—*Cock.*—First, H. Shumach, Southwell, Notts. Second, W. & H. Buckley. Third, J. R. Robinson, Sunderland. Fourth, Rev. C. H. Cross, Cusnbridge. Highly Commended, W. & H. Buckley, Accrington; G. Noble; Stuttard & Hayes, Accrington; W. F. Entwisle, Leeds; Bowman & Pearson. Commended, J. H. Biddoss, Baile Hall, Pendleton; L. Binoy, Manchester; W. & H. Buckley; J. Blamires, Horion; Farness & Bamber; J. Halsall; J. W. Morris, Rochdale. *Hens or Pullets.*—First, J. Blamires. Second, J. Crosland, jun., Wakefield. Third, J. Henshall, Salford. Highly Commended, H. Ashton, Polefield Hall, Prestwich; Rev. E. S. Tiddeman, Brentwood; J. W. Morris; H. Shumach; W. F. Entwisle. Commended, J. H. Howe, Denton; D. Parsons.

GAME BANTAMS (Any variety except Black-breasted Reds).—*Cock.*—First, J. Crosland, jun. Second, T. Sharples. Third, Mason & Charlesworth. Highly Commended, R. Cooke, Nottingham; J. J. Cousins, Chapel Allerton, Leeds; C. W. Brierley; H. Shumach; J. Poole. Commended, G. Birtwistle; Mason & Charlesworth, Chesterfield; J. Blamires; J. Wardle, Denton. *Hens or Pullets.*—First, L. Binoy. Second, J. Crosland, jun. Third, T. Sharples. Highly Commended, R. Cooke; H. Ashton; G. Smith. Commended, E. Toder.

BANTAMS (Any variety except Game).—First, H. Pickles, jun. Second, Miss A. Woodcock. Third, W. J. Cope. Highly Commended, S. A. Wyllie, East Montyck; J. H. Taylor. Commended, N. Marlor; Ludham & Ashton; J. W. Morris; W. H. Tomlinson, Newark.

ANY OTHER VARIETY.—First, Furness & Bamber (Cuckoo Cochins). Se-

cond, J. C. Cooper (Sultans). Very Highly Commended and Highly Commended, J. Broadie, Gorton, Manchester (Malays).

Ducks (Rouen).—First, T. Burn. Second, T. Statter. Third, T. Wakefield. Highly Commended, T. Burn; T. Bott; D. Hardie; J. H. Lasbrey; Uttoxeter; E. Leech; J. Munz; J. Woods; T. Statter; J. Wakefield; J. J. Stott, Rochdale. *Drake.*—First, T. Statter. Second, J. Anderson. Third, E. Tudman. Highly Commended, T. Burn, Abram, Wigan; T. Bott; E. Leech; J. Munz, Stacksteads; J. Wood; T. Wakefield, Golborne, Newton-le-Willows; J. J. Stott.

Ducks (White Aylesbury).—First, E. Leech. Second, E. Shaw. *Drake.*—First, D. Hardie. Second, E. Leech. Third, R. Smalley.

Ducks (East Indian, or Brown or White Call).—First, S. Burn, Whitley. Second, H. Beldon. Highly Commended, J. Wood; Rev. W. Serjantson. Acton Burnell.

ORNAMENTAL WATERFOWL.—First, J. Ley, Bramley (Mandarins). Second and Third, J. Jennison (Carolinians and Pintails). Highly Commended, H. Mapplebeck (Carolinians); C. N. Baker, Chelsea (Mandarins and Carolinians); J. Jennison, Manchester (Bernacle Geese, Brent Geese, Tufted Divers, Mandarins, Shovelers); J. Ley (Shieldrakes and Carolinians). Commended, C. N. Baker (Pintails); J. Jennison (Shieldrakes and Sninner Teal).

GEESSE (White).—First, T. Statter, jun. Second and Third, J. & W. Roston, Levenshulme. *Gander.*—First, T. Statter. Second, W. Wykes, Wolvey, Hinckley. Third, E. Leech. Highly Commended, W. Baxter, Waterfoot, Manchester.

GEESSE (Grey and Mottled).—First, S. H. Stott. Second, T. Statter, jun. Third, Rev. G. Hustler, Stillingfleet Vicarage, York. Highly Commended, T. Statter, jun.; W. Baxter. *Gander.*—First, S. H. Stott. Second, W. Baxter. Third, T. Statter, jun. Highly Commended, Rev. J. C. Macdonald, West Kirby.

TURKEYS.—*Cock.*—First, W. Wright, Tulbourne. Second, T. Statter. Third, W. S. Holde, Farworth. Highly Commended, J. Chamberlain, Picmстал; E. Leech; W. Wykes. *Hens.*—First, W. S. Holden. Second, W. Wright. Third, E. Leech.

PIGEONS.

POUTERS (Blue or Red).—*Cocks.*—First and Silver Medal for the best Pouter Cock of any colour, R. Fulton, Deptford. Second, R. Fulton. Highly Commended, F. Crossley, Elland, Halifax. *Hens.*—First, A. Heath, Calce. Second, F. Crossley. Highly Commended, E. Horner, Harwood, Leeds; F. Crossley.

POUTERS (Any colour except Blue or Red).—*Cocks.*—First, W. Harvey, Sheffield. Second, R. Fulton. *Hens.*—First, Second, and Medal for the best Pouter Hen of any colour, R. Fulton.

CARRIERS (Black).—*Cocks.*—First and Medal for the best Carrier Cock of any colour, R. Fulton. Second, J. Chadwick, Bolton. Highly Commended, J. C. Ord, London. Commended, G. S. Hockey, Durham Down, Bristol. *Hens.*—First, R. Fulton. Second, F. Crossley. (Whole class Highly Commended).

CARRIERS (Dun).—*Cocks.*—First, J. Hawley, Bingley. Second, G. Charley, Preston. Highly Commended, R. Fulton; T. Colley, Sheffield. *Hens.*—First and Medal for the best Carrier Hen of any colour, R. Fulton. Second, W. Harvey. Highly Commended, J. C. Ord; F. Crossley. Commended, G. Charley.

CARRIERS (Any colour except Black or Dun).—*Cocks.*—First, T. Colley. Second, J. C. Ord. Highly Commended, J. C. Ord; F. Crossley. *Hens.*—First and Highly Commended, A. Lowe, Over Hulton, Bolton. Second, F. Fulton. Commended, G. Charley.

DRAGONS (Yellow).—First and Second, C. Bulpin, Bridgewater. Highly Commended, J. W. Edge, Birmingham.

DRAGONS (Any other colour).—First, T. K. Crossley. Second, W. Harvey (Blue). Highly Commended, F. C. Bradley, Frodsham (Blue); J. W. Edge. Commended, E. Horner; A. Lowe (Blue).

ANTWERPS.—First, J. Hawley. Second, H. Yardley, Birmingham. Commended, R. Anthonson, Hazel Grove, Stockport; J. Thompson, Bingley.

JACOBS.—First, E. E. M. Royle. Second, J. Hawley. Highly Commended, J. Hawley; E. Horner; J. B. Pinder, Harpurhey.

BARBS.—First, G. Charley. Second, R. Fulton. Highly Commended, J. Firth, jun., Dewsbury.

FANTAILS (White).—First, H. Yardley. Second, C. Bulpin. Highly Commended, W. H. Tomlinson, Newark; C. Bulpin; H. Draycott, Humberston; J. W. Edge.

FANTAILS (Any colour except White).—First and Second, H. Yardley. Highly Commended, J. W. Edge.

TUMBLERS (Almond).—First and Second, R. Fulton. Highly Commended, J. Fielding, jun., Rochdale; F. Crossley; R. Fulton.

BEARS OR BALDS.—First, J. Fielding, jun. Second, W. H. C. Oates, Bethorpe, Newark. Highly Commended, R. Fulton; J. Goolden, Hale, Altrincham.

TUMBLERS (Any variety).—First, F. Crossley. Second, J. Fielding, jun. Highly Commended, R. Fulton.

KNES.—First and Second, W. Bankes, Rancorn. Commended, C. Bulpin.

MAGPIES.—First and Highly Commended, E. Horner. Second, C. Bulpin.

TURKITS.—First, C. Bulpin. Second, E. Horner. Highly Commended, H. Mapplebeck, Birmingham; Capt. Mangnall, Styal.

SWALLOWS.—First, E. Horner. Second, H. Draycott.

ARCHANGELS.—First, R. Wilson, Thirk. Second, C. Bulpin.

OWLS (Blue and Silver English).—First, J. Firth, jun. Second, Rev. F. Watson, Kelvedon. Highly Commended, J. Goolden; C. Bulpin. (Whole class Commended).

OWLS (Foreign).—First, J. Fielding, jun. Second, T. Crossley. Highly Commended, Countess of Derby, Knowsley; F. Crossley.

RUNTS.—First and Second, T. D. Green, Saffron Walden. Highly Commended, H. Yardley; J. Baily, jun., Mount Street, London.

TRUMPETERS.—First, E. Horner. Second, J. Firth, jun. Highly Commended, W. Johnson; C. Bulpin.

ANY OTHER VARIETY NOT BEFORE MENTIONED.—First, J. Baily, jun. (Shield). Second and Third, H. Draycott (Frillbacks and Toys).

DOVES (Any variety).—First and Second, J. Jennison, Manchester (Barby and Lace-neck).

JUDGES.—*Dorkings, Spanish, Cochins, French Breeds, Extra Stock, and Bantams, except Game:* Mr. Edvard Hewitt, Sparkbrook, Birmingham. *Brokhus, Game, Game Bantams, &c:* Mr. R. Teebay,

Fulwood, Preston. *Hamburgs, Polands, Ducks, &c.*: Mr. James Dixon, North Park, Bradford. *Ornamental Water Fowl*: Messrs. Dixon, Hewitt, and Teebay. *Pigeons*: Mr. T. J. Cottle, Cheltenham; Mr. Esquilant, London.

THE SUNDERLAND WORKING MEN'S CLUB POULTRY SHOW.

THIS Exhibition took place December 19th, and for a first effort, considering the most arbitrary rules laid down for its government, was a most decided success; 120 pens were shown, and some very good birds might be seen in most classes. The *Bantams* were the great feature of the Show. The following is a list of the awards:—

GAME (Black Reds).—Prize, Buglass & Williamson, Durham.
GAME (Duckwings).—First and Second, Englass & Williamson.
COCHINS (Any variety).—First and Second J. Carrick, Chester Lane, Sunderland.
HAMBURGHS (Spangled).—First and Second, — Whitfield, Hetton-le-hole, Durham. Third, Buglass & Williamson.
HAMBURGHS (Pencilled).—First and Second, — Whitfield.
POLANDS (Any variety).—Prize, — Whitfield.
GAME (Any variety).—*Cockerel*.—Prize, T. Dent, Sunderland. *Hens*.—First, Buglass & Williamson. Second, T. Dent. Third, J. Allen, Sunderland.
SPANISH (Any variety).—*Cockerel*.—Prize, H. Mitchell, Sunderland. *COCHIN* (Any variety).—*Hen*.—First, and Second, J. Carrick.
POLANDS (Any variety).—*Cockerel*.—First, J. Allen. *Hen*.—First, Second, and Third, J. Allen.
HAMBURGHS—*Cockerels*.—First, — Whitfield. Second, J. Carrick. Third, Buglass & Williamson. *Hens*.—First and Second, — Whitfield. Third, — Ackroyd, Sunderland.
GAME BANTAMS (Black and other Reds).—First, T. Hunter, Sunderland. Second and Third, W. Dixon, Sunderland.
GAME BANTAMS (Duckwings and other Greys).—First, W. Dixon. Second, Wigham & Burrell. Third, J. Carrick.
GAME BANTAMS (Piles and Whites).—First, Buglass & Williamson. Second, W. Clark, Sunderland.
GAME BANTAMS (Rose-ombred).—First and Third, C. Richardson. Second, W. Dixon. *Cock*.—Prize, W. Conlthard, Sunderland. *Hen*.—First, Second, and Third, W. Dixon.
BANTAMS (Any variety).—Prize, W. Clark, Sunderland.
GAME BANTAMS (Any variety).—*Cockerel*.—First, M. Watt, Deptford, Sunderland. Second, C. Richardson. Third, Wigham & Burrell. *Hen*.—First, — Ackroyd, Sunderland. Second, T. Hunter. Third, Wigham & Burrell.
BANTAMS (Sebrights).—Prize, — Ackroyd.
 Mr. E. Hutton, Pudsey, Leeds, was the Judge.

JERSEY POULTRY SHOW.

(From a Correspondent.)

THIS Show was held in the Royal Hall, Peter Street, December 23rd and 24th. For the first show of the kind in the island it proved successful beyond the expectations of the originators, 176 pens of birds having been exhibited. The *Game, Cochins, Brahma, Spanish, Houdan*, and *Bantam* classes were very creditable and numerous. The general arrangements for the Show were excellent in every respect. They were under the superintendence and by the advice of Miss E. Watts, who sent, not for competition, pens of Light and Dark Brahmas, as samples of what these should be. She was seconded by a most efficient and zealous Honorary Secretary, J. Voisin, Esq., assisted by an energetic Committee. The following is the list of prizes awarded:—

DORRINGS (Coloured, except Silver-Grey).—First, E. A. Neel. Second, Rev. W. Lempière. *Chickens*.—Prize, — Ivimy.
DORRINGS (Silver-Grey).—Prize, Col Le Couteur, Q.A.D.C., Belle Vue, Chickens.—Prize, J. Voisin.
COCHIN-CHINA (Cinnamon and Buff).—Prize, Capt. Robin. *Chickens*.—First and Second, Capt. Robin. Highly Commended, — Le Rossignol.
COCHIN-CHINA (Brown and Partridge-feathered).—First, Capt. Robin. Second, E. Pond. *Chickens*.—First and Second, Capt. Robin. Highly Commended, Capt. Robin; — Le Rossignol. Commended, E. Pond.
COCHIN-CHINA (White).—Prize, Capt. Robin. *Chickens*.—First, Second, and Highly Commended, Capt. Robin.
BRABMA POOTRA (Dark).—First, Capt. Robin. Second, Capt. Howell. Highly Commended, S. R. Delme. *Chickens*.—First, J. Ereant, jun. Second, S. R. Delme. Highly Commended, W. Eckford. Commended, E. A. L'Oste.
BRABMA POOTRA (Light).—First, J. Voisin. Second, W. Bisson. *Chickens*.—First, E. A. L'Oste. Second, P. W. Le Quesne.
CREVE-CŒUR.—First, Capt. Robin. Second, J. Le Rossignol. *Chickens*.—Prize, J. Ereant, jun.
HOUDANS.—First, Col. Le Gallais. Second, — Anwell. Highly Commended, Advocate Godfrey. *Chickens*.—First, Dr. King, sen. Second, J. Ereant, jun. Highly Commended, — Nicolle; H. Anwell.
LA FLÛCHE.—*Chickens*.—First, Col. Le Gallais. Second, — Blampied.
SPANISH.—First, Dr. King, jun. Second, Capt. Robin. *Chickens*.—First, Dr. King, jun. Second, J. De La Mare.
ANDALSIANS (Blue).—Prize, J. Blimpied.
HAMBURGHS (Golden-pencilled).—Prize, Capt. Robin. *Chickens*.—First, Rev. H. Bateman. Second, Capt. Robin.
HAMBURGHS (Silver-spangled).—*Chickens*.—Prize, G. De Faye.
POLISH (Golden).—Prize, R. Delme.
POLISH (Silver).—First, — Le Rossignol. Second, Rev. C. H. Bateman.
GAME (Black-breasted Reds).—First, J. G. Falle. Second and Highly Commended, J. Voisin. *Chickens*.—First and Second, J. Voisin.
GAME (Brown and other Reds).—First and Second, J. Voisin. Highly Commended, J. G. Falle; J. Voisin. *Chickens*.—Prize, J. Voisin.

GAME (Duckwings and other Greys and Blues).—Prize, J. Voisin. Highly Commended, J. G. Falle. *Chickens*.—Prize, J. Voisin.
GAME (Black and Brassy-winged).—Prize, J. Voisin.
BANTAMS (Black, Clean-legged).—Prize, J. Voisin.
GAME (Black-breasted Red).—First, Capt. Howell. Second, J. Voisin. Highly Commended, E. Pond.
GAME BANTAMS (Any other variety).—First, J. Le Rossignol. Extra First, — Nicolle. Second, J. Voisin. Highly Commended, J. Voisin; Capt. Robin (Bredt). Highly Commended and Prize, Capt. Robin (White Crève-Cœur).
BARNDORF OR ANY OTHER CROSSBREED.—First, P. Le Quesne. Second, — Pluck.
GUINEA FOWL.—First, — Le Rossignol. Second, P. De Gruchy.
DUCKS (White Aylesbury).—Prize, H. Le Feuvre.
DUCKS (Rouen).—First, G. Gibbs. Second, J. Voisin. Highly Commended, Col. Le Couteur, Q.A.D.C.
DUCKS (Call).—First, J. G. Falle. Extra First and Second, Rev. C. H. Bateman.
DUCKS (Widgeon and Carolina).—First and Second, J. G. Falle.
DUCKS (Muscovy).—First, Capt. Malzard. Second, — Dugdale.
DUCKS (Any variety).—Prize, Col. Le Couteur (Buenos Ayres). Highly Commended, J. G. Falle (Carolina).
GESE (White).—Prize, J. G. Falle (Sebastopol).
GESE (Grey or Mottled).—First, W. R. F. Godley. Second, E. A. L'Oste. *Gaslings*.—Prize, — Dugdale. Highly Commended, E. A. L'Oste.
TURKEYS.—*Poult*.—First and Second, E. A. L'Oste.
PIGEONS.—*Carriers*.—Prize and Highly Commended, J. Voisin. *Pouters*.—First and Second, J. Voisin. *Fantails*.—Prize, J. Voisin. *Tumblers*.—Prize and Commended, J. Voisin. *Runts*.—Prize, Capt. Robin. *Any other Distinct Variety*.—First, — Nicolle. Second, — Marett. Highly Commended, J. Voisin.
GOLD AND SILVER PHEASANTS, OR ANY OTHER FANCY BIRDS.—First and Second, Mrs. Gray (Gold and Silver Pheasants). Extra First, J. G. Falle (Silver Pheasant). Highly Commended, Mrs. Gray (Australian Quail and Red Partridge); W. Gray (Grey Partridge). Commended, Mrs. Gray (Common Pheasant).
RABBITS.—*Himalayan*.—Prize, — Le Marchand. *Any other Variety*.—Highly Commended, — Johnson.

The Judges were M. Gibaut, Esq., Mainland; J. Robin, Esq., Belvidere; Advocate Bertram, St. Lawrence; J. G. Falle, Esq., Mayor of St. Heliers; E. Denise, Esq., Mayor of St. Lawrence; J. Pond, Esq., The Viueries; Capt. Holt, Norfolk Lodge; W. R. F. Godley, Esq., Le Colombier; M. Ozier, St. Heliers; and M. Contanche.

HECKMONDWIKE POULTRY SHOW.

THIS took place on the 26th of December. The following is a list of the awards:—

SPANISH (Black).—First, W. Gregson, Dewsbury Moor. Second, J. W. Wilkinson, Bradford.
COCHIN-CHINA.—First, J. W. Wilkinson. Second, H. Firth.
BRABMA POOTRA.—First, W. Wilson, Liversedge. Second, J. W. Wilkinson.
GAME (Black-breasted).—First, W. Fell, Adwalton. Second, G. Noble, Staincliffe.
GAME (Brown Reds).—First, T. Suddick, Bradford. Second, H. Hatton, Cleckheaton.
GAME (Duckwings Grey and Blue).—First, J. Fell. Second, T. Robertshaw, jun., Ilkington.
GAME (Whites or Piles).—First, R. Turner, Drighlington. Second, H. C. J. Mason, Drighlington.
GAME (Black or Brassywings).—First, R. Walker, Wood Nook, Gomersal. Second, Cookson & Firth, Birkenshaw, near Leeds.
HAMBURGHS (Gold and Silver-spangled).—First, W. Gregson. Second, J. W. Wilkinson.
HAMBURGHS (Gold and Silver-pencilled).—First, W. Jagger, Horbury. Second, T. Swires, Cleckheaton.
HAMBURGHS (Black).—Prize, H. Firth.
ANY OTHER VARIETY.—First, W. Gregson. Second, J. R. Walker, White Lee, Staincliffe.
SINGLE COCK (Any breed).—First, J. Fell. Second, T. Suddick. *Hen*.—First, T. Suddick. Second, W. Gregson.
GAME BANTAMS (Red).—First, S. Schofield. Second, W. Gregson.
GAME BANTAMS (Duckwing).—First, W. Gregson. Second, G. Noble.
BANTAMS (Black).—First, T. Parker, Heckmondwike. Second, L. Parker.
BANTAMS (White or any other variety).—First, W. Gregson. Second, J. Birns, Raistrick.
PIGEONS.—*Carriers*.—Prize, H. O. Steel, Gomersal. *Antwerps*.—First, W. Gregson. Second, J. W. Wilkinson. *Tumblers*.—First, H. O. Steel. Second, A. Wilman, Dewsbury Moor. *Dragoons*.—First, W. Gregson. Second, H. O. Steel. *Turbits*.—First, J. W. Wilkinson. Second, J. Parker. *Fantails*.—First, J. W. Wilkinson. Second, J. Parker. *Common*.—First, J. W. Wilkinson. Second, J. W. Horsfield. *Any other Variety*.—First, A. Wilman. Second, J. W. Wilkinson.
 JUDGE.—Mr. J. W. Thompson.

BRISTOL AND CLIFTON SHOW.—We are informed that for this Exhibition next week, there are 1089 entries of fowls, and 187 of Pigeons.

YEARLING PIGEONS.

As medals and money prizes are offered for competition at the Glasgow Show for birds bred during the year, I shall be glad to be informed through the medium of THE JOURNAL OF HORTICULTURE, whether a judge can decide that they are such, and by what distinguishing points they can be known? In the award of prizes to these classes, it seems to me that the first thing upon which to arrive at a conclusion, is (if it is

capable of a decision), whether they are birds of the season; or the object in giving the awards is frustrated. In the young Barb class, I hear from one exhibitor whose birds were noticed, that his were sixteen months at least, and that with the exception of two or three pairs, all had seen "the light of other days," than those of 1863, and were, as he describes it, "quite old enough to talk." One of the best judges of a Barb writes me, "that he is of the belief that there were not more than two pairs of Barbs shown at Glasgow, which were bred in 1868." "I can safely say," he adds, "I never had birds so developed at the age." And this from one who has bred some of the best specimens ever seen. One pen to my knowledge was well known last year.

I am not writing in order to blame exhibitors, as I know some who purchased birds to show, and believed that they were young. Those who send their specimens of the season's produce have not the slightest chance against these older, and, consequently, more developed competitors, and it is, in fact, simply a throwing away of the entry fees. The question is, Can a judge decide? For my own part, between the very early hatched birds of the year, and those late bred of the previous season, I would not attempt to do it, and I consider he would, indeed, be a clever judge who could. If, then, the question is an open one, there will always be exhibitors ready to take advantage, and so distance the real competitors of the year, and make the classes for young birds anything but satisfactory.—*W. MASSEY, Spalding.*

FROM WILTSHIRE TO GLASGOW, AND WHAT I SAW THERE.

PART 2.

At five o'clock a party of gentlemen, numbering between thirty and forty, sat down to dinner—it was the tenth annual dinner of the North British Columbarian Society. Oh! ye maligners of the fancy, who used to write, "This was a low neighbourhood, inhabited chiefly by dog fanciers, Pigeon fanciers, &c."—could ye, if ye yet survive (which I doubt), have looked in upon that company of gentlemen of education and position, ye would have apologised on the spot. It was a kindly gathering, and the dinner and dinner-table decorations were admirable. Never was Her Majesty's health drunk more loyally, nor more of heart entered into toasts and speeches. Jacobite songs (how long a sentiment outlives a principle!) reminded me that I was in the country of the Preten—no, of Prince Charles Edward. "Our Journal" was honoured by the way in which its representative was received, showing that the organ of the fancy was well loved by northern fanciers. One particular and very pleasing event of the evening was the presentation of a magnificent epergne, palm-tree-shaped, to the Treasurer of the Society, Mr. Wallace, by his brother members.

At length, all toasts being over, from that of the first Lady of the land to the ladies she rules, we adjourned to the Trades' Hall for a private gaslight view of the Show. I soon find myself in a fair-sized hall filled with Pigeon pens, and am proceeding to examine the birds, when I am told that this is not the Show, but merely its appendix. Led on further, I enter a grandly proportioned room, 70 feet long by 33 wide, and this hall is also as full as possible of Pigeon pens. Around the walls and in the windows are pens closely placed. Across the Hall are long tables, and lines of pens back to back on each table, with gangways just sufficiently wide to walk down. The pens are bee-hive-shaped and all wire, so that no heavy wooden backs hinder the view, which was imposing from the number of birds, and pleasing from the lightness of the pens, each with its feathered inhabitants. The total number of pens in both halls was 584. Such a number of birds had never before been brought together even at this the Birmingham of Pigeon shows. This was partly accounted for because the "members' challenge cup," value £30, was this year to be finally awarded. For the possession of this treasure there was a close competition between Mr. James Montgomery, the President of the Society, and Mr. Fulton, of Deptford, the well known dealer and exhibitor. Mr. Montgomery showed 160 pens, Mr. Fulton 143 pens. The former gentleman was successful. The cup, designed by the Committee, and manufactured by Muirhead, of Edinburgh, was urn-shaped, with a cover, on which was a Pouter in frosted silver. The cup was placed on a stand, at each corner of which was a Tumbler, a Carrier, a Jacobin, and a Fantail matching the abovenamed Pouter.

To return to the birds themselves. We have in England

been long aware that the Pouter is the especial favourite of the Scotch fanciers, hence it was no surprise to find that the show of Pouters was a large one; but they outdid my anticipations. They numbered 294 pens—just about one-half of the whole. I would say, let dreamers of the surpassing beauty of the birds of former years go to Glasgow, and they will confess that the present beats the past. If you dream of Black Pied Pouters of raven blackness, there they are alive; if of Dark Reds and rich Yellows, there they are alive. If you dream of perfectly marked Blues, there they are; if of perfection of shape, there it is; if of size, there it is, for the Glasgow birds were gigantic. There was another point connected with this Show, there was scarcely one bad pen—those bad pens which show that the exhibitors are ignorant of what a good bird is. There were a few small pretty birds here and there, and some large but not graceful birds; but the rule was large and good, and the prize birds were super-excellent. I was once looking at a remarkably ugly white bull at a large agricultural show, and I heard his owner asked by a rough wit why he brought it there. He replied, "To get a prize." "Oh!" was the answer, "I thought you brought it to be laughed at." Now such exhibition stock was not in the Trades' Hall, Glasgow. The Black Pied birds bred this year were abundant and good. I would notice Mr. Fulton's first-prize. Then beautifully slender were his first-prize Whites. The first-prize Blues, Mr. Montgomery's, were birds which I hovered round, and went back to again and again. As to the prize Reds and Yellows, they were colours of the deepest and richest kind; and the Mealy had the grace of shape, though, of course, lacking the beauty of colour. Among so many and such good birds it is difficult to particularise, but I cannot omit a word of praise to the colour and size of Mr. Montgomery's three prize pens of Red Pied cocks: the colour was grand. For the Pouters "irregular in colour and marking"—the North British Columbarian Society is wonderfully kind to Pouters of all colours—I own I cared much less. Chequers, Sandies, Splashes, &c., are useful but not ornamental. The hen Pouters deserve all the praise bestowed on the cocks. To the Pouters my first visit was naturally enough made. Indeed, my gaslight view was a ramble of wonder, half pitying, however, the poor birds suddenly awoke from their first sleep. Next morning I took a general view; then I paid a patient and particular visit to every pen in rotation; and on Friday wandered here and there, examining and delighting over the best specimens.

Next to the Pouters in number and excellence came the Carriers. Of these there were ninety-three pens, among them some of the finest or most promising birds ever seen. As is usual, the Blacks were the best.

Passing on from the Carriers, those tender, frail, greenhouse darlings, the Short-faced Tumblers, claim my attention—twenty-three pens. These were most beautiful. I held in my hand an Almond cock of perfect feather, tail well marked, hackle rich, head and beak charming. But perhaps the very gem of the Short-faced were Mr. Fulton's first-prize Black Mottles. But I pass on to the Barbs, which occupied one corner to themselves, and made that corner glitter with their rich purple metallic hues. Of them there were twenty-nine pens—a beautiful class, and beautiful specimens of this high-class variety of the fancy Pigeon. Mr. Frame exhibited a pen of seven young Barbs of various colours as extra stock, and not for competition, which when shown for a prize must have extra good birds to beat them.

The Fantails numbered eighteen pens. Our Scotch friends excel in Fans; I saw some at Mr. Huie's, of wonderful motion and carriage, real Broad-tailed Shakers. They have also a breed of Saddle-back Fans, which are striking and very pretty.

But to the Show. Jacobins, then Trumpeters—among them the most wonderful bird known, the black cock in Mr. Montgomery's first-prize pen; Turbits, those soft-feathered bits of loveliness; English and foreign Owls, the latter to the former what the Short-faced Tumblers are to the commoner birds; Dragons and Nuns, not numerous; Beards and Balds—I preferred the second-prize Red Balds; and then, last of all, "Fancy Pigeons not otherwise classed," chiefly pretty-feathered or quaint-looking German Toys. Not a single pen of Runts, which I regretted, and no prize for Antwerps. The Scotch fanciers use them as nurses, but say that they see nothing in them to entitle them to a place at an exhibition.

Some large sales were effected in the Hall, one large bird selling for £20, and a pair of young ones for £14. It would be well if exhibitors who do not at the last moment send their birds would put a note to that effect in the pens of the birds

they do send, or would send a letter or telegram. This would save committees a world of trouble and anxiety, who send again and again to the station, and are full of fear lest the missing birds are really lost. Now, a notice sent that they were not to be expected would save all this trouble. The judging, considering the number judged and the darkness of a short December day, to say nothing of one Judge not arriving, was excellent, and gave satisfaction.

As I frequently turned to look at this beautiful show of beautiful birds, filling a large hall and a large room, I could not but regret that more visitors were not present. I know one reason is, that one must be a fancier to properly esteem birds of fancy—the eye must be educated in order to appreciate. Yet feathered beauty ought itself to draw crowds, and people so drawn learn to love and enjoy. For this reason I, in my humble capacity, endeavour so to write as to bring the fancy to the public, in order (and it is being done gradually), to bring the public to the fancy. Dry details are not generally read, but a light general sketch is read. Every man needs a hobby, the more needed as the life of man becomes busier and more full of care. Modern life draws hard upon the brain. Now, here is a hobby free from every possible vice, never exhausted, always something fresh to learn, and which also promotes kindness, and brings men of different ranks and opinions harmoniously together, and so, in fact, makes the world better. People who have exchanged kind words about a mutual fancy will not break each other's heads at an election, or become fierce and fiery-eyed over a religious controversy. For my own part I greatly enjoyed the company both of the birds and their owners. I beg to put in print my best thanks to the Committee of the North British Columbarian Society for their kind invitation. Faces are now known to me instead of mere names. It did not rain in Glasgow—yes, it did; it rained kindness. I beg to thank my Scotch friends for their public welcome and their private hospitality. To several houses I was taken; to others I was to have gone had time allowed. Often in a mood of afterthought, in the dusk hour, the gloaming, shall I think over all I saw in Glasgow. 'Tis pleasant to add to one's list of friends those who have kindred tastes. "Let Glasgow Flourish" is that city's motto. I would add to it, "Let the North British Columbarian Society flourish." It is a great advantage to the fancy to have in it gentlemen of spirit, and taste, and means. As to the fancy itself, that must be a good one which makes eyes look kind and hands meet warmly—that causes a kindly welcome and a regretful parting.

And now I will conclude with the prettiest Pigeon anecdote I ever heard. My Scotch host told me that once, wanting a particular variety of Pigeon, he heard where he could procure one. He found a very humble home, but a tidy, middle-aged motherly woman. The birds were kept in a little pantry opening into the living-room. He was hidden to wait a few minutes, as the owners, the woman's two sons, would soon be home from the foundry. A neighbour in passing noticed the woman sweeping up some sand which had blown into the room from the Pigeon place, and said, "I wonder, mistress, ye bother with they doos" (Pigeons). "Aye," replied she, "no bother to me, for they bring the laddies sune hame at night." No sooner said than the laddies came in, two stalwart grimy sons of the forge, who preferred their birds to the public-house or the idle corner. Yes, to enjoy them "the laddies came sune hame at night."—WILTSHIRE RECTOR.

RABBIT JUDGING AT THE LEEDS SHOW.

BEING one of the largest exhibitors of fancy Rabbits in England, and having suffered through incompetent judges being employed at many shows—Hull, Biogley, &c., I think I may venture to say, and my brother exhibitors will agree with me, that the Rabbit-judging at Leeds this year beats all we ever experienced or heard of.

Just allow me to make a remark upon one or two classes, and I may add that in each class there were a good many entries, and that they contained amongst them some of the very best Rabbits in England. In the class for the best Yellow and White, the first prize was awarded to a Rabbit that for colour could not be worse marked. Imagine a yellow Rabbit well splashed with a whiting brush and you will arrive at my meaning, and Rabbits in the same class, unnoticed, perfectly marked, an inch longer in the ears, and perfect in all other points. For the best Black and White, the second-prize Rabbit was (can it be believed?) not lop-eared but oar-lopped, and

dreadfully so, a bad black and white, not at all well marked; ears not more than 19 inches; and those unnoticed were beautiful perfect specimens for colour and quality. The next class, which had twenty-two entries, is the last one I shall notice—the best Self-coloured Rabbit, all properties—and this crowns the rest for bad judging. The first prize was given to a young Blue doe, 21 inches in length, bred by the exhibitor, which came in second at York for the working men's prize—a poor Rabbit in all properties. And what were those left in the rear? Some of the very best Rabbits known, with ears from 22 to 23½ inches long, perfect in all points, form, eye, and colour. The decision arrived at by the Judge needs no comment of mine, it speaks for itself.

What I want to show is, that if societies offer prizes for Rabbits, and would give general satisfaction, they cannot be too careful to see and select competent judges, such as Mr. Hewitt, Mr. Teebay, or Mr. Fletcher, of Hull, men whose names are above suspicion, and who cannot be influenced one way or the other. If such judging as we have seen at Leeds be allowed quietly to go by unnoticed, the respectable portion of the fancy will be disgusted.—ONE OF THE FANCY.

NEW BOOK.

The Naturalist's Note Book for 1863. London: Reeves and Turner.

This is an "Annual Register" of facts noticed or occurring during the year in the various departments of natural science; and numerous and interesting is the concentration in its pages of subjects relating to Astronomy, Meteorology, Botany, Ethnology, Geography, Geology, Microscopy, Zoology, Chemistry, &c. It is a volume useful for reference to the scientist, and for leading the youthful into the paths of science. We will make one extract, not only because appropriate to our pages, but because we can testify to the success of the practice.

"I have for some time kept a fine pair of 'Leperoy's,' a French breed of the large tame Grey Rabbits. I adopted the German mode of keeping them—viz., I converted a rubbish heap in my garden into a sloping bank. I laid a foundation of bricks (about two dozen), which I placed on the ground in four rows of threes, and on these I fixed my hutch, made of an 'egg-chest,' hought of a pork and egg merchant for 3s. 6d. The rubbish heap was in a corner of my garden. I levelled it at the top, and enclosed it with wire netting at 3d. per yard, cut a hole in the back of the hutch, and jammed it up against the end of the bank—wire netting for Hares—enclosing bank and side of hutch, into which I placed a pair of 'Leperoy's' (a cross between Hare and wild Rabbit originally), who in a few days worked their way out of the hole in the back of the hutch into the back of the bank, and made a hole, through which they came on to the top of the bank. Here they used to feed on the food I threw on to the bank daily over the top of the netting. After a time these Rabbits burrowed into the bank again from a hole they made in the angle of the wall, which composed two sides of their bank, and burrowed under the whole bank in a straight line back into their hutch. I have now had three litters of young ones, and my object in writing this letter is to say that the idea that the buck Rabbit will devour his young if left with the doe during the time of her littering is fallacious. The first litter my doe had I took the buck from her; the second and third time I left him on the bank. The doe was so fierce he dared not so much as put his nose inside the burrow in which she had made her nest and deposited her young, and the doe keeps him on the top of the bank until the young Rabbits are six weeks old. Then, and only then, does the doe allow him to enter the burrow, and she again lives with him.

"I have now about twelve or thirteen young Rabbits; my doe is about nine months old. She had two young ones only in her first litter, six in her second, and eight in her third. Several of the little ones have been roasted for dinner, and she is now again making her nest. The buck never attempts to kill his offspring; so if any of our readers wish to keep Rabbits let them adopt my plan, instead of keeping a lot of miserable captives in solitary confinement in dirty bad-smelling hutches. Let the male and female dwell together always on a bank, in unity, as they do in nature; feed them well with vegetables and weeds from the garden, all of which, even nettles, they greedily devour, with a feed of carrots and corn mixed with bran once daily, and they will find they will increase faster than they wish even. At six or eight weeks old I put the young ones on another and similar bank, away from their parents, and thus fatten them up for sale or for our own table. Every six weeks my doe has a litter, and the young ones make their appearance on the top of the bank about twenty-eight days after I have supplied the doe with hay and leaves, with which she makes her nest, either inside the hutch (over the front of which I always have a waterproof curtain), or in the burrows they have themselves made in several different places on the bank, which is about 10 feet square, and 3 or 4 feet high."

It is a mistake stating that the Leperoy's are a hybrid be-

tween the Hare and wild Rabbit. They are merely a large variety of the Rabbit, with fur resembling slightly in colour that of the Hare. We know an instance where white Rabbits, which are much less hardy, were kept successfully in a similar manner.

JERSEY—ITS LIVE STOCK.

(Concluded from page 434.)

From the geniality of its climate, poultry should be as much a speciality in Jersey as its cows, yet not only is the island a nonentity in the furnishing of other markets, but it draws its own supply chiefly from France. The generality of the poultry in the market is only passable, but even this degree of merit has sprung into existence within a few years. It is more than twenty-five years since I visited Jersey for the first time, and then the poultry in the market was poor indeed. The markets themselves were very indifferent compared with what they are now, and the poultry supply mainly consisted of a few diminutive, common, ugly live chickens lying before the market women with their legs tied. These were bought by purchasers and carried home to be killed. Ducks were treated in the same manner. A large Goose was a bird not to be met with. Prices were then low, chickens being about 1s. each, and other poultry in proportion. A dead poultry market was an after-improvement, but now that prices have increased to 2s. 6d. for fowls, and 4s. or 5s. each for Geese, their merit has not advanced in the same proportion. The amateur's fancy for choice poultry has advanced more than the merit in the dead stock. Good fowls of fine sorts are met with rather frequently, and the French breeds are kept by some, but do not appear to be maintained with great distinctness. On the whole the progress of Jersey in poultry-rearing and in the poultry fancy is not commensurate with that of less happily situated localities in England, for it is gifted with a climate and position which ought to render it a valuable depot for live and dead fowls of all kinds. Early chickens thrive well. The island's foundation of rock, and the light soil, render most localities so warm and dry that the injurious effects on chickens, of the cold damp of our English springs, are little felt by Jersey early chickens. Spring chickens for the London market might easily be reared while the price yet continues high, and delicate kinds of fancy fowls might be raised with much less difficulty than in England.

Hitherto, Jersey has not had the spur of a poultry show, for the small addition of a few pens of fowls to the horticultural exhibitions has been too poorly supported to do much good, or to give much impetus to the movement. Now however, there is an effort made which I hope will tend to place poultry on its proper footing in Jersey. A Poultry Society has been inaugurated, and its first poultry show took place on the 23rd and 24th of December. How many places there are in England which may date the benefit arising to rich and poor from a good development of their poultry resources, to the early efforts of a well-managed poultry society! The rich have from it recreation, gratification, and occupation, whilst those who are not gifted with affluence can realise from their leisure hours only, and their children's healthful, non-onerous work, comforts otherwise beyond their means. I hope to see such good results happen in Jersey, and to witness the resources of the island augmented by the abundant rearing of choice and early fowls. The Poultry Society and its poultry show will, no doubt, create an increased love of poultry, and increasing trade in it, to the great benefit of the island's prosperity.

A dog show accompanied the poultry show. A pointer or a pretty spaniel may be seen on rare occasions. There are a few greyhounds about, and also some pretty ladies' dogs, but the dogs, like the poultry, may improve by the aid of the show. A dog tax has lately been introduced in Jersey, formerly so lauded as free of taxation, and this has decidedly decreased the canine inhabitants in number; however, it may act on quality, for perhaps some may think they may as well pay the half-crown for a good-looking dog as for an ugly cur. A peculiar race of large, yellow, brown, rough-haired dogs, which used to frequent the market years ago, has disappeared.

In speaking of Jersey live stock, the goats should scarcely be passed over in silence, for they used to be so numerous on all the hillsides and scraps of waste land, and along the hedgerows, wherever a bit of poor pasture could be found that it seemed that every poor family at least must keep its goat. Rough goats of the common sort, they were generally tethered,

and much teased by the boys, but numerous enough to be very ornamental in the landscape, feeding on the hillsides.—E. W., Jersey.

LARGE HIVES.

The remarks made by your correspondent Mr. A. Pettigrew are so peculiar, as condemning the very best hives in use, and upholding the one that he and his father have imagined to be the best, whilst he misconstrues several sentences in my review of his last letter, that for the benefit of the readers of "our Journal," I will endeavour to lay the facts before them.

Perhaps Mr. Pettigrew will explain what he means by giving the reader a correct idea by contrasting the Stewarton hive with his large hives. Not only is the Stewarton hive the best honey-producing, but it is the largest, hive in the world. Where he condemns anonymous writing, or letters with fictitious signatures, I also beg to differ from him. I regret to say that it is too much the case, that more regard is paid to persons than to talent; and this I am bound to say, that people judge the best when they are ignorant of the names of the owners of the property judged. I beg also to state that I have neither tried to mislead, nor have I misled those "not remarkable for close and accurate thinking." I have not published my experience in bravado, but by stating facts and details of a long experience I have endeavoured to guide aright those who may require it, allowing my pupils to be my judges. I feel, moreover, perfectly satisfied, that although the commendations bestowed on big stock hives may mislead a few, these will very soon be confounded like a swarm which has lost its queen, and will in the long run return to my directions, and will then rejoice as a swarm which has found its queen.

Will Mr. Pettigrew point out any statements which I have made that I cannot substantiate? I can, indeed, make good everything that I have stated, and far more. He asks, How do I know that "large hives in the spring months are comparatively small in population, and without sufficient warmth to hatch the brood?" These are not my words. I said the bees were few in comparison to the size of the hive, and this I know by experience. I can assure him that he is not the only one who has used large hives, of which the disadvantages are many. First, a newly-hived swarm does not build combs so fast as when put into a smaller hive which is capable of being enlarged. Then the bees are more apt to fabricate drone combs, whilst in many seasons they are unable to store food enough for the winter in consequence of having so much comb to build, and when they have made honey and deprivation takes place, much valuable comb is lost or destroyed. During winter the bees are sometimes located at a distance from their honey, and consequently many die from that cause; then in the spring a swarm cannot, as a rule, cover nearly the whole of the combs, in consequence of which moths and other vermin gain access to the hive and destroy much of its contents; the bees, also, are unable to maintain the same degree of heat as when they are located in a smaller hive, and many eggs laid by the queen are lost on that account. These are some of the disadvantages of large stock hives, which are all obviated in the Stewarton hive.

If, instead of my satisfying Mr. Pettigrew, he will satisfy himself as to the quantity of eggs a Stewarton hive can contain, he will, perhaps, be convinced, and I would ask him why he questions that which he will not put himself to the trouble of ascertaining? If he will do so, he will then see that I have neither gone beyond the bounds of possibility nor of reason and if he will cast aside prejudice and submit to be taught, he will find that Stewarton hives are both swarming and non-swarming. If, also, he will peruse my former letters, he will there find some valuable information with regard to the management of bees both on the swarming and on the non-swarming systems. Again, I did not say that three thousand eggs were laid and hatched daily, I only said there was accommodation for that number, showing that there was room for more eggs in a hive of the dimensions which I stated than were allowed even by Mr. Pettigrew to be laid daily; and had he appeared desirous of learning, I would have stated the exact number of eggs laid, together with those hatched, in a hive from March till July, showing the average deaths for every day, thus giving to the bee-keeper a precise knowledge of what size a hive ought to be for every day in the year. Mr. Pettigrew's method of keeping a number of hives one year in order to strengthen them the next is extravagant bee-keeping, which must result in loss, and I am quite sure that bee-keepers

following his plan will have reason to regret it. I am also certain that had Mr. Pettigrew visited Glasgow, the great *dépôt* for first-class honeycomb, and there seen many of what we term second-class honey-boxes, to say nothing of first-class ones, he never would have mentioned that which was hawked about in Manchester and taken from large stock hives. I do not speak this at haphazard, having had ocular demonstration, and having also Carluke honey in my possession, I am quite able to judge of its quality.

I do not believe language can be too strong when nothing but facts are stated, but when it is apt to convey to the mind of the reader an extravagant view of the case, a little policy may be used, but polite letters not showing the truth are worse than strong language, and in these my words I have not gone beyond bounds. Other countries may, doubtless, produce more honey, but taking climate and pasturage into consideration, no hive has beaten the Stewarton, and I have only to appeal to the majority of intelligent bee-keepers, both on this as well as on the other side of the Atlantic, who I am certain will corroborate my statements. It would, indeed, be a matter of regret if such a number of us have laboured so long with improved hives, groping in the dark and being entirely wrong, as Mr. Pettigrew will have it, when one individual only has the right way, and his plan being one of the most primitive. I cannot either believe that drained honey is more in demand than honeycomb; for my part I can sell 1 cwt. of comb for every pint of honey, although as regards my own taste, I prefer drained honey to that in the comb, and believe the majority of the upper classes are of the same opinion; but as they cannot depend on drained honey being perfectly clean, they all prefer to purchase comb and drain it themselves, thereby obtaining the purest honey whilst reserving the finest comb for the table.

None will be more happy to receive Mr. Pettigrew than myself, whenever he may think fit to pay me a visit; but as time works changes and wonders, and as I never count on tomorrow, I do not now give my address, but when he is about to visit Lanarkshire, he can have my address from the office of THE JOURNAL OF HORTICULTURE. But I may here say, that my apiary is continually undergoing changes, and I cannot in the meantime tell whether he will find it in a state of honey-making or of experimentalising. I regret also to say that Lanarkshire is far behind in bee-keeping, and he may not, therefore, find anything very extraordinary. I will, however, most gladly accompany him to Ayrshire, where he will, perhaps, see bee-keeping as it ought to be, and where probably our Renfrewshire friend will give a welcome reception to Mr. Pettigrew as well as to—A LANARKSHIRE BEE-KEEPER.

SUPPOSED STRANGE PHENOMENON IN THE BEE.

THE time is fast approaching when bees emit their annual midnight sounding, therefore I beg to remind those who are curious on the subject that this singular phenomenon was noticed for generations by our ancestors, and said by them to take place at twelve o'clock at night on Old Christmas Eve. Now, for some years back the annual listening to bees seems to have been abandoned, but why I cannot say; for, when a boy, there were three or four old people who could say they had heard the bees on Old Christmas Eve, yet all old people in this neighbourhood persisted that the ox prayed, the ass brayed, and the bees sung at twelve o'clock on Old Christmas Eve. The bees I have thoroughly investigated, and find that they emit a solemn, harmonious sound at twelve o'clock at night on the 6th of January. Here is a discrepancy betwixt the bees and the almanacks, for the almanacks give January 5th as Old Christmas Eve. To satisfy myself on that point, I turned to the word "Chronology" in the "Encyclopedia Britannica," which shows that Pope Gregory XIII., in the year 1582, ordered the 4th of October to be made the 15th of October, and that every fourth century was to be a leap year, and the three intervening centuries were not to finish with a leap year; then the year 1600 was made a leap year, and the years 1700 and 1800 were not leap years, thus putting the new calendar two days farther back from the old, which, with the former eleven days, make in all thirteen days difference between the old and new system. Now from the 24th of December, or new Christmas, we turn the hand of time onward thirteen days, and you will find that the old falls on January 6th, the night on which bees keep an anniversary, but from what cause I cannot say; still the fact that bees do sound annually as

stated above, is easily solved by attending at the proper time.—GEO. WILSON, *Whalton*.

[We gave what appears to us the most probable explanation of this supposed phenomenon when the subject was first mooted in our number of the 27th February in the present year.]

OUR LETTER BOX.

FOWLS PLUCKING EACH OTHER (J. P. H.).—If your fowls are kept in confinement (and we have never known fowls at liberty eat their feathers), you must watch the offender and remove him or her. Feed all the birds moderately with cooling food. Give green meat, especially lettuce, and let them have plenty of fresh earth. You cannot expect to buy all prize birds, but if you deal with respectable people you should have very good birds.

PEAS AS FOOD FOR POULTRY AND PIGEONS (R. R.).—The digestion of Pigeons is twice as quick as that of any other of the poultry tribes. They are birds of feather, and peas are good for plumage; for this purpose they are given to Game cocks to harden feather. Their property is to harden flesh and feather, and this is not desirable for food. They also stop growth. If you will give good, sound, ground oats and barley, you will want no other food. Your egg produce is very good and speaks well for your feeding.

TUMOUR ON HOUDAN'S EYE (Houdan).—Remove it with sharp scissors, and apply caustic to the wound.

DUCKS (Peruvian, Sheffield).—The Muscovy Ducks will not sit, either light or dark ones. They are strong, and their eggs are strong. They become very heavy, but not so heavy as you name. They are not a profitable breed. If these were their only faults they might be overlooked, but the habits of the drake are so filthy he is unfit to be suffered at large anywhere. You will probably find a thorn or a small stone in the foot of your Duck, having perforated the skin. Remove it and she will be well.

GUILDFORD POULTRY SHOW.—We are informed that the Rev. Dr. Merriam obtained the first prize for Aylesbury Ducks.

FATTENING POULTRY (S. P.).—The oatmeal without the mashed potatoes, and made into a stiff paste with milk or the water meat has been boiled in, will do.

COCHIN-CHINA COCK LAME (J. W.).—We answered the query last week. To detect the causes of morbid affections is difficult without full particulars.

PIGEONS SITTING IN WINTER (Pigeon).—Let your birds go on where they are and as they please, only feed them extra well. You may have good luck, save in the case of very tender varieties, such as African Owls and Almond Tumblers, &c. "A hot room" is not a natural, and therefore not a suitable place for Pigeons.

RATS IN A PIGEON HOUSE (Rats).—Shut up your birds at night and feed the rats three nights in succession on a banquet of bread and butter. Their suspicions being thus lulled, on the fourth put a little arsenic with the butter, and you will destroy them all.

MOVEABLE COMB HIVES (Sudbury).—We are still of opinion that the discussion of the question, "Are deckbretchen (deckbretchen are thin slips of wood laid on the tops of either bare or frames, and are, so far as we are aware, entirely unknown in England), necessary or unnecessary in Dzierzon hives, or are they altogether objectionable?" possesses but little interest for English readers. With regard to that which you appear desirous of raising, but to which we made no allusion whatever, we may remark, that however justly Major Munn may claim that his three-cornered frames preceded the rectangular ones of Langstroth and Von Berlepsch, he can make no complaint on this score against Dzierzon, who eschews frames altogether.

FOUL BROOD (G. A.).—None of the contents of the infected hive should be given to other bees. If thoroughly scraped over and disinfected with chloride of lime, the hive may probably be used with impunity next season, although we should prefer laying it by for another year.

BEES RESTLESS IN WINTER (H.).—We do not think the restlessness of the bees, and their being outside the hive in all weathers, likely to be caused by hunger, and doubt whether anything you can now do would not make matters worse instead of improving them. Still, if it be evident that something is very much amiss, we might ourselves prefer risk to suspense, and should in this case avail ourselves of the first fine mild day to lift out the combs, and make a thorough examination, with the view of ascertaining what is wrong, and applying a remedy. Should food be imperatively required, it must, at any rate, be administered where they are.

BEES NEAR A MANUFACTURING TOWN (Black Donold).—If we lived in a similar situation we should not be deterred from giving bees a trial, and if none are kept by the neighbors your bees will have the better chance. If instead of a swarm your friend will send you a stock with combs a year or two old, it will travel safely from the Land's End to John o'Groat's if sent early in March and packed in the following manner:—Tie the hive up in cheesecloth, and guard against the bees escaping by passing a cord tightly twice round it about 2 inches from the bottom edge. Next invert it, and pack it securely in this position with either hay or straw in a tea chest of appropriate size, and of sufficient depth to leave an inch or two clear space above the hive, which should be kept from moving by a strip of wood passing across it and nailed to the sides of the box. Next bore half-a-dozen holes with an inch bit in the lid, which should then be nailed on, marked—"This side up," and the package, after being well corded, may be safely sent to any part of the kingdom, or indeed to any part of Europe.

CANARY-KEEPING (A. B.).—We cannot find space for all the details of management. If you enclose twenty postage stamps with your address, and order Brent's "Canary and British Finches," it will be sent to you free by post from our office. It contains full details. The fire tree in your aviary will be beneficial rather than the contrary.

GOLD FISH (Idem).—We know a successful keeper of these who gives them raw meat cut fine—a very little, almost daily. The tank should have sand at the bottom, and might have nearly all the water taken out without removing the fish. Handling them is bad practice.



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