

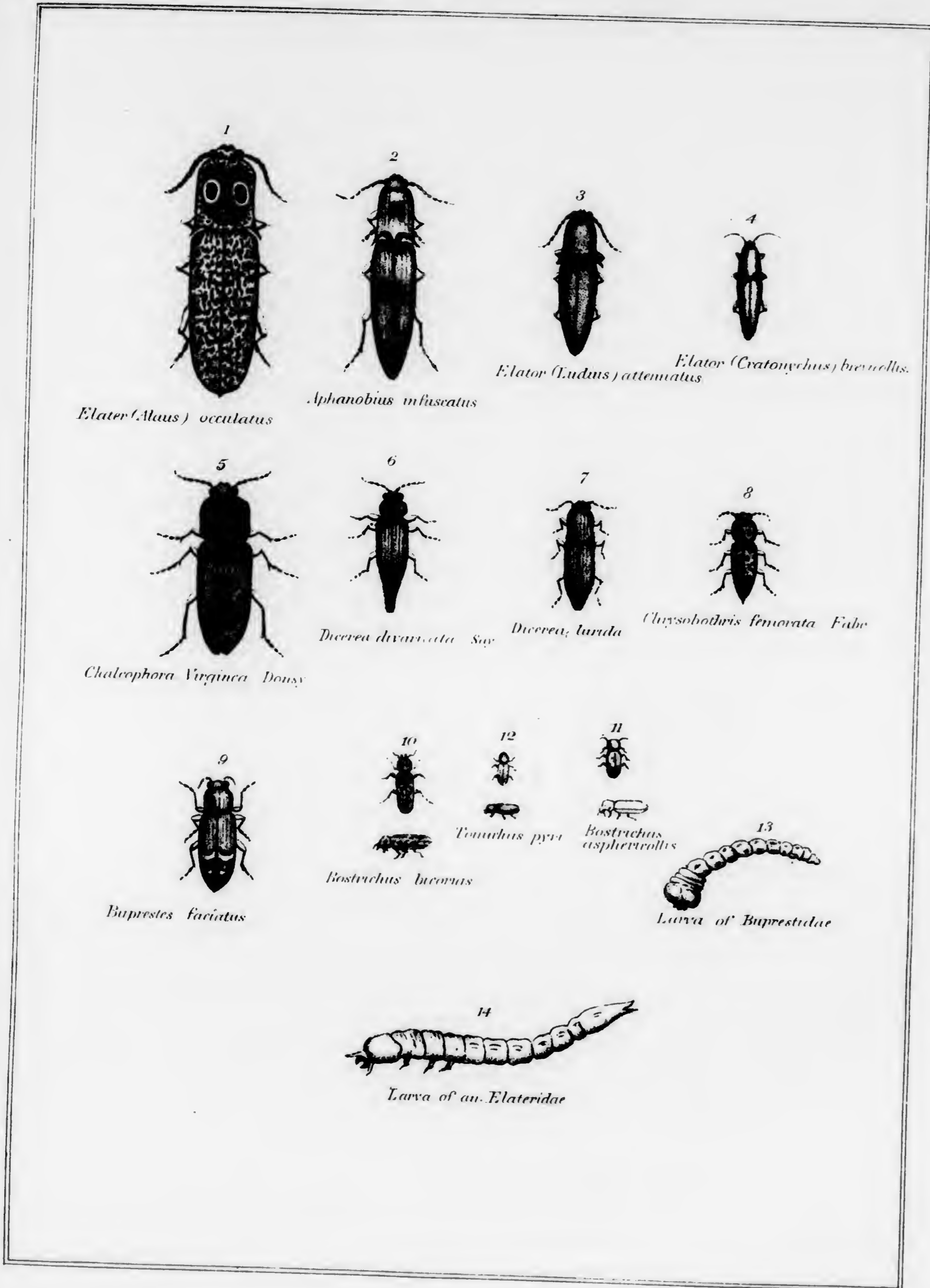
**Title: The Gardener's monthly and horticultural advertiser,  
v. 3**

**Place of Publication: Philadelphia**

**Copyright Date: 1861**

**Master Negative Storage Number: MNS# PSt SNP aAg111.3**

**Volume: 3, 1861**



# THE GARDENER'S MONTHLY.

DEVOTED TO  
Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

JANUARY, 1861.

VOL. III.—NO. 1.

## Hints for January.

As we are commencing the year with a largely increased list of subscribers, it may be as well to again observe that we do not in these hints propose to give exact monthly directions for what should be done in the garden. Our subscribers are about equally distributed over the whole continent, and rules for work would thus manifestly be inapplicable to the largest portion of them. Our object is to give general hints, principles and practices, that are little known or liable to be forgotten, and that may be useful to every reader in any part of the country. Our friends have been pleased to express considerable interest for this department of our journal heretofore, which we shall endeavor still to sustain.



### FLOWER GARDEN AND PLEASURE GROUND.

In the north, with the great body of vegetation still shrouded in snow and the usual habiliments of winter, little can be done in this department; but in the Southern States gardening operations will be about commencing actively. Pruning should be completed as soon as possible. Some judgment is required in pruning flowering shrubs, Roses, &c., although it is usual to act as if it were one of the most common-place operations. One of the most clumsy of the hands is commonly set with a shears, and he "goes through" the whole place, clipping off every thing indiscriminately. Distinction should be made between those flowering shrubs that make a vigorous growth, and those which grow weakly; and between those which flower on the old wood of last year, and those which flower on the new growth of next season, as the effect of pruning is to force a strong and vigorous growth. Those specimens that already grow too strong to flower well, should be

only lightly pruned; and, in the same individual, the weakest shoots should be cut in more severely than the stronger ones. Some things like the Mock Oranges, Lilacs and others, flower on the wood of last year—to prune these much now, therefore, destroys the flowering: while such as Altheas, which flower on the young wood, cannot be too severely cut in, looking to that operation alone. We give below a full list of the shrubs in most common cultivation, of the different classes.

Ornamental shrubs that flower chiefly from the wood of the preceding year: Snowy Mespilus, Dwarf Almond, the different kinds of Andromedas, Azalias, Kalmias, Rhododendrons, Calycanthus, Corchorus, Cornelian Cherry and the other Dogwoods; Philadelphiaeuses, Deutzias, Mezereon, Leather wood, Fothergilla, Golden Bell, Hydrangeas, Itea Virginica, Jasmynes, Privet, Upright Fly and Tartarian Honey-suckles, Pyrus japonica; the Missouri and other ornamental Currants; most of the early flowering Spiraeas, Dwarf Pavias, Snow Berries, Guelder Rose, Wiegelia rosea, Persian and other Lilacs, Annual Roses.

Shrubs that flower from the present season's growth: Amorpha fruticosa, Ceanothus Americana, Bladder Senna, Coronillas, Burning Bushes, Genistas, Scotch Broom, Althaea; Hypericums, such as Kalmianum, prolificum, &c.; Green-fringe, Flowering Locusts; the Fall-flowering Spiraeas, Tamarix, Vitex agniscastus, &c. These lists also embrace the most desirable of ornamental shrubs in cultivation, from which the amateur may select when the planting season arrives.

In pruning roses, the Fall-blooming kinds, which flower on the new growth, may be pruned as severely as we wish—in fact, the "harder" they are cut in the better. In this class are the Noisette, Bourbon, Tea, China, and Hybrid Perpetual, and Perpetual Moss. Without considerable experience it is difficult for the amateur to distinguish these classes; the best way to get over the difficulty is to obtain the catalogues of the principal rose-growers, in which each kind is usually classified. Amateurs should pay more attention to the scientific—if we may so term it—study of the rose, and its classification and general management; no class of flowers is more easily

understood, and no one affords so rich a fund of perpetual interest.

#### VEGETABLE GARDEN.

SOUTH of the Savannah River, most kinds of the hardier garden crops may be planted this month: Radishes, Peas, Cabbages, Turnips, Beets and Carrots, Spinage, Parsley, Lettuce, Onions, &c. North of this point, but little can be done but prepare for the next and following months. Manure, compost, poles, stakes, &c., will be had in readiness; tools ground, fixed and brightened; seeds of the best quality made into lists and even ordered, for it should not be forgotten that when the busy time comes, the seedsman is as much hurried as the rest of mankind, and holds a grateful feeling towards those, who, in addition to other commercial "favors," are considerate towards him.

This is one of the most trying periods of the year to cauliflowers in frames; if they have a lively bottom heat, and from the severity of the external atmosphere cannot have much air allowed them, they will be very likely to "button," as gardeners call it. No opportunity of admitting air safely should be lost. Cabbage and lettuce preserved in frames for planting out in Spring, should also have all the fresh air the weather will permit.

#### PLANTS AND PLANT HOUSES.

No one can fail to admire the innumerable beauties in the way of handsome flowers, that uncultivated nature everywhere scatters so abundantly around us. Beauty is the same wherever it exists,—in the parlor or drawing-room; in the green-house or conservatory; in the hut of poverty; in the "Barcan desert," or the most unfrequented and wildest spot.—No one we think can admire wild flowers more than the writer: he traverses many a mile in search of them, and if but one new feature in the fair face of Flora is discovered in each trip he feels well rewarded. But with all his faith in the immutable principles of beauty, and all the love amounting to a species of veneration he holds for beautiful wild flowers, he cannot agree with a very common view that they are equally deserving of cultivation with the collected treasures of foreign lands, or the improved beauties of our own.

To view a well filled conservatory, or well cultivated stock of plants in a tasteful greenhouse, excites at this season different sensations than even the most lovely prairie, or beautiful Alpine Flora ever does. We feel that choiceness is there, and the hand and power of man overcoming the obstacles and adverse circumstances of nature, is a never failing source of pleasure and delight. It is part of the nature of man to revolt at useless labor. Even the sternness of hunger, will scarcely compel a man to work unless some

useful object is accomplished. The late Stephen Girard, with all his eccentricities, was a very charitable man. No ones necessities went unrelieved.—But he had his own way of doing good. He held that no able-bodied man should eat, till he had first earned his meal, and so he seldom gave money but he would always give work. However that it might not be supposed that actual charity was not his object, he did not care to profit by the labor of the poor; but kept a pile of stones on the wharf, and applicants for relief were set to remove them first from one side of the wharf to the other, and back again, till the allotted time had expired. It is related that but a small moiety of those asking for and willing to work, would labor at this objectless and profitless task, preferring rather to take their chances for less certain, harder, or more laborious employment. It is precisely thus with the cultivation of wild flowers. It seems so profitless to dig up, remove a few hundred yards from the woods to our flower border, and weed, tie up, cultivate, and labor to effect what nature does for us just as well. That the idea will never become popular. Greenhouses, and choice flowers, and foreign luxuries in the floral line, will ever be the object of the Horticultural importunate, and we shall never regret our share in ministering to this feeling.

At this season particularly can we "sing" of the charms of this branch of our art. He who has no greenhouse or plant cabinet of some kind, is as we said in our last issue, a species of the human genus to be pitied. Australia, the Cape of Good Hope, China, the East Indies, South America, and the tropics of both hemispheres, are now in their glory, and for the next two months at least will afford us all the variety and interest we want.

The Cineraria, or Star flower as it is being popularly called, is about to flower now. Those kinds that grow naturally tall and lean are going out of fashion, kinds with good semi-circular heads, and dwarf habit of growth are the favorites. In saving seed select such plants as come nearest to these points for that purpose. Some very Dwarf ones have recently appeared in England that scarcely exceed one foot in height under very favorable conditions of growth. Calceolarias should be particularly kept near the glass. Auriculas, Polyanthus, and primroses and violets like a cool moist atmosphere. Heaths, Epacris, Correas, and delicate New Holland plants must be continually examined to ascertain whether their roots are in a healthy state of growth. Hyacinths in glasses should have the water changed about once a week, rain water or thawed snow is the best, and a few pieces of guano about the size of a pea helps considerably. Correas and Coronillas, are amongst the easiest of delicate ornamental plants to grow. Amaryllis and cape bulbs when grown well

are amongst the handsomest of plants. They are now about to grow, and consequently it is the time to re-pot them. Amongst the new flowers do not forget the merits of old ones, and particularly stock gillies and double Wall-flower. Old Fuchsias cut down make very strong and noble specimen plants when they shoot up again. For propagation old plants should now be forced a little, and the sprouts taken off and struck. Begonias many of them are commencing growth and may be re-potted, they do not do well in very large pots.

## Communications.

### SKETCHES of PHILADELPHIA BOTANISTS

(Concluded.)

BY L., HADDONFIELD, N. J.

#### VII.—MUHLENBERG.

THE student of the grasses will remember Dr. Henry Ernst Muhlenberg. This thorough classical and oriental scholar was born in Montgomery Co., Pa., in 1753, and was sent, at the age of ten years, with his two older brothers, to complete his general education, and study theology at Halle, in Prussia. He returned in 1770, and was ordained at the early age of seventeen, and became assistant to his father in the Lutheran Church at Philadelphia.

During the occupation of the city by the British, he commenced the study of botany in his retirement in the country, and attained to eminence in his favorite pursuit. He was elected a member of the American Philosophical Society, and soon after became a member of the leading associations of a similar character in Germany and the north of Europe, and enjoyed a correspondence with the leading scientific men of the day.

His chief publication—"Descriptio uberior graminum," published by Solomon W. Conrad in 1817, who himself became, in 1829, Professor of Botany in the University of Pennsylvania, and a highly popular lecturer on the science. S. W. Conrad deceased in Philadelphia in 1831, aged fifty-two years, leaving an example of serenity, and even cheerfulness, under the dispensations of Providence, precious in the recollection of many who both respected and loved him.

Dr. Muhlenberg was one of the chief contributors to the early volumes of the Transactions of the American Philosophical Society. His "Flora Lancasteriensis," and a number of papers on botany, theology, &c., remain in manuscript. His herbarium was purchased and presented to the American Philosophical Society by Zacheus Collins, Dr. Wistar, Dr. James, and other friends of science.

In 1780 Dr. Muhlenberg accepted a call to Lancaster, where the remainder of his life was passed in the discharge of his pastoral duties, and where, in 1815, he closed a career marked by distinguished talent, piety, and usefulness at the age of sixty-three.

"Muhlenbergia," a genus of the Gramineæ, was happily named in honor of him who successfully brought the resources of German industry and patience to the study of the difficult subject of the grasses.

Our limited space forbids enlargement; and, with regret, we can but name our distinguished fellow-citizens, Dr. Darlington and Dr. Pickering; the former of whom has largely aided in popularizing botanical science, and has made us his debtors by his edition of the Correspondence of Collinson and Bartram, and kindred publications; the latter a devoted botanist and ethnologist, who, having accompanied the Wilkes' Exploring Expedition, gave to the world an interesting volume, the results of observations on the various races of mankind, a most valuable contribution to a study of great and growing interest.

Philadelphia, the favorite home of botany in olden time has not been left without able and enthusiastic admirers and students of "the amiable science" in the present day. A Kennedy, an Ennis, and a Coultas sustain the reputation of days gone by, and nowhere is a deeper and more intelligent interest felt and exhibited in the subject and its kindred horticulture, than among the cultivated citizens of Philadelphia.

This hurried notice of some of the worthy ones whom science "has delighted to honor" has already been extended beyond my original intent. I well remember my boyish pleasure in observing that many eminent botanists had been commemorated in genera bearing their names, while I longed to learn something of their lives and fortunes, and have been instigated to compile these simple sketches from the belief that they may be more interesting to some inquirers seeking, as I did, for such information.

[We are sorry to come to the end of these interesting sketches, and we are sure all our young readers share our regrets. We hope our scientific friends of other cities will send us notes of the many other honored names in American botanical history.—Elliot, Clayton, Pursh, Bigelow, Schweinitz, Baldwin, &c. The list is a long way from being exhausted.—Ed.]

#### REMEDY FOR THE PEACH-BORER.

BY J. VAN BUREN, CLARKSVILLE, GA.

As frequent complaints are made of the depredations of the peach-tree borer, and a great number of

remedies, most of which are worthless, and others troublesome or impracticable, are from time to time published, will you, through the medium of your serial, publish the following, which, we have little doubt, will prove effectual, as well, be of such easy application as to suit the laziest subscriber on your list.

Take about a half pint of common salt, and sew it up in a small bag of strong cotton cloth, such as common Osnaburg will answer all purposes; tie this in the fork of the tree, where let it remain until the salt is dissolved by the rains that fall, which will be in the course of two years, and the work is done.

The brine that runs down the trunk of the trees will kill both worms and eggs as they are deposited; besides, it proves a benefit to the tree. Should there have accumulated a hardening of gum at the surface of the ground, as is sometimes the case, it should be removed, so that the solution may reach the worms. It is equally as applicable for the apple-tree borer and aphids at the roots.

#### A CHAPTER OF HINTS.

BY C.

DR. HAYES' article quite satisfies me. Now let us both unite in endeavoring to give to your readers every little information we meet with, in our readings, intercourse with others, &c.; and as some knowledge with chemistry will enable us to tell others the value of many of the now various animal and mineral manures, and how much would be injurious, and how much beneficial, let us do it in as plain English as possible. If Mr. Bright has found watering his grape-vines with tartrates give them more vigor, and brighter green, and finer fruit, no doubt but it is a useful fact to be pursued by others.

Dr. Uhler suggested and tried aloes in solution; and glue in his spent-tan beds. Useful facts,—let us try them; and so on throughout your magazine in the editorials and monthly work, which are full of suggestions and experimental knowledge. Let us receive all these things and experiment on them, giving you the results. For my part, the more I experimentally and practically study horticulture in all its branches, the more I find the want of these little facts,—sometimes only "hints,"—and if we store them up for use, we shall by-and-by reap fruit. There is no use or good in a chemical disputation. What are theories or hypotheses, or the reasoning of a laboratory to the gardener or fruit-grower? Liebig, at one time wrote, he would soon be able to carry in his waistcoat-pocket manure for an acre of ground. Many years have passed, and yet he has not reduced it to the bushel. Facts ever so small and simple may be valuable, and I would call on you and your many correspondents to

fill some of your pages with them. Much may be conveyed in a few lines, and may lead to valuable results. We have many things to combat,—adverse soil, drought and heat, moisture and frost, insects and fungi. Every practicing gardener has met with all these, and no doubt wars against them some way. Let him keep notes of results, and a vast deal of information will be acquired. In reading somewhere, a few days back, I met a suggestion, that if plum trees were planted on an eminence, say a suitable hill, it would escape the cureulio. If I do not mistake, the writer said he had tried it, and the result was favorable. We know that many of these small insects will not fly high, and that low atmospheres are more attractive to their habits. The cabbage-fly will not infest the young plant, if seed be set in boxes and raised a few inches above the level. I tried watering my young cabbage this year with a solution of aloes in water, and found the seedlings I had used it in nearly free, while those in the neighborhood were infested. I also steeped the seed in the solution; but I found that a couple of waterings saved my plants. To try this is not expensive, and, if useful in lessening the pest, is valuable. I have no doubt but many solutions of salts and gums, if tried, might render the leaves disagreeable to these parasites. We must keep up a perpetual war against them, or we can have no crops. Has Dr. Uhler reported to you his experiment of watering his plum trees with aloes-water earlier this season than last. It would interest to know if he has. M. Mercieul, in a letter to the French Academy of Science, gives an account of a new mode of applying sulphur to diseased vines. He selected a number of last year's diseased plants, which he planted in two groups. On August 16th last, when indications of the oidium appeared, he dug up the earth round the roots and stems of one group, and laid round the roots and stems a handful of flour of sulphur. On September 20th the vines thus treated were quite free from disease, and in excellent condition; while the other group, left to itself, was in a wretched state through the rapid progress of the disease. Mr. M. is thus led to conclude that the malady of the vine is a general affection, and must consequently require general treatment.

If you think such little notices as these worth your sending forth, and that they will be any way useful to an end, I will, now and then, as I meet them, send them. Many diseases appearing in the leaves of plants may be a general affection. Some of our finest roses, that mildew in all situations and under all weather, may be entirely caused by a general affection, and not the direct action of season on the externals, though it is then it becomes apparent.

[We had already noted the observations of M.

Mercieul, and they will be found commented on in another portion of our paper. The hints and facts C. alludes to are just the matter we like to get.—ED.]

#### ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(Continued from page 329.)

#### INJURIOUS INSECTS.

The catalogue of tree-boring *Coleopterous* insects, however, does not terminate here. There is a large family of *Serri-cornians* or "saw-horned" beetles, that are similar in their habits in their larva state to the *Capricorns*, and quite as injurious also. The larva of these insects are easily distinguishable from those of the *Capricorns* by the anterior portion of the body of some of them being much produced, giving them something the appearance of a tadpole, and others being cylindrical.

12th. *Chrysobothris femorata*, Fab. Or "Thick-legged Apple-tree borer." Plate II, fig. 8. Length, about half an inch; color, greenish black, with a brassy polish; two very distinct metallic spots on each wing-cover; eyes prominent, head broad, and antennæ short; the thighs of the hind legs are somewhat thickened and dilated. This insect makes its appearance from the end of May until the middle or end of July, and in addition to the apple tree, it also infests the peach tree and the white oak, the latter of which is doubtless its native tree, and to which its operations perhaps would have been confined had not other circumstances invited it to our orchards and domestic trees.

13th. *Dicerea divaricata*, Say, or "Wild Cherry-tree borer." Plate II, fig. 6. Length, seven to nine-tenths of an inch; color coppery; thickly covered with small punctures; wing-covers taper much behind and *divaricate* or stand a little apart at the ends; thorax marked with fine elevated lines. These insects are found in and during the months of June, July and August, upon the wild cherry, also upon the limbs of the peach and domestic cherry trees, and their grubs may be found where the gum exudes from the limbs of those trees, among others of similar habits.

14th. *Dicerea lurida*, Fab., or "Hickory-tree borer." Plate II, fig. 7. Length about the same as *D. divaricata*; color, lurid or dull brassy, bright coppery beneath; thickly punctured all over; impressed lines and spots on the wing-covers. This insect is one of several borers that infest the hickory tree, and it is only introduced here because it is so nearly allied to the former insect noticed, and there can scarcely be a doubt that in proportion as its natural habitation and its natural enemies are destroyed, it will have recourse to domestic trees.

15th. *Calcephora virginica*, Drury. A "Pine-tree Borer." Plate II, fig. 5. Length, from one inch to an inch and a quarter; form oblong; color, brassy or coppery, but sometimes with hardly any metallic reflection; the upper side of the body roughly punctured and indented; on the thorax are three elevated polished lines; on the wing-covers are also irregular polished lines; appears in May and June. As our pine forests fall before the axe of the lumberman and the agriculturist, this insect must be driven in towards the borders of domestic cultivation, and although comparatively a stranger now, yet, from its habits, and from its analogy of form and structure to the one that already infests the apple tree, there are those now living who may become acquainted with it in a manner by no means agreeable. This is our largest American species.

16th. *Buprestis faciatus*, Fab. Plate II, fig. 9. Length, half an inch; color, deep metallic green; a yellow or brassy band and spot on each of the wing-covers. This insect I have received from Maine, Maryland and Missouri, and I have also found it in Pennsylvania. It is a beautiful insect, and probably has a wide distribution. Not much of its habits is specifically known to me, any more than that it is a wood borer. I have captured it on apple trees in proximity to the forest, in York county, opposite Marietta. From its general appearance, in comparison with the foregoing *Buprestans*, we may infer its character. The foregoing *Serri-cornians* belong to the old Linnean genus *Buprestes*, and are therefore called *Buprestidæ* to distinguish them from the *Elateridæ* which are allied to them in general form and structure as well as in their habits. These latter are known under different common names in different localities; they are best known in some places as the "Click-beetle," in others, as "Snapping-beetle" or "Spring-beetles" or "Skip-Jacks"—as in England, or "Schnell-käfer"—as in Germany; I have also heard the name of "hammer-head" applied to them. The larva of these beetles differ much in shape from the *Buprestans*, being long and cylindrical, with a hard, smooth yellowish skin, bearing some resemblance to our meal worm. Some of these larva are wood borers, but a large number of them live upon the roots of herbaceous plants.

17th. *Alaus oculatus*, Lin. "Big-eyed Spring-beetle." Plate II. Fig. 1. Length, from an inch and a quarter to an inch and three-quarters; color, black, and covered with minute whitish spots or dots, giving the insect a finely-speckled appearance; the thorax is about one-third the length of the body, and has two large velvety black spots, with white margins or rings around them,—something like owls' eyes,—from whence the name *oculatus*; found on trees and fences in June and July. The larva is a yellowish grub, sometimes measuring two inches in length, and proportionately broader and flatter than others of the same family; the caudal segment terminating with two sharp-pointed warts. See Fig. 14. This is the largest species of these Spring-beetles known in this country, the larva of which bores into different kinds of trees; and, as the insect is becoming more common among us than formerly, we may infer that our fruit trees will not be long exempt from its operations. Some of the European Elaters are known to remain in the larva state five years; and, although I cannot tell how long the one under consideration remains so, yet, from analogous reasoning, we may suppose that it does not differ materially from the former. Dr. Harris and others have found it in old apple trees, and I have found it in an old locust tree.

18th. *Cratonychus brevicollis*, Hbst. "Brown Click Beetle." Plate II. Fig. 4. Length, from three-eighths to half an inch; color, pale brown; the larva are cylindrical and smooth, approximating in form to the "meal-worm." This insect is quite common, and I have very frequently found it and its larva under the bark of old and decaying stumps and logs, without regard to the particular kind. As the mature insect is also frequently found upon fruit trees, it is not at all unlikely it may have been bred in some decayed parts of the tree, if not in the living. I am, however, inclined to the opinion that the whole family of Elaters are partial to dead wood.

19th. *Ludius antennatus*, Say. "Large-winged Click Beetle." Plate II. Fig. 3. Length, from seven-eighths to one inch; color, dark brown; wing-covers, tapering, from the base to the extremity, to a point, which are sometimes black. Rather rare, and only found in the most secluded regions yet. I obtained them from under the bark of oak trees, and this individual is only introduced here as being nearly allied to the immediately foregoing one.

20th. *Aphanobius infuscatus*, Germ. *A. sordidus* of Melsheimer. "Pale-Brown Spring Beetle." Plate II. Fig. 2. Length, one inch and a quarter; color, rusty brown; covered all over the upper side with minute hairs. This insect is, perhaps, more frequently found north of us than in Pennsylvania. I have merely introduced it here from its resemblance to Fig. 3, and in order to familiarize the reader with certain insect forms by which he may immediately know whether they are friends or enemies. Among the serricornians he will observe there are two general forms of the larva, differing more or less, according to family and genus. Fig. 13 of Plate II. represents the *Buprestidae*, but some of them have the anterior segments more developed, and the body not so long. Fig. 14 represents the *Elaterridae*, but some of them are shorter and thicker, and others longer and more cylindrical. These insects may be destroyed by the same means that I have suggested for the destruction of the capricorn beetles. But I have very little confidence in any other remedies than those found in a personal inspection of trees and plants, and a destruction by manual means of those insects we know to be injurious, or leaving them to the tender mercies of the birds, and bats, and moles, and skunks, who, although indiscriminate, are still the best cure, on the score of prevention. There is a family of small cylindrical beetles, which bore diametrically into the limbs and bodies of forest trees, and some of them also infest the pear and the apple trees, confining themselves, however, mainly to the smaller branches. I can only notice two or three species of them at this time.

21st. *Bostrichus sphericollis*, Germ. "Blight Beetle." Plate II. Fig. 11. dorsal and lateral view. Length, the eighth of an inch; color, brown; roughly punctured, especially on the thorax, which is very bulging in front, and the head drawn under. This insect is by no means a rare one, and has a wide distribution; for, in addition to those which were obtained in this locality, I received a proportionately large number of them in collections from California and Missouri. A writer in the *Prairie Farmer* describes an allied species (*B. bicaudatus*, Say) as very injurious to the apple trees in Illinois. They form a burrow in the heart of the bearing twigs, entering at the axil of a fruit-spur or bud, and bore downwards. Although this species is not yet very common here, yet there it is represented as being very abundant. Mr. Say found them rather rare twenty-five years ago about the mouth of the Ohio River.

23d. *Tomicus pyri*, Peck. Or, "Pear-twig Borer." Plate II. Fig. 12. dorsal and lateral view. Length, about one-tenth of an inch; color, light brown, sometimes a deep brown; thorax, short and very convex; the wing-covers are minutely punctured in rows, and slope off suddenly and obliquely behind. This insect is similar in its form and its habits to the one last mentioned, and in a similar manner attacks the pear tree. It is recommended to examine apple and pear trees daily during the month of June, and where any

blight takes place from these insects, the twigs should be cut off a little distance below the blight and burned. The leaves wilt and change their color on the infected branches, and may readily be seen, and as the insects are so small, it would be difficult to destroy them by any other means. The Bostrichians have, in times past, been exceedingly destructive in Europe—large districts of forest having been laid waste by them, and consequently their natural organization and habits comprise an element of destruction, that only requires time and circumstances to develop.

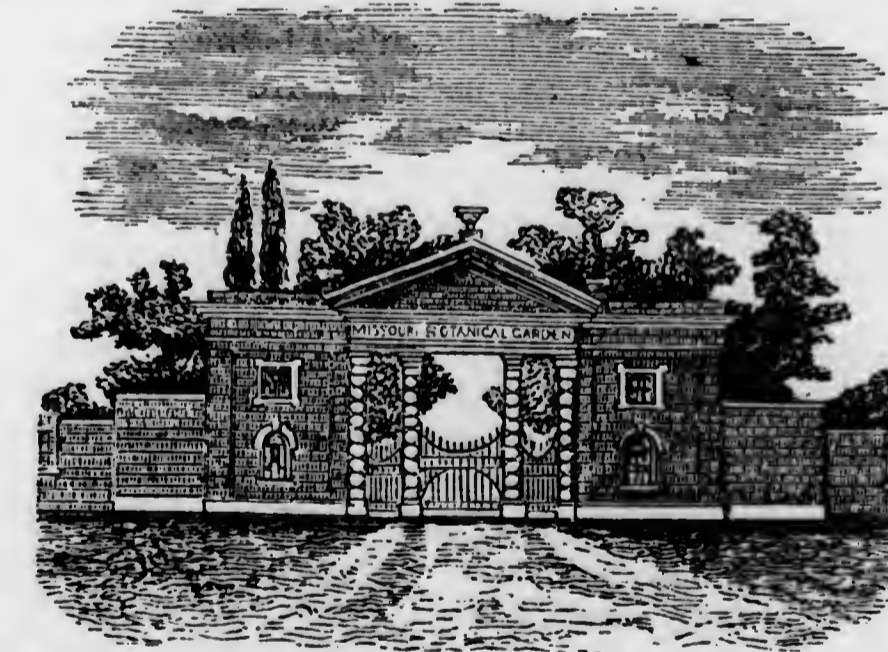
22d. *Bostrichus bicornis*, Say, "Horned Blight-beetle." Plate II, fig. 10, dorsal and lateral view. Length, a quarter of an inch; form, cylindrical; color, dark brown or nearly black; thorax bulging in front, and head very much sunk, hardly visible from the top; two short spines or horns projecting from the front of the thorax, whence its specific name. This is also a wood-boring insect in its larva state, and is injurious to oak and walnut trees. During warm days in June and July they are very active, and on the wing all day; flying also into houses through open windows where there is a light in the evening. Like the former species named, they are liable to attack fruit trees, and it is advocated by some that these insects and allied species are the cause of the "yellows" in peach trees; but I do not think this is to be inferred from having once found them in such trees. The yellows is a disease in the peach tree, which it is exceedingly difficult to identify with the presence of insects, as a superinducing cause, although various kinds of insects may often be found in them. In my opinion, diseased trees are sought by insects as the most favorable to their purpose, on account of the feeble organic action of such trees.

#### ST. LOUIS BOTANICAL GARDEN.

BY K., ROXBOROUGH, PA.

Having recently visited St. Louis on business, I seized a few leisure moments to drive out to this establishment, which owes its existence to the munificence and fondness for scientific pursuits of Henry Shaw, Esq., of that city.

Being provided with a note from Mr. Shaw to the superintendent, I met with much attention, and was afforded every facility for examining the different departments. The garden is situated about three miles from the centre of the city, in a beautiful part of the country. It contains in all about two hundred acres, a considerable portion of which is already improved. The entrance to the grounds is through a massive and tasteful gateway, built of a gray stone; a drawing of which I inclose.



A large portion of the grounds are already enclosed with a solid wall of the same kind of stone as that in the gateway; where it borders on the road it is surmounted with an iron railing. The first enclosure or department that you enter is the botanic garden; it contains about ten acres, and is already very neatly laid out with fine broad walks, most substantially constructed and bedded in stone, and well supplied with surface drains. Here it is intended to keep specimens of indigenous and hardy exotic herbaceous plants and shrubs, classified according to the natural system.

On one side of this enclosure is a fine building, about 40 X 75 feet, intended as a museum, library and lecture-room; it is of pressed brick, faced with marble, and is very neat and chaste. You enter the building through a noble doorway, most elaborately ornamented with marble, and find yourself in the museum, which occupies the greater part of the principal floor of the building. The ceiling of this

room is most artistically and appropriately decorated with frescoes of oriental plants, in their natural colors and all of them in their foliage and flowers, not only in the highest degree beautiful, but also botanically correct. Among them I noticed the banana, dracenas, palms, marantas, cacti, and even our own gorgeous helianthus or sun-flower. The floor of the building is paved with encaustic tiles, and light iron galleries encircle the walls so as to afford access to the upper cases of specimens. Immediately under the museum, in a kind of basement, although entirely above ground, is the library in which is already placed the magnificent herbarium recently purchased by Mr. Shaw, of the heirs of the late Prof. Bernardi, of Erfurt, Germany. It contains twenty thousand species and one hundred thousand specimens! An excellent German botanist is now engaged in re-arranging it.

Adjoining the botanic garden on the opposite side to the museum and library are the green and hot-houses, pits and frames. The former are erected in the most substantial manner; those already completed are about 150 feet long and divided into four compartments, viz: dry stove, moist stove, intermediate and cold greenhouse; they are already filled with a choice collection. The roof of this range of houses is on the ridge and furrow principle, but at an inclination of nearly 45 degrees, being a *lean-to* against a back wall. The frames and pits are enclosed with a high wall, which, at the same time shelters and hides them. The pits, and hot and greenhouses are heated with hot water, and are provided with *double front* or upright sash. In the moist-stove the hot water pipes are provided with saddle-shaped tin pans to supply evaporation. Immediately in the rear of the plant houses is a range of neat lodging rooms for the men employed in the establishment.

Adjoining the botanic garden on the left of the library or museum is the large enclosure which is to be devoted to an experimental fruit garden, specimen orchard, or fruticetum, pinetum and arboretum; this department will be in time the most useful and interesting, and the founder has devoted to it some 150 acres, a considerable portion of which is already planted; one part of it as a maze or labyrinth; another, as a vineyard with many of the vines trained on trellises.

Mr. Shaw is ably assisted in this and the other departments by the head gardener, Mr. James C. Smith. I omitted to state that the soil appears to be well adapted to the purpose, having been heavily manured and well trenched; everything that has been done here appears to be *thoroughly* done; in short, the entire establishment, even in its present unfinished state, reflects the greatest credit on the

noble-hearted founder and his able assistants. I am glad to find the good work so auspiciously begun, and hope this example will be followed until not only our large cities but even our country villages will each have its park and botanic garden.

#### BOTANICAL KNOWLEDGE IN THE NURSERY BUSINESS.

BY ORCHIS.

For the love of science, Mr. Editor, as well as of good taste, please allow an unpretending votary of Botany the liberty of calling the attention of nursery-men to a fact that greatly needs reforming.

The unpardonable faults almost daily committed by the *trade* in compiling their catalogues, has been for a long time to me a source of much astonishment, that a class of business men proverbial for intelligence and progression, should so overlook the most important, if not the primary step in the ornamental department of their business. Why is it the case that scarcely an exception out of the large quantity of catalogues annually sent out should be so deficient in this particular? The answer is plainly to be seen—for the purpose of avoiding trouble on the part of the compilers; their lists, together with the misnomers are accurately copied from their exchanges, thus entailing the errors so frequently seen; when they could so easily be avoided by a slight knowledge of Botany; or even searching personally from the works of the authorities on the subject.

The young botanist has to encounter a host of difficulties before attaining perfection, or indeed a mediocre of the requisite knowledge of the science; but instead of discouraging, it should be an additional stimulus to urge him on. He will have to brave the ridicule of the ignorant, and overcome the difficulty in understanding as well as pronouncing the names and terms used. It will also require a diligent application to the proper classification of specimens into genera and orders, but after overcoming the first obstructions, he will be surprised how easy the task to become proficient, and with what zeal he will enter upon the practical part of the study, which embraces the delightful rambles through the woods, along the shaded streams, and in "special localities;" none but a naturalist can appreciate the pleasure. During his daily walks, whether on business, or in pursuit of pleasure, each tree and plant are as old acquaintances to him; alike the gaudy flower and the homely weed he sees beauties in them all, and knowing each, combines to form one grand harmonious whole, and shows the vast conception of the Great Supreme.

The botanist's love for the science ends but with life itself; and when in the "scar and yellow leaf" the recollection of the manifold pleasures enjoyed

in the pursuit, enables him fully to appreciate the exquisite lines of Sprague—

"I breathe the summer air!  
I wander in the woodland paths once more!  
Again the copse, the dell, the meadow, wear  
The loveliness of yore."

[The last paragraph of our correspondent's communication is worthy of being reflected on by *all who expect to grow old*. A love of the natural sciences, entered into when young, and pursued with enthusiasm at the meridian of life, affords a source of remarkable enjoyments at the period of the decline of our existence. The hope of leisure to enjoy life,—to retire from active business when we grow towards old age, is the dream of every youthful soldier in the battle of commercial strife; most often, too often, ending only in a dream; for the active mind finding ennui rebels at this violence to its nature, and it is an every day occurrence to find men who have "retired," returning again to active life, sick of "nothing to do."

It seems a wise provision of nature, that all her processes should never be known; she has always something left to be discovered, and in the pursuit of this knowledge the longest life is insufficient to terminate its hopes of success. "I have been fifty years a botanist," recently said Dr. Lindley, "and now feel that I am but on the threshold of the science." The majority of scientific men live to a ripe old age— hale and vigorous to the last—happy in themselves and at peace with all the world.]

#### INTRODUCTION OF THE LOMBARDY POPLAR INTO AMERICA.

BY COL. R. CARR.

I have the pleasure of responding to your inquiry relative to the introduction of the Lombardy Poplar, and am happy to have it in my power to give you the desired information.

Soon after the close of the American Revolution, (in 1783), Mr. William Hamilton, of the Woodlands, near Philadelphia, (now Woodlands Cemetery), visited England and France, and on his return, brought with him a large collection of *hothouse* and *greenhouse* plants, and also a variety of trees and ornamental shrubs, not then perhaps in this country. My uncle, Mr. William Bartram, who saw the boxes unpacked, informed me that the *Lombardy Poplar* was one of the trees, and that he then believed it was the first brought to this country. I believe he brought the *Salisburia adiantifolia*, and the European Sycamore Maple (*Acer pseudo-platanus*), at the same time. He afterwards received the *Ailantus*, with many other exotics. And, indeed, until his death (in 1812), very frequently received boxes of rare plants from his friends in Europe and America.

His extensive hothouses and greenhouses were filled with the rarest and finest plants, and his grounds were the best laid out and finest in the country.

Mr. H. was a good botanist and passionately fond of flowers; he always kept the best gardeners that could be procured. Lyons and Pursh were for some time with him, and the elder Michaux supplied him with American trees.

I will add an anecdote of him, related to me by Mr. Bartram, who was a witness of the scene:—

About the year 1800, (or perhaps earlier,) Mr. H. had received the first plants of the *double white Camellia*, and one fine flower was just expanded. Mr. H. had a number of friends, Mr. Merry, Dr. Park, and other eminent gentlemen, to dine with him, and had directed his gardener to place the camellia on the centre of the dinner-table when dinner was ready. Conversing with Mr. Bartram about some plants just received from Dr. Muhlenberg, of Lancaster, he requested Mr. B. to go with him to the greenhouse to look at them. On their way there they met Mrs. M——, a lady who was very intimate with the family, and a particular favorite with Mr. H.—when lo, and behold, in her hand she held the flower of the camellia, (which was the only one open), and approaching Mr. H. she laughingly observed, "oh! Mr. H. I found this most beautiful flower in your greenhouse and took the liberty of cutting it."\* Mr. H. stopped, horrified; and lifting his hands, stamped on the ground, and exclaimed in great anger—"By heavens! Madam, I would sooner have given you fifty guineas!" However, the gardener contrived to attach the flower to the plant with a little wire, so as to have it exhibited on the dinner-table.

I would add some other notices, but am interrupted, and will conclude with the remark that I am much pleased with your remarks on the subject of the street trees, and the impolicy of waging war with the trees instead of destroying the insects.

[We hope our good friend will often favor the *Gardener's Monthly* with such fragments of our earlier horticultural history as may occur to him. As the last living representative of the great Bartram family of botanists, and perhaps the oldest American horticulturist now alive, he could tell us much that will otherwise be perplexing to our posterity.—Ed.]

\*This is a "liberty" which has always been taken by some ladies.

#### CRITIQUE ON THE DECEMBER NUMBER.

BY WALTER ELDER, PHILA.

THE remarks of J. N. Jones, upon Mildew, are correct and just to the point; the subject has been stoutly discussed in the Society of Progressive Gardeners, of this city, and the views of Mr. Jones have triumphed over all others; and, as the Society is to

publish its yearly discussions in January, in cheap book-form, it will do Mr. Jones good to procure a copy at twenty-five cents; and there he will see his remarks fully confirmed.

E. A. Riehl is also correct about heavy dews upon grape vines, they cause mildew and rot, whereas dry air and sunshine prevent both, and arrest their destructive doings even after they have commenced their ravages.

Your remarks upon "Surface-manuring," are as airy as that upon the "Digging-fork." A child may believe in surface-manuring because his mother spreads butter outside his piece, but when grandma tastes the slice and digs in the melting butter, as soon as he tastes that, he goes in for mixing the manures with the soils; tell him that his mother's piece becomes like grandma's by mastication before he swallows it, and he is fully converted.

One of my pupils was so much affected by your digging-fork story, that he did not want to use a spade any more; so I gave him, and another of his age, a tree apiece to plant, he with the digging-fork, and the other with a spade; the latter soon had his hole dug and tree planted. Says I, "Johnny, what are you doing?" Says he, "this fork does not lift the dirt out of the hole, and Tom wont lend me his spade." Says I, "do you not see the folly of throwing away the spade?" The young tulip at once gave in, with this exclamation: "I thought that the editor knew more than other folks, and it was all true what they said, but now I wont believe him."

Moral.—There are bounds to all things. *Editors beware! as you wield a mighty influence upon untutored minds.*

[ADDITIONAL STORY BY THE EDITOR.—Once upon a time, a certain gentleman had a gardener named Johnny, who always prided himself on having every thing particularly early and especially before any of his brethren, and one day he said to his employer,— "Sir, I will promise you a mess of ripe strawberries for desert on Christmas day;" whereat, Johnny's employer was exceedingly glad; and a large party of friends were gathered together to enjoy the Christmas feast. True to his promise, Johnny's strawberries, amounting to six specimens, duly ripened, were gathered and sent in. The employer was mortified. With twenty persons at the table, no one would touch a berry through consideration of respect for his neighbor, and none were eaten.

Anticipating praise, the next day Johnny met his employer with a smiling face, but the gentleman said nothing. This did not satisfy him, so he asked for the praise—"how, Sir, did you like the strawberries I sent in yesterday?" "Why, John, the strawberries were very well, but don't send in any more until there is at least a taste all round.

Two weeks afterwards the employer wondering why no more strawberries came, went to the forcing house, and lo! there were strawberries lying rotting around in every direction. "John," says he, "why don't you send in these strawberries?" "Did you not tell me," was Johnny's answer, "not to send in any more strawberries till there was plenty all round?" Johnny's "untutored" answer caused his dismissal.

Additional moral by the Editor.—Some "untutored" people can't see the difference between singing and splitting their throats.]

### A NEW THEORY OF FRUIT FORCING.

BY A MASSACHUSETTS GARDENER.

SOME time last year I read your views in the *Monthly*, on the importance of direct sunlight on plants, which, though I have been many years in the business, I had never seen so presented to me before. I have always known that we could never get too much light, of course, as every real gardener does; but that the positive sunlight was so essential as you thought, I did not suppose. I have, however, Mr. Editor, given your views a fair testing, and am now convinced you are right, and am prepared to argue that every minute of direct sunlight, from sunrise to sunset, is a positive gain to the gardener. I arrived at my opinions by taking two plants, in everything alike, and after putting them at equal distances from the glass, let one have all the sunlight it could get, and the other all the light it could have without the sunlight, and it is really astonishing to see the difference in the sunlit one.

But I want to say, Mr. Editor, something that you have not thought of, and I have thought it is only fair, as you wrote the first idea to set me thinking of it, that I should return the favor, if you should think it one, to offer it to you for publication.

You, and all my brother gardeners, who have had any experience in forcing, know how difficult it is to get Peaches, Apricots, Plums, Nectarines and Cherries to set their fruit. Cherries in particular are very hard. Hundreds of flowers open for every fruit that is set. I have often thought that I saw into the whole secret: not enough air perhaps, or too much; too high or too low a temperature; too much or too little water; but yet, for all, when I have been the most careful to profit by what I thought I learned the season before, I have often had no better luck.

Now, why don't these things set regularly and well? I will tell you Sir, what I think it is, and where is the fault. I have never found much good result in keeping up a high night temperature, though I think, if I have read your magazine right, you do not agree with this. Whatever growth is

made in the night, I think, it is weak and succulent, and no good; and I now think it is want of sunlight that causes this. I would only care to make growth when there is light at any time, but now I want to say that I think it would be best to grow only when there is sun light, and that the failure of our fruits to set in the forcing house is because we continue forcing whether there is sunlight or not. I think, if we force a fruit into flower when there is no sunlight, there is a something wanting, without which the flower cannot mature, and it withers away without setting a fruit. If this is correct, which I am nearly sure it is, we shall have to have a new theory to work on; hitherto I have made a difference of twenty degrees between night temperature and day temperature, and now I shall want to make a difference between a cloudy day and a sunlight day. I shall not think it safe to have much heat when there is no sun; but when the orb of day shines clearly I shall not care how much heat to apply to aid it in what I believe its fructifying work.

In my present place I have not so good a chance to try my new theory as I had two years ago, but I have a few trees to operate on in the greenhouse, and shall watch the result with confidence that my opinions will prove facts. I want to say further: that I hope such of my brother gardeners who may have a better chance to try it than I, will do so and report the result.

This is my first attempt at writing for the press, and I hope you will excuse errors. If you ever come this way and give me a call, I will try to show you better results from instruments of gardening I am more used to.

[Our friend rather mistakes us in the matter of night temperatures. We have always advocated a lower night temperature than the day, but objected to the extreme low temperature some of our fellow gardeners approve of. However, we can forgive this slight misunderstanding, in view of the excellency of the rest of the article, which is undoubtedly one of the most valuable contributions that has ever been made to our pages, and will receive attentive consideration from practical men.—Ed.]

### CULTURE OF THE CHRYSANTHEMUM.

BY MR. JAMES EADIE, PHILADELPHIA.

AGREEABLY to request, I send you my *modus operandi* of growing chrysanthemums. I take off cuttings about the middle of April, root them in sand, and, when well rooted, select pots of the size I intend to flower them in. Place a few crocks in the bottom, then a few rough pieces of loam; add two good handfuls of guano, with some cow-manure; then fill up the pot with good rich loam. I then

plant a dozen rooted cuttings in a pot, pinching off the points, using a rose on the pot at the first watering to settle the soil. Leave them in the greenhouse for a week (a frame would be better where there is that convenience); then place out of doors, full in the sun. Place the stakes in the pots as soon as convenient, tying the shoots out as they grow, pinching out the points every three weeks, until the last week of July, and watering with manure-water twice a week, taking care never to let them suffer for water, or they will lose their lower leaves, which gives them a starved appearance. By following these simple directions, you will have plants which will be an ornament to any place, and amply repay your trouble.

P.S.—I send you a few sketches of an article for carrying large pot-plants, the invention of Mr. Shephard, which is really a useful article, and is a great saving of muscle, besides being of great safety to the plants, which are apt to be broke with the breast, especially if very wide.

[A very simple and ingenious implement, which we shall engrave and give in our next.—Ed.]

### COCCULUS CAROLINUS.

BY A. W. CORSON, PLYMOUTH MEETING, PA.

I OBSERVE in the last *Monthly* a notice and figure of *Cocculus carolinus*. I have had a staminate plant probably thirty years, obtained from the Bartram Gardens as *Wendlandia populifolia*, which I have examined carefully when in leaf with the colored figure of *Cissampelos smilacina* in the folio edition of "Catesby's Carolina," published in 1776, and find them to agree in vine and leaf; also agreeing with De Candolle's description of *Cocculus carolinus*, so far as could be compared; and I do not doubt that the figure in the *Monthly* is of the same plant. What I wish to say it, that in my garden, twelve miles west-north-west from Philadelphia, it has continued in the open ground without covering or particular care; the winter killing the ends of the vines to near the ground, say from two to five feet, but growing freely, attaining a length of ten feet average, (and would probably attain a greater length if well supported by high trellises or poles,) flowering freely, I judge about August, but having staminate flowers only; produces no fruit. I have had it twice dug under in the spring; but each time it came up again late in the season. It has the habit of the *Menispermum canadense*, of sending up many shoots from the root, by which it can easily be increased. It is a handsome vine, and even the barren plant is worthy of cultivation as a curious, rare, and ornamental vine. Much more so would the fertile plant be if our seasons should be sufficiently long and warm



to perfect the fruit. So far as the vine only is concerned, there will be no difficulty. I have long desired to obtain the fertile plant, and hope for its being introduced shortly.

[Since publishing our last notice, we have learned from Mr. Nelson that he will put the fertile plant under propagation.—Ed.]

### THE CHRYSANTHEMUM.

BY W. KEATING, BAYOU SARA, LA.

To some of those interested in the above beautiful flower, (for surely beautiful it is when well cultivated,) a few suggestions on a successful mode of growing them will, I doubt not, please many of its admirers. I have seen some of the leading Chrysanthemum Exhibitions in Europe, and I have seen them in a high state of cultivation in pots, and as border plants; but never have I seen any to surpass, or perhaps equal, in health and abundance of bloom, those I now have the pleasure of daily seeing. My employer, W. J. Fort, and especially Mrs. Fort, are particularly fond of them, owing to which circumstance they have a good collection, chiefly Anemone and Pomponne varieties. Now, when it is remembered how cheap, and at the same time easy of culture, they are, one begins to wonder how it is people with gardens and greenhouses have not got them well filled with those lovely winter-flowering plants. I fancy the reason is, few see them growing otherwise than lanky, long, badly-flowered, half-starved, naked things. They do not see them in good condition. Dwarf, with a dark green foliage, covered with perfect flowers of every shade and color. This, then, is one reason; and perhaps I might hit on another. Some will say, such and such people have them, and they look, as I described them, naked. And surely if they cannot grow them, we can't. All this I know to be too true; for miserable, indeed, they do look in the hands of some. But let me ask, what will look well or nice if one day it be gorged with food, and then for four or more days left to perish of hunger! Others, perhaps, will say, "It's all well enough to write about their beauty; but making them look beautiful is quite another thing." And others, again, will say, "We tried, but cannot grow them in this dry, warm climate." To all of you I say, Yes, you can; and I'll now try and lay down a very simple method, easy of doing, and if done, success will crown your efforts.

If you have none, get two or three dozen of good sorts, say one dozen of each, Anemone, Pomponne, and Large-flowering. This, then, will put you in a fair way to start. And as, no doubt, they will be in small pots, you must re-pot into larger, using a

stiff, rather rich compost. After a little time, they will show signs of growing, when they must be evenly stopped by pinching. After this, keep them dry till they begin to push forth, when water may be supplied; and if the pots are full of roots, shift into their flowering-pots or plant out; in either case, do not lose the ball. I will suppose they are to be flowered in pots. Therefore, after their final shift, plunge the pots in coal-ash, or in the soil, giving them plenty of room. And in the extreme heat of summer, if more cover is added, little, if any, water will be wanted. Now, staking is the next point. This done, little else will be required till the time comes for bringing them to their places of flowering. And whether this be a greenhouse, conservatory, or verandah, you will be repaid tenfold; to prove which, only it may be too far, I would invite you here to see, with your own eyes, this truly grand display of chrysanthemums.

### FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

#### REPORT ON RASPBERRIES.

In their Report on Raspberries in the November number of your *Monthly*, the Committee for Philadelphia Co. allude to the Allen Raspberry and to some "errors in its dissemination." In your December number Mr. Allen, in reply, apparently assumes the ground that the Committee intended to charge or insinuate "deception towards the public" on his part. Deprecating, and desirous of avoiding, as far as possible, all personal discussions, (which are the bane of good feeling and true progress,) the Committee, with the sole object of putting both Mr. Allen and themselves right before your readers, ask a brief space for a reply.

And first, let us correct our language, which either Mr. Allen or your types, friend Meehan, have misquoted. We say, "a good deal of confusion and disappointment has resulted from errors in the dissemination of this plant. Mr. L. F. Allen, of Black Rock, N. Y., originally introduced to public notice two varieties, the Allen and Red Prolific, which are entirely distinct sorts. Parties here, however, have received direct from Mr. Allen, as these two varieties, plants nearly identical in every respect, neither of which corresponded with the description given in his circular, nor with that generally grown, among our nurserymen here, as the Allen Raspberry." The italicised words, the latter of which changes the sense very essentially, are omitted in Mr. Allen's quotation.

But for the "disappointment" resulting to some cultivators in our county, (to which district all their remarks were mainly confined,) the Committee would not have mentioned Mr. Allen's name at all,

nor did they intend to charge wilful errors upon him, but to state a simple fact in explanation of the disappointment experienced. They are authorized to name, among others, P. R. Freas, Esq., editor of the *Germantown Telegraph*, who showed to one of the Committee, (the writer of this article and of the report,) who carefully examined them, the two varieties referred to, neither of which, to a certainty, was the Allen. Major Freas stated that he had received these direct from Mr. Allen, and that, after two years' fruiting, he had dug them up as totally unproductive. They would not, nor did they intend to charge upon a veteran horticulturist of Mr. Allen's experience and high character, any intentional deception or wrong. Having given the evidence and authority for their statement, they would here dismiss that portion of the subject. They would add a few words, upon the action of the American Pomological Convention, in the rejection of this truly valuable variety, which action they deem hasty, and not founded upon sufficient trial and knowledge of its peculiarities. Its pistillate, or perhaps we might say, weakly staminate, character was very fully explained in the Convention by Mr. William Parry, of Cinnaminson, N. J., who had previously written an able article thereon in the *Country Gentleman*. But even this characteristic seems to vary with varying soils, as we have found instances of its high productiveness, when growing at a distance from any other sorts. As well might Hovey's Seedling, and all the pistillate strawberries, be "rejected" from the Society's list, for their almost universal unproductiveness when unimpregnated by staminates, as the Allen Raspberry. Indeed, with many, its pistillate character would constitute one of its chief excellencies?

A word as to its "thorough hardiness." Last winter, in the grounds of the writer, out of some twenty-five varieties of old, well-grown, strong bushes, six of each of the following kinds were purposely left unprotected, to test their hardiness: Allen, Knevett's Giant, Cushing, Cutbush's Prince of Wales, Rivers' Monthly, Catawissa, Imperiale. Save only one Catawissa, which retained about one foot of live cane, all were destroyed to the ground. All the other varieties, well protected, survived the winter, and gave large crops of fruit the present season.

J. E. MITCHELL,  
R. CORNELIUS,  
A. W. HARRISON.

### BELLE DE FONTENAY RASPBERRY.

BY JOHN T. HARRIS, BELLEVUE, NEAR PHILADELPHIA.

I was pleased, on looking over the Report of the Philadelphia County Committee of the Fruit-Grow-

ers' Society of Eastern Pennsylvania, published in the November number of the *Gardener's Monthly*, to read such a favorable notice of the Belle de Fontenay Raspberry. I believe it was decided by the Pomological Society to call it that name; but, Mr. Editor, I was very loth to part with my more favorite name of Mervaille des Quatre Saisons, believing it to be correct. I received it under that name from a celebrated nursery, it being described in their catalogue as the best of its class. It certainly was, and is to me, the most marvellous raspberry I know of; but why the Fruit-Growers' Society of Eastern Pennsylvania should say that their Belle de Fontenay, which is the same as my Mervaille des Quatre Saisons, is of smaller growth, I do not know. Having grown the two varieties side by side these three years past, convinces me the reverse is correct. I can show now, and have exhibited at the store of Mr. J. Daniels, in Market Street, canes of the one five feet high, and very strong, while the other is weak and spindling. Indeed, among some ten or twelve varieties which I have under cultivation, I consider it to be the strongest of them all, and I doubt if there is a better for general cultivation, certainly not for amateurs. It is quite hardy, having stood without the least protection these three last winters.

[A general impression prevailed, a year or two ago, that under the two names of Belle de Fontenay and *Mervaille des Quatre Saisons*, or *Marvel of the Four Seasons*, there was but one kind,—and they have been, unfortunately, sent out under one or other of the names, just as it suited the humor of the sender. But it is now decided that there are two kinds; and, like Solomon's two babies, it is now a puzzle to know to which of the two each name rightfully belongs, and we do not believe the wise old king himself could decide it as easily as he did that baby question. The only way we know will be to get plants again direct from the original raisers. Perhaps some of our importers yet have the original direct stocks, and will favor us with authentic descriptions next season.—Ed.]

### LANDSCAPE GARDENING.

BY GEO. E. WOODWARD, NEW YORK.

I am a subscriber to your paper and have been since its commencement and it is prompt and welcome every month. I notice that when your subscribers want any information they ask for it. The matter with me this month is to get some further information on Landscape Gardening, a subject sometimes alluded to in your columns. Do not you think a great point would be gained if it could be decided whether Landscape Gardening is an art or a

trade? There is such a wide difference of opinion on this subject. Thus one of your correspondents assumes that one might as well ask how to become a portrait painter, or a poet, as to ask how to become a Landscape Gardener, and another tells us indirectly that pulling weeds, forking manure and raising string beans is just the thing to teach the principles of design, the harmony of color, and the art of construction, all tell us or infer that every one else but themselves are ignorant pretenders. But not one of them defines the duties, acquirements, or abilities of a Landscape Gardener.

Starting with the presumption that Landscape Gardening in its highest range is a gift, this being the burden of nearly every article we have seen on the subject, are we to suppose it is a gift only, to one particular business or calling? or that because one is so unfortunate as not to have been born and brought up in a garden, that he is counted out in the distribution of such endowments?

Mr. Copeland, in his valuable work and your correspondent J. M. C. are of the opinion that if a man happens to be an architect, an artist, civil engineer, a surveyor, or a draughtsman, it is one of the most unfortunate things that could befall him; too much knowledge of any one of these professions must necessarily lock the gate to success in Landscape Gardening, a little smatter of all is what they recommend, though others tell us—

"A little learning is a dangerous thing."

Thus, J. M. C. says 'the architect builds too much.' The "surveyor levels too much," &c., &c., to be Landscape-gardeners. May we not inquire if the Frenchman does not eat too much, the German drink too much, the New Yorker talk too much, ever to presume on success. Is there any one thing the gardener does too much of, or does perfection mark his work? "The true Landscape-gardener must be a gardener, practically and theoretically," this remark of J. M. C., we in common with all others admit, and during our apprenticeship in the garden were taught to believe it. Now what else must a gardener do before he can prefix landscape to gardener; what course of experiments must he pursue to find out if he has a gift? and then what degree of smatter must he acquire in other arts and sciences to qualify himself to pursue the refined and elegant art of Landscape adornment? or must we infer that it is impossible for a man to be good at more than one thing, that he cannot learn gardening because he is an artist, that he cannot be an engineer because he is an architect, and that he cannot be a Landscape-gardener because he knows too much of something else.

With a most remarkable disposition to believe what carries reason with it, and a curious desire to get

posted on what constitutes Landscape-gardening, we are led to ask for further information on this subject. We would like to see discussed by your able corps of correspondents—such statements as these advanced by Mr. Copeland, and endorsed by J. M. C.:

An artist cannot be a Landscape Gardener, but a Landscape Gardener must be an artist, and the same with architect, civil engineer, surveyor, draughtsman, and other professions, thus making Landscape-gardening most absurdly inaccessible, and granting its professor unlimited powers of acquisition.

In the present advancing condition of rural art there is a growing want of information on all subjects relating to it, too little is written or said when so much is needed, if we look back ten or twenty years, and then compare the general standard of rural taste with that of the present day, we shall see both an astonishing and gratifying difference. If we look for works or literature connected with rural art or taste, we shall find it of the most meagre description. If professional men are afraid to write because their opinions may be disputed, then their opinions must be poor ones. Very few men agree on the same subject, that however may not lessen the value of their opinions, a proper and fair discussion of the subject of Landscape-gardening would show it up on all sides, and might elicit some facts that would lie buried.

[We should be pleased to have from Mr. Copeland, J. M. C., or other of our leading Landscape Gardeners, their views of the science.

To us it does not seem that any of our correspondents differ much in their principles, but merely in the extent to which they would carry them. As a man may be a thorough builder, and at the same time but an indifferent architect, so may another be an excellent practical horticulturist, and yet be utterly unworthy of the title of a Landscape Gardener. There can be no difference of opinion on this point.

It is also an admitted fact, that the best architect is he who unites with a correct and educated taste a thorough knowledge of the builders art, and the same will hold good in Landscape-gardening.

Landscape-gardening, apart from its application, is a science, having its theories and deductions, and depending for its existence, as any other science does, upon what *has been* done or discovered. In this sense any one may be a landscape gardener, and it is in this sense that we have advised every lover of rural life to educate himself, so that when he wishes to have the science reduced to an art, he may be able to distinguish the empirical pretender from the man of substantial talents.

When the science is to be embodied by the hands of art, and thus brought from the abstract to a combined existence with other things, we presume it

will not be denied that too much cannot be known of any branch that may however remotely have any connection with the details that go to make up the realization.

We hope our remarks will not prevent the desired interchange of ideas. We have only made them to give a direction to the movement, as the great advantage in all discussions is to have a clear starting point.—Ed.]

#### CUTTING DOWN OLD CANES IN THE VINERY.

##### IMPERATIVE NECESSITY OF IT.

BY WILLIAM BRIGHT, PHILADELPHIA.

EVER since I proposed my renewal system of grape culture, (viz: the cutting down of the entire cane after every fruiting season,) the experience of others, as well as myself, has been constantly tending to show that my advice in this respect was good, and grape-growers in England and America have been rapidly adopting a similar practice. In the last number of the *Gardener's Monthly* we are told that Mr. John Ellis, ("Fox Meadow,") finding his vines gradually declining in fruiting capacity under hard forcing, had decided to renew them by cutting down the canes after three years of spur pruning, in order to re-invigorate the vines. Now, if it is good practice to cut down the canes *after they are exhausted*, and when their power of producing good cane, as well as good fruit, is seriously impaired, would it not be better practice to cut them down after every fruiting season, while they are in perfect health and vigor, and still able to throw up another strong and perfect fruiting rod? Why push the fruiting powers of the vine to utter exhaustion before renewal? You would not drive a good horse thus.

But the most significant and valuable testimony in favor of my renewal plan may be found in the *London Gardener's Chronicle*, edited by Dr. Lindley, November 24th, in an article headed "How Strong Vines become Weak," evidently from the accomplished pen of the editor himself. The writer notices the generally-acknowledged fact that vines, in nearly all instances, in culture under glass, begin to decline in fruiting capacity as soon as the canes reach the top of the house. The cause of this, he says, is not generally old age, nor heavy cropping, nor the state of the soil, nor want of good management; but it is to be found in the fact that when the cane ceases to extend and to produce fresh masses of foliage, the amount of sap elaborated by the leaves is not sufficient to form a new layer of young wood over the surface of the old cane and roots, and at the same time to produce vigorous young shoots and a good crop of grapes.

Dr. Lindley being an admitted authority in vegetable physiology, I think his views will command

much attention. To my mind, his reasoning is very conclusive and satisfactory. In commenting upon the condition of a vine after it has reached the top of the house, and can be extended no further, he says:

"Whilst the amount of foliage continues to be every year about the same, an equal quantity of sap will be annually elaborated. But the thickening of the stem and roots is progressive; and it is evident that as their thickness increases, the layers of young wood must annually become thinner and thinner. A stem two inches in circumference, and ten feet in length, has two hundred and forty square-inches of surface; but this in a stem six inches in circumference is seven hundred and twenty square-inches, or three times as much as in the former case; therefore, with the same quantity of elaborated sap for its formation, the layer of new wood cannot be more than one-third of the thickness of that deposited on the less surface.

Besides the quantity required to overlay the greater thickness of stem measured at a regular part, there are large spur protuberances to cover, and likewise wounds from pruning. All these go far towards doubling the surface over which the new matter prepared by the leaves has annually to be spread; and as the latter cannot be increased, the further increase of foliage being limited, whilst the demand is continually on the increase, it follows that the layer of new wood must necessarily be very thin; and when that is the case, the shoots cannot be otherwise than exceedingly weak, and the bunches small in a corresponding degree.

Having thus endeavored to point out a cause which uniformly tends to reduce vines to a state of weakness, it remains to indicate the remedy. This is very simple; for we have only to remove the old wood by cutting back as near to the ground as can properly be done. The result of this will be a vigorous growth of young rods, which will bear as vines ought to bear."

Here is my renewal system, precisely. As soon as the vine has reached the top of the house, and can extend no further, it must decline, and hence should be cut down if we wish to maintain its full fruiting capacity. Now, as every good vine is capable of making a good fruiting cane as long as it is desirable to fruit in one season, it follows that it may be cut down with advantage the next season after it has been fruited. But you may say that it may be worked upon the spur system for two or three years before it reaches the top of the house, and hence, even on Dr. Lindley's theory, it is not necessary to cut it down oftener than once in three years. I grant that the vine may be so spurred and fruited and so renewed, with fair results; but I assert that I can obtain better crops and better fruit from shorter canes, renewed after every fruiting season, and that vines so treated will not only remain in undiminished health and vigor for an unlimited number of years, but that they will, likewise, gain additional vigor and capacity every time they are cut down.

I am further of opinion that when root-pruning is performed simultaneously with the cutting down of the canes, that a new set of roots will be obtained of as much value, in respect to the fruiting power of the vine, as the new wood. This last idea, however, is only an opinion; I have not yet put it into practice, but shall do so very soon, especially in our inside borders.

## The Gardener's Monthly.

PHILADELPHIA, JANUARY 1, 1861.

All Communications for the Editor should be addressed "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

## TO ADVERTISERS.

Copies of Advertisements, when they occupy an entire page of this paper, will be furnished to the advertiser, printed on good paper, for private distribution, at the low price of THREE DOLLARS per thousand. Nurserymen will find this an economical way of getting their Wholesale Lists and Abstract of Catalogues printed.

## TO ADVERTISERS.

NURSERYMEN, Seedsmen, Florists and others should bear in mind that the season has arrived when their advertisements should be inserted. As we have a large Southern circulation, and as their planting season commences early in February, it will be seen that no time is to be lost. In preparing advertisements, the directions on the first page of the "Advertiser," should be carefully observed.

## TO SUBSCRIBERS.

This number commences the *Third volume* of the *Gardener's Monthly*, and we take the opportunity to remind our readers, that we have been able to make the journal a success at so small a sum as *one dollar a year*, solely by conducting it on the *CASH* principle. This requires no complicated system of book-keeping demanding a staff of clerks, nor a force of collectors to gather in the subscriptions. All this money we save by the cash method and spend it on the paper.

Last season a few friends who, as they did not renew their subscriptions, we discontinued sending the paper to them, wrote indignantly to inquire whether we could not "trust them a few months for a dollar." We are pleased to say, that only in a very few instances last year were our reasons in this respect misunderstood, but we deem it right if there were but one such instance to explain why we are compelled strictly to act on the rule of *payment in advance each year*.

## PRUNING EVERGREENS.

It is a pleasure to see sound doctrines win their way to popular favor. It is not many years since one dared to prune a tree at transplanting. Before that he was sure to get the pity of the knowing ones; now he who does not prune, is the one who gets pitied.

By understanding that trees die after transplanting from evaporation, and that pruning is one of the chief

modes of lessening the demand on the mutilated roots for moisture, the re-planting of deciduous trees has become a pretty certain operation. The digging of trees is often entrusted to careless or unskillful hands. One is never certain how his tree will be taken up; but should it be handed him in a dangerous condition, he knows at least how by pruning the head, to save its life.

These facts now constitute a general rule of action in the case of deciduous trees. Evergreens are popularly supposed to be an exception. It is said that the "people are seldom in error, and are never so long" and we hope for their interest it will prove so here.

Evergreens are as thankful for the knives' good offices, as a deciduous tree. The same laws govern them, and the same practice follows. Indeed, the laws of evaporation bear harder on the evergreen.—It has a larger surface of foliage; more extended channels for evaporation. In winter when evaporation bears the hardest on a transplanted tree, that of the deciduous section has only its branches exposed. All the moisture it loses passes out through them.—But the Evergreen has in addition a large mass of foliage, through which its juices are continually being drained, till by spring it becomes as a squeezed orange to the Ice King, and is cast away as worthless.

It is a fortunate circumstance that while a greater necessity is shown for application of the principle, experience shows the Evergreen to like it. The anticipated happiness of a want fulfilled, is seldom indeed so well experienced in its realization; for the Evergreen absolutely luxuriates in a good pruning. We are not sure that it can have too much. Judiciously performed we have never seen it over-done.

"Judiciously performed" has a deep meaning when writing of evergreens. We have of course reference to Pines, Spruces, and Firs. These constitute what may be termed the border line between the two great divisions of the vegetable kingdom.—The Endogen, such as the Palm, that increases from the centre, has an erect tendency, and a disposition to have none, or to lose what few side branches it may have; and the exogen, which increase from the outside, and has a bushy spreading-headed habit.—It is this intermediate position that gives Pines their upright appearance, in which they approach the endogen; and their branching habit, which allies them to the exogen. In our practical treatment of them, we have to combine what we would do separately.

If we cut off the head of a true endogen it will not make another leader, but throws all its strength into its side branches, which usually take the form of suckers from near the surface of the ground. The Cocoa nut, and plantain are familiar examples. Their stems have to be cut down to the ground when they

once lose their heads. In a decided exogen, a maple for instance, the cutting off of a leading shoot only makes it the more determinately seek to furnish another to supply its place, and this it does at the expense of the side branches, which become weaker and finer, till if the heading-off is repeated, they often die entirely away.

We have thus to reverse the modes of pruning.—To make an evergreen bushy the surest way is to cut out its central shoot. It does not like to make another, and so all its growth is forced into the lower branches, which thus become very dense, and of surprising luxuriance. Very often when old plants are operated on, they will utterly refuse to make another leader, in which case the nearest side branch must be carefully tied up to a stake, secured to the main stem for the purpose. This makes for a couple of years an ugly curve, after that it becomes gradually absorbed in the thickening of the trunk, and is scarcely visible eventually. If, however, the terminal shoot is pinched off with the finger and thumb, while it is young and succulent, in June, when it is elongating, the growth will be just as much checked, while you have the advantage of the formation of a lot of new buds, which will of themselves form leaders another year. We have never known any kind of Pine to fail in making these buds in the shoots of present season's growth, when they will do so but very unwillingly from older wood.

The Scotch Pine, usually so rugged and art-forsaken in appearance, make beautiful objects under this treatment. The top buds, and buds of shoots round about the central shoot, may be freely operated on, but the lowest buds should never be touched. This last rule is essential.

All that we have said has been to illustrate the principle in an every-day view. In transplanting more is useful than to merely pick out central buds; whole portions of branches may be freely cut away. Top branches be it still remembered. In all this a neat eye will be required to keep a good shape to the tree. Of course they will not be cut off so as to leave the branches standing out like the stubs of a worn out broom; each branch should be taken out close down to where another diverges.—Fortunately in Pine and Spruces this can be prettily done by taking out the central shoot in each branch. We saw a friend recently take out one hundred cuttings from a five year old *Pinus excelsa* and no passing eye could notice that the knife had been used at all, or see any thing but a most magnificent specimen which this yearly treatment had rendered it.

We have a weakness for facts. We know how theories deceive, and often none more so than those who originate them. We have shown how ever-

greens ought to be benefitted by pruning,—have explained theoretical reasons why this kind should injure them, and that benefit them. But after all we feel how inconclusive it is against a sight of what actually has been done in this way. No one who visits Northern Philadelphia, ever leaves it without being struck with the appearance of the younger evergreens growing about it. Much of this has been owing to the genius of Mr. Bright, who, while most of his neighbors were laughing at his theory, was like a horticultural Garibaldi, unswerving in his purpose, and has marched on to victory—a victory not only of principle, but we believe a golden victory, which after all is one of the most weighty of arguments in favor of any theory.

The pruning of evergreens at transplanting has only one objection. The interior leaves and shoots are usually tender from long and close confinement, and, on cutting away the outside ones, these protected ones suffer from sudden exposure. Judgment will be required as to where, when, and how to cut. With experience the objection will soon be found to vanish.

## VINE MILDEW AND INSECTS.

In one of our earlier numbers our valued correspondent Dr. Uhler, gave us a translation from the French of Raspails' experiment in watering plants with a solution of aloes, in order to render the plants themselves distasteful to insects. Experiments we believe have been tried with it so far as the curculio is concerned, and found to be unavailing; but when we consider that not only is the fruit of a plant composed of a more elaborated form of the sap, in which we might naturally look for less of the "aloe" or any other "flavor" employed in the plants nutrition; and in this point alone less likely to be effective than when employed externally to keep the plants clear of insects,—we have also to consider that it is the egg depositing principle of the curculio that injures the plum fruit, and not its feeding propensity, and consequently no nauseous element whether externally or internally applied is likely to be proof against "him." But it is a well ascertained fact that vegetation, as well as animal substances do not entirely change the nature of the combinations they absorb into their systems by the process of nutrition. The flavor of the turnip and garlic can be tasted in the milk of the cow, and as some trace of coffee and tobacco have been found in the flesh of the subjects who have been partial in their life-time to the weed, and "Arabian-berry's soher juice;" some German Physiologists have concluded that "nicotian" and "caffeine" are essential elements in the human system! Radishes in early spring, forced near large cities to an early and

monstrous maturity, have a well known disagreeable taste of the powerful stimulants employed in their production,—and a pasture-field is usually thickly studded with hillocks formed by grass, which owing to the accident of having an abundant supply of rank manure cast in its immediate vicinity, has become so impregnated with disagreeable matter that cattle will starve rather than touch them.

This all goes to show that the principle Dr. Uhler presented for our readers consideration is worth much more careful experiment. We find that the French are still pursuing their investigations, and widening the field of inquiry. In a recent number of the "Comptes Rendus," a French scientific journal, is the report of a paper by M. Mercieul, read before the Academy of Natural Sciences, at Paris, detailing an application of the principle to the prevention of Vine Mildew. "He selected a number of stocks of diseased Vines, which the previous year had been so seriously attacked by the Oidium that not a single Grape could be gathered. He divided them into two equal groups. The one he submitted to treatment, and the other he left for the sake of comparison. In the beginning of August the Oidium began to appear on both groups. On the 16th he submitted the first group to the following treatment: he removed the earth around the stems of the Vines a distance of about a foot, and of a depth to lay bare the small rootlets. Into each excavation thus made he put a large handful of flowers of sulphur, heaping it up around the stems. This being done he replaced the earth and watched the Vines daily. On the 20th of September the Vines of the first group were in excellent condition, and the Grapes presented a fine appearance. The mycelium (fungus) had not disappeared from the berries which were attacked at the time the sulphur was applied, but they were not farther diseased, and he had every reason to believe that they would come to perfection. He particularly observed that none of the other berries became diseased. The second group was in a most pitiable condition. The Oidium had made rapid progress, and there appeared every reason to fear that not a single Grape would be saved."

Of course we cannot say that there is a satisfactory solution of the Vine Mildew trouble in this single experiment; but it is plausible from the facts we have stated already. We know a cultivator of the Dwarf Pear, whose White Doyennes were worthless by cracks, and others injured by leaf blight to a great extent,—diseases which are now well ascertained to be connected with a small form of almost invisible mildew. He gave the roots a strong dressing of potash, and the orchard is now one of the healthiest we know. If one mineral in the form of potash will eradicate a form of mildew from the Pear, sul-

phur another mineral is quite as likely to perform the same good service for the Grape vine.

The subject is comparatively new and promises great results. We hope to hear more of it henceforth.

#### OUR NEW DRESS.

Our Journal appears this month in new type, for which our readers are indebted to the skill and taste of the Type Founders, Messrs. Collins & McLeester, of this city, who have furnished us with a bold, clear and beautiful type, without in the least diminishing our usual amount of reading matter.

### Scraps and Queries.

**PRUNING, &c.**—In pruning vines, how do you distinguish the shoots that have fruited from those that are to fruit next year? As I understand it from the works on the subject, the shoots that have fruited are cut down to one or two buds, and the others to six or eight feet lengths; but I can not tell one from the other. (1)

What are the distinguishing characteristics of the leaf, fruit, and wood buds in pear, peach and plum trees? I wish to prune my own trees, but not being able to tell one bud from the other, I am almost afraid to make the attempt. (2)

Is the month of March or April a proper time to prune all fruit trees? (3)

My Camellia buds are very small; is it owing to the nature of the soil? What is the proper soil? Is the month of March or August a proper time to shift Camellias. (4)—*A Subscriber, Phila.*

(1) Simple as our correspondent's questions seem, they are difficult to explain briefly. Any shoot that has sprung from the old or main stems of a vine the previous year are or should be bearing shoots, and are what are referred to in works as "to be cut back to two or three eyes."

(2) Fruit buds are rounder, fuller and plumper than leaf buds. The difference can be detected only on careful comparison one with another, but an experienced eye soon learns the difference at a glance.

(3) If they need pruning, any time in the winter to April is good. If growing very vigorously, trees may not need pruning.

(4) If the pots are comparatively small and full of matted roots, have not been repotted for years, and though growing freely and healthily, have but a weak growth, they may want re-potting. Just before they show indications of growth is the proper time; and any porous, open soil that will not become hard or heavy, will grow them well.

**TREES AND SHRUBS OF TENNESSEE, R., Obion Co, Tenn.**—In my travels about the "Bend," I find a number of vines and trees that are quite new to me. I have collected leaves of most of these varieties and pressed them into service. I would very much like to ascertain the name of each as I am no botanist; besides, I wish to write an article or two for your valuable journal when I have obtained the names of these specimens:

1. This I got in South-western Missouri. It grew on a shrubby tree, say 10 feet high.
2. Produces a flower like the trumpet vines; described by me in the August number, page 230.
3. Green brier vine, with black berries in clusters; it climbs up fifty feet.
4. Is a vine that bears clusters of black glossy berries about the size of a large pokeberry. It makes a beautiful arbor on small trees.
5. Is a delicate vine that will run up a tree 30 or 40 feet sometimes. The berries are the size of a medium currant, grows in small close bunches, two or three inches apart on the vine, and the berries are tender and the color of red coral; it is very beautiful.
6. The thornless thorn tree.
7. A common flower.
8. A small vine that runs straight up a tree and puts out pretty leaves.
9. Bears an orange berry; the hull opens out and displays a red berry; runs 40 or 50 feet sometimes.
10. Alder; mentioned in August number.
11. A small tree, with a coral berry size of a medium currant; the bunches sometimes are so full that there seems no room for leaves; showy.
12. Large dark Muscadine Grape, from Missouri.
13. A blue-eyed flower.
14. A small tree, or bush, with black soft berries, from Missouri.
15. A small tree with oblong dark berry.
16. do do or bush with small white berries in upright clusters.
17. Vine with oblong dark purple berries grown in thick clusters.
18. Vine growing on small trees, with white berry.
19. From a forest tree with trunk something like the beech tree.

I hope you will not get out of patience naming the above; but if you do, I will attribute it to the imperfect specimens.

[The specimens were a little too small to distinguish well. Friends who sends us specimens for name should send flower and leaves both, if possible. The leaves of very different plants are often alike.

1. Staphyllea trifolia.
2. Bignonia capreolata.
3. Smilax rotundifolia.

4. Ampelopsis bipinnata.
5. Cocculus Carolinus.
6. Gleditschia inermis.
7. Cassia chœmacrista.
8. ?
9. Celastrus scandens.
10. ?
11. Ilex decidua?
12. Appears to be a form of the Scuppernong Grape.
13. Comelina communis.
14. Rhamnus Caroliniensis.
15. Bumelia lycoides.
16. Cornus paniculata.
17. Berchemia volubilis.
18. Vitis cordifolia.
19. Carpinus Americana.

**NAMES OF PLANTS, B. Losee, Coburg, C. W.**—Your specimen was ground into snuff when it reached us, but we judge by the smell that it belonged to *Prinos verticellatus*. You must be mistaken in the bud of the other plant being a Canadian Annual; it belongs to some species of *Helichrysum*, from the Cape of Good Hope, but we cannot tell which species without the leaves.

**NAMES OF CORRESPONDENTS.**—A great number of letters have reached us for the name of the gentleman to whom we alluded as having the very early Seedling Peach. As the letter was private, we had no authority to give the name, but are assured the gentleman will do so himself after he has tested it fully another season. He is not one to keep all the good things to himself when proved to be really useful.

**FORCING VEGETABLES IN THE FIELD.**—I understand that peas and other vegetables are forced by hot air drains running under the field, in Delaware County, Pa. Will not some of your correspondents furnish the readers of the *Gardener's Monthly* with the mode of constructing such hot air drains? and also give the practical results?—*E. R. M. St. Louis, Mo.*

[There were no details given in the article from whence we extracted. Our correspondent, Mr. Elder, can perhaps furnish them, and oblige us.—*Ed.*]

**BARBAROSSA AND PRINCE ALBERT GRAPES.**—We are pleased that some of our correspondents are getting into the habit of sending us short facts for publication as well as the usual amount of valuable essays and articles. One of our most reliable grape-growers writes that he has fruited both these grapes, and finds they are distinct; the latter ripening four weeks before the other.

**NEW WHITE EGG PLANT.**—*Abraham Collins, York.*—In the October number I notice a description

of "New White Egg Plant." I am anxious to cultivate it, and will be much obliged to you for some information, *how and when* I can procure the seed?

[We presume our principal Seedsmen will have it for sale the next season.—Ed.]

ORANGE TREES.—Can you inform me where I can get a few budded Orange and Lemon Trees?

[Most of the larger Florist Establishments have them for sale.—Ed.]

CHENANGO STRAWBERRY APPLE.—*Wm. Collins, Smyrna, N. Y.*—"I find you have made some mistakes in publishing my last communication. My name is printed N. Collins, instead of W. Collins. I received this morning a communication addressed N. Collins. Being a nurseryman, it is of some importance to me that it should be corrected. In publishing my letter you make me say that the shoots of the Strawberry are light yellow white; those of the other are much darker, and more nearly green. It was written (or intended to be), the shoots of the Strawberry are light yellow, while those of the other are darker, and more nearly green."

[We plead guilty to the charge of error in the type making an N. out of a W.; but the other is not the "type's" fault. The manuscript was not punctuated, and the printer's had to stick in the stops wherever seemed reasonable, and in crossing the *t* in "those" Mr. C. run his pen into the *l* in the word before it; transforming it into a *t*. We are happy to make the correction, no matter whose is the fault, and go into particulars only to show how careful our friends should be to "dot their *i*'s," "cross their *l*'s," and *not* cross their *l*'s.—Ed.]

BUCKINGHAM APPLE.—In Mr. Van Buren's article "emigrated" should read *originated*, and in fifth line from the bottom "clubbed" should read *dubbed*.

## Books, Catalogues, &c.

THIRD ANNUAL REPORT OF THE BOARD OF COMMISSIONERS OF THE CENTRAL PARK, NEW YORK. 1860.

By the kindness of Andrew H. Green, Esq., Comptroller of the Board of Commissioners, we received this document some time back; but it is so replete with valuable facts and statistical information, that we have held it over for more than a cursory examination. And we regret, that we can now do little more than give a faint abstract of its contents.

The principal part of the operations performed the past year have been in road and bridge-making. Of roads, 7233 feet of McAdamized, 9838 of Telford, and 200 of gravel, have been finished. Mr. Olmsted

has himself referred, in the first volume of our journal, to the experiments here of these two kinds of roads, and we have been anxious to see them on a fair trial, as we know of no instance where any satisfactory comparative experiment of the Telford road has been made in this country. Its chief principle is that "Upon the prepared road-bed a pavement of quarry stones is set by hand, the stones being from seven to ten inches deep, three to six inches thick, and generally not of greater length than twice their depth, the aim being to use stones of as nearly a uniform size as possible, and parallel sided. The stones are laid lengthwise across the road, with the broadest edges down. After being set closely together, they are firmly wedged by inserting and driving down, in all possible places, stones of the same depth, until every stone is bound and clamped in its proper position.

"The projecting points of the stones on the top of the pavement are next clipped off with a light hammer, and the spalls and chips at the same time worked into the interstices not already filled by the process of wedging. By this operation the pavement is reduced to an even surface and to a depth of seven to eight inches.

"The pavement or substratum of the road is then ready (after laying the gutters) for the reception of the finishing material of the road.

"Broken stone of the ordinary McAdam size (to pass through a two and a half inch ring) are spread evenly over the pavement in successive layers, and rolled down until the full depth is about five inches. The first rolling is done with a light roller, to avoid disturbing the paving stones.

"On the top of the broken stone, about one and a half inches in depth of gravel is evenly spread, and the whole is thoroughly rolled down with a heavy roller, weighing six and a half tons. Both stone and gravel are kept moistened by sprinkling carts, while the rolling is going on, the gravel working down into the interstices of the stone under the roller, consolidating and binding the whole material. When completed the whole depth of pavement, stone and gravel, is twelve to thirteen inches."

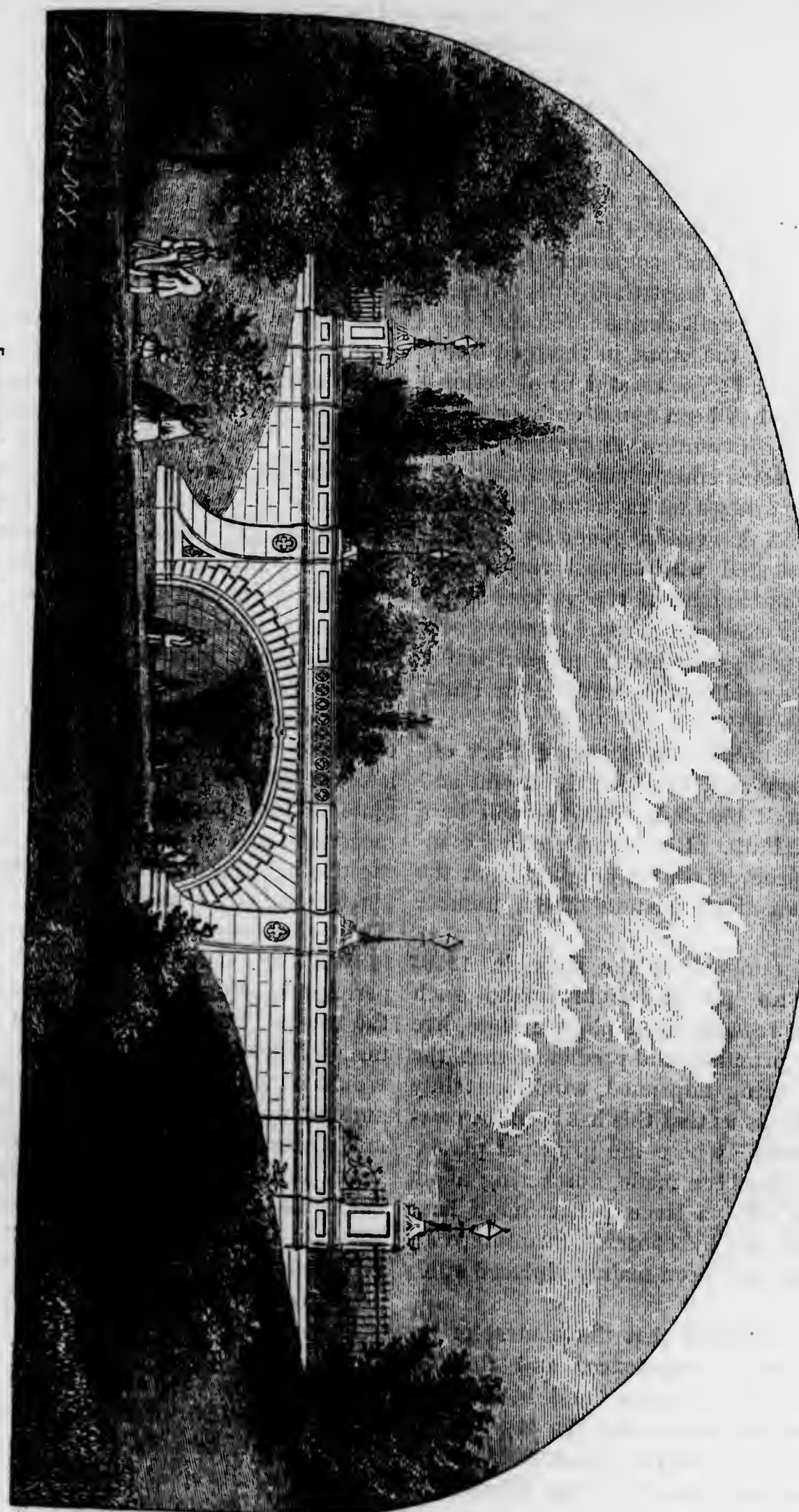
Nothing appears in the Report to indicate which of these systems is likely to prove the best, and we shall look for some reference to this subject in future Reports with interest.

One point seems proved in the Park experiments, namely, that one of the main objects of heavy stoning of roads—the preserving the road-bed from frost, is scarcely ever effected in this country. The Report says:

"The samples of these roads that were first constructed (in 1858) had a depth of fifteen inches of road material. Recent examinations show, that the

frost, during the present winter, has penetrated the ground from six to fifteen inches below the road material on the roads of twelve inches depth."

In this respect, we should judge the Telford road will be inferior to the McAdamized, as the greater



[ARCHWAY UNDER TRAFFIC ROAD FOR FOOTPATH S. E. OF THE MALL.]

porosity of the latter will be unfavorable to the rapid conduction of heat. Vitri-fied pipe is employed for the construction of drains under the road-bed, to carry off the water

from the surface of the road. In order to prevent their becoming choked by gravel from the washings of heavy storms, silt basins are constructed. These are small shallow wells, formed of brick or vitrified stone-ware, sunk some feet below the level of the pipe at the mouths of the drains; the heavy matter sinks into this, and the water only rises to the level of the drains, down which it has to pass.

"When no silt-basins are used, the dirt is deposited along a considerable length of the drain, and may obstruct it at any point where, from roughness, or from some other imperfection of the tile, or from an alteration in the grade, and consequently in the velocity of the current, it is most readily deposited." After each heavy rain, these silt-basins are cleaned out.

For material to cover the stone in the road-beds, that will bind well in all seasons, and be objectionable in none, nothing has been found entirely satisfactory,—and the field of invention of something useful is still here open for some enterprising genius.

Under the head of bridges we cannot derive much statistical information that can be generally applied. The Report is illustrated with several very pretty engravings, giving specimens of the various styles employed. The one we give is a representation of a bridge over a foot-path, sustaining a general traffic road, by which the outside public traverse the Park, without seemingly entering it.

We consider it a combination of two distinct objects, in a very happy way, in which the useful and the beautiful are well blended. Bridges will be a great feature in the Park. Eighteen are either completed or are in progress,—and, judging from the plan, they are but a small portion of the number projected.

At the time of our visit to the Park, in 1859, no person could make such large trees, as had recently been planted there, live without a heavy pruning, and predicted that the majority of these, being unpruned, would certainly die. The Report tells us that this has been the case. "On the promenade, where the principal plantation of large trees has been made, numbering about one hundred and fifty, a large per centage have failed. They were set by contract, guaranteed by the contractor, and have been mainly replaced at his expense."

We have been informed that the contractor has learned wisdom from experience, and the last planted were heavily pruned-in, and hence have been apparently more successful. We say "apparently," because we feel that the Commissioners will at a future day be sorry that they ever allowed the experiment. Our climate is against the successful removal of very large trees. Even in the comparatively moister and more regular climate of France,

from whence we are accustomed to hear the most flattering results of large tree-planting, they have to keep the trunks and larger branches continually swathed in hay bandages, and invent contrivances to have water continually running down the branches to retain life in them. It is, perhaps, as well that the Commissioners allowed the experiment, after all. It is hard to kick against the prejudices of the public. This obstinate embodiment of a tyrannical personality is bound to declare that "it can't wait for those little things to grow," and the Commissioners would, perhaps, have had to endure a storm of indignation if they had not afforded a practical lesson, that they *have to wait*. Nine-tenths of large trees, in our climate, with the best of skill employed on them, will assuredly fail in transplanting.

One of the most valuable portions of the Report is that by Mr. Waring, on the Drainage of the Central Park. The statistical table of the operations of the drains affords data for some calculations that we have never been able to get at before. It appears that, from July 13th to November 18th, 286,000 gallons of rain-water fell on one acre of ground.

During a great part of the time,—the exceptions being only when, from dry weather, the discharge from the drains seemed uniform,—the quantity passing through the drains was measured daily, and an approximate quantity for the next twenty-four hours obtained. The total sum of the quantity measured is about 112,000 gallons. We have formed an estimate of the quantity that flowed on the days not measured, making the whole amount of water flowing through the drains, say 160,000 gallons, against 286,000 gallons of rain that fell in the same time. The Commissioners say that this ground was naturally a bog; it is, therefore, fair to consider that perhaps 60,000 gallons of this discharge came from the natural fountains of water in the land, leaving nearly 200,000 gallons of water unaccounted for. It would be very interesting to know whether all this amount was carried over the surface to the creeks and streams, or what portion sunk in the earth beneath the operation of the drains. If these facts could be even approximately arrived at, and we think, with some slight alteration in the conduction of the observations they could, the data might afford some considerable assistance in the study of the science of draining.

BUIST'S ALMANAC AND GARDEN MANUAL FOR 1861, for gratuitous distribution, is an improvement on that of last year, though we were compelled to speak well of it. Its chief feature is the select lists of the various classes of plants given. The following is Mr. Buist's choice of roses:

"Hybrid Perpetual or Remontant..—Augusta Mie,

Jules Margottin, Giant of the Battle, Sydonie, Madame Rivers, Pius IX., Queen Victoria, Robert Burns, Lord Raglan, Enfant de Mt. Carmel, General Jacqueminot.

"Tea (*Indica odorata*).—Devoniensis, Gloire de Dijon, Goubalt, Souvenir d'un Amic, Madame Roussell, Etienne (pure white), La Reine, Triomphe de Luxembourg.

"Bourbons.—Hermosa, Sir Joseph Paxton, Appoline, Queen, Levison Gower, Dr. Leprestre, Souvenir Malmaison, Blanche Lafitte.

"Noisette.—Fellenberg, Caroline Marniesse, La Pactole, Du Luxembourg, Chromatella, Perfecta.

"Bengal or Daily.—Jacques Plantier, Agrippina, Abbe Moiland, Vesuvius, Cels, Sombreuil.

"Hybrid China.—Coupe d'Hebe, Fulgens, Charles Lawson, Paul Ricaut, Mad. Plantier, Vivid.

"Moss.—Comtesse de Murinais, Princess Adelaide, Alice Le Roy, Luxembourg, Perpetual Moss Salet, Purple Moss.

"Prairie.—Queen of the Prairies, Baltimore Belle.

"Miscellaneous.—Persian Yellow, White Microphylla, Fortune's Yellow, Madame Hardy, Provence Cabbage, Pink Microphylla."

All good kinds and reliable, though some are not included we would not like to spare. In the Noisette class, for instance, we would certainly add Triomphe de la Duchere and Pentland's Woodland Margaret, a hardy free-blooming white kind that has not yet had justice done it. Of Strawberries for general cultivation, Mr. Buist's choice is:

"Wilson's Albany, Princess Royal, Prince's Magnate, Imperial Scarlet, Hovey's Seedling, Feast's Fillmore, Hooker, May Queen (early)."

The following extract gives an idea of the general tenor of the "almanac."

"Heating greenhouses and hotbeds by hot water is daily being more practicable and economical. In our last edition we pointed out how to overcome a dip in hot water pipes at the boiler. We now confirm this fact, and intimate another,—that four-inch pipes, for conducting hot water through greenhouses and other buildings, can be obtained at about twenty cents per lineal foot. They can be joined by any workman with a few rounds of packing-rope, then a round of putty, then a few thin rounds of rope, hammering it home with a thin chisel, and finish the joint with putty. The putty is made of about the following parts: one-third glaziers' putty, one-third white-lead, one-third dry red-lead, all carefully mixed together and rolled up into the consistency of glaziers' stiff putty. Our laborer makes a joint in ten minutes. We, however, pay about forty dollars for a boiler, but will not endure it any longer; the same article may be made for half the money.—Wherever a greenhouse extends beyond sixty feet

in length and twenty in width, it is economical to use hot water."

THE AGRICULTURAL PRESS.—Few persons estimate sufficiently high the value of their local agricultural papers. However valuable may be a journal like ours, which, aiming at a cosmopolitan sphere of usefulness, has necessarily to deal with principles rather than special details of local practice, one's local paper should never lack his strenuous support. There are always local circumstances and special influences, that will modify frequently the soundest scientific deductions, and in no way can these peculiar results be so well brought out as in the columns of one's local journal. Sometimes one may differ as to the manner in which his local paper should be conducted. He may think that *this* should be noticed, or *that* should have been left out; but in such cases the spirit of concession should prevail, and support for the good it does is its rightful due.

With these views we have ever thought it our duty, as horticultural propagandists, to keep our readers posted on the merits and existence of the agricultural journals of our country. Whenever there has not been too great a pressure on our advertising columns, we have inserted lists of them, with their publishers and prices. We shall continue to do this through the next year, and shall be pleased to receive specimens of new ones that may arise; or that we may not have included in our list.

Almost every country paper has now its agricultural column; but amongst those which may be called strictly agricultural,—uniting horticulture and the kindred branches,—we may name:

THE GENESEE FARMER. Published by Joseph Harris, Rochester, N. Y. It has been thirty years in existence, has done immense service to agriculture and agriculturists, and is published at 50 cents per year.

THE AMERICAN FARMER. By Worthington & Lewis, Baltimore, Md. Another monthly, at \$1 per year. The oldest in the country, and bearing a high character for sound scientific teachings.

RURAL NEW YORKER. By D. D. Moore, Rochester, N. Y. A weekly, at \$2 per year. Is one of the most popular sheets published, and, in every sense, well sustained.

THE FARMER'S JOURNAL. By De Montigny & Co., Montreal, Canada. \$1 per annum. Though we have but recently seen a number for the first time, it has been thirteen years in existence. We greatly admire its motto, "The Soil—it is our Country. By improving the one, we serve the other."

THE OHIO CULTIVATOR. By S. D. Harris, Columbus, O. Thirteen years published; has always

been popular at \$1 per year; but to make it still more so, will, in future, be only half that price.

**THE COUNTRY GENTLEMAN.** By Luther Tucker & Son, Albany, N. Y. A weekly, at \$2 per year, is so well known and appreciated, that we need add nothing.

**THE AMERICAN RURALIST.** By J. R. Dodge, Springfield, Ohio. We believe, a monthly, at \$2 per year. We have heard it highly spoken of; but as we are not sure that any number has ever been received at our office, we cannot speak from experience.

**THE WISCONSIN FARMER.** By J. D. Powers & Co., Madison, Wisconsin. A monthly journal, at \$1 per year, of the merits of which our columns have before spoken appreciatively.

**THE INDIANA FARMER.** By J. N. Ray and H. C. Gray, Indianapolis. Monthly, \$1; weekly, \$2 per year. Is one of our favorite exchanges.

**THE NORTHWESTERN FARMER.** By Miller & Drayton, Dubuque, Iowa. Monthly, at \$1 per year. Is now in its sixth year, and is well sustained in all its departments.

**THE WOOL-GROWER** gives monthly information on the growth and sale of wool, and is published at Cleveland, Ohio, for 50 cents per year.

**THE OHIO FARMER.** By Thomas Brown, Cleveland, Ohio. A weekly, at \$2 per year. Is generally received as one of standard authority in its line.

**NEW HAMPSHIRE JOURNAL OF AGRICULTURE.** By W. H. Gilmore, Manchester, New Hampshire, at \$1.50 per year. Is the only one in that State, and deserves the united support of the New Hampshire agriculturists.

**RURAL REGISTER.** By S. Sands & Miller, Baltimore, Md. Bi-monthly, at \$1 per year. We regard it as one of the wonders of the day, even though so much for so little is of common occurrence.

**THE SOUTHERN CULTIVATOR.** By D. Redmond & C. W. Howard, Augusta, Ga. Monthly, at \$1 per year. Nineteen years established, and stands amongst the first in ability and popularity.

**THE HOUSE AND GARDEN.** By Thos. Brown, Cleveland, O. A monthly, at 50 cents per year. We have recently noticed it.

**THE PRAIRIE FARMER.** By Emory & Co., Chicago, Ills. Established in 1841. The horticultural department is, we believe, under the control of Dr. Kennicott, and the journal itself has an extended and enviable reputation. It is a weekly, at \$2 per annum.

**THE NEW ENGLAND FARMER.** By Nourse, Eaton & Tolman, Boston, Mass. Weekly, \$2; monthly,

\$1. Does not often reach our table. What we have seen of it has been of the highest excellence.

**KENTUCKY FARMER.** A. G. Hedges & Co., Frankfort, Ky. Monthly, \$1 per year. Is the only one in Kentucky, and should be energetically supported.

**THE HOMESTEAD.** Mason C. Weld, Hartford, Conn. A weekly, at \$2 per annum. Is well appreciated through the community, not only for its quality, but for its neatness also.

**THE SOUTHERN HOMESTEAD.** By L. P. Williams & Co., Nashville, Tenn. A weekly of eight pages, and the only illustrated journal published South. \$2 per year.

There are many other useful and valuable journals, which we will notice on some future occasion. Those we now refer to we have taken up in the order they run in our last month's advertising columns, where full particulars of each journal may be found.

Though not under the head of "agricultural" journals, the advertisement of *Hovey's Magazine* also appears in our last; and so may also be noticed here. As our elder brother in Horticultural literature, having been twenty-seven years in existence, it would look presumptuous in us to speak of its merits. That its subscription-list continues to increase largely, as it does, is one of the best proofs of popular appreciation.

**THE MINNESOTA FARMER AND GARDENER.** Published by Messrs. Ford & Stevens, of St. Paul. We have received the first number of this journal, which exhibits signs of future energy and usefulness. We select the following Minnesota facts for our readers' information:

**Minnesota Sweet Potatoes.**—The Nansmond variety has been found, the past season, to be a successful crop at St. Paul.

**Onions in Minnesota.**—Mr. Daniel Hopkins, of Groveland, Min., has raised four hundred bushels of the Weathersfield Red to the acre.

**Grapes in Minnesota.**—Dr. Ford, of Winona, ripened the Anna, Clinton, and Catawba there last season.

**Minnesota Agricultural Society's Horticultural Committee.**—Dr. A. E. Ames, Minneapolis; Alex. Buchanan, St. Paul; Richard Chute, St. Anthony; Miss Sarah Cox, St. Paul; Mrs. W. L. Ames, St. Paul.

**The First Minnesota Grapery** is on the grounds of the late Dr. C. W. Borup, near St. Paul. It was erected in 1859. The Doctor was foremost in introducing new fruits and flowers, and his gardener, Mr. W. Masters, is highly spoken of for his skill in adapting his knowledge to that peculiar climate.

**Apples in Minnesota** have not, as yet, done well,

though Mr. Snow, of Red Wing, says some have lived and borne fruit at Prescott. Hon. Eli Robinson, of Nininger, in Dacotah County, has also had trees to produce a few fruit.

**The Dahlia in Minnesota** is said to succeed remarkably well, and is likely to become one of their most popular florists' flowers.

**Peaches in Minnesota.**—Mr. Masterton, of St. Pauls, had several ripe peaches on his trained trees this fall. We believe they were protected.

**The Siberian Crab Apple in Minnesota** does well. Mr. P. W. Nickots, of St. Pauls, had two and a half bushels from one tree, which sold for fifty cents per peck.

### New or Rare Plants.

**ALOCASIA METALLICA.**—A foliage plant of the Arum family from Borneo and will probably require a hothouse to bring it to perfection. Sir W. Hooker says in the *Botanical Magazine*, "that no pencil can do justice to its great beauty." He adds, that "no one in Europe but Mr. Low possesses it." We believe we are not mistaken in saying that it is already in Mr. Buist's collection, who with commendable enterprise keeps up with the novelties of Europe.

**ACACIA DRUMMONDII.**—Figured in *Botanical Magazine*. A pretty pinnate-leaved species from Swan River, New Holland, nearly allied to the well-known *A. pulchella*.

**CALLIXENE POLYPHYLLA.**—A half shrubby vine, something like in habit to our smilax, to which family it belongs; with very pretty white flowers drooping like the lily of the valley. It will be a pretty greenhouse plant.

**ONCIDIUM LONGIPES.**—A very pretty variety of orchideous plant recently received from Rio Janeiro.

**PTERIS CRETICA.**—A variegated variety of this has been received in England, that will be popular. It resembles very much the *P. serrulata* of our greenhouses in general appearance, but there is a white band down along the centre of each division of the frond. It will doubtless require the temperature of a greenhouse. It has eleven other synonyms; figured in *Hooker's Magazine*.

**METHONICA SUPERBA.**—A liliaceous plant, scarcely different from the well-known *Gloriosa superba*, but yet a plant of great beauty for hothouse collections. A native of Fernando Po.

**CISSUS VELUTINUS.**—Is a new species from the Malay Islands; nearly allied to *C. discolor*, the leaves not quite so interesting, but the flowers larger.

**ANÆCTOCHILUS INORNATUS.**—From Ceylon. A

variety of and not quite so handsome perhaps as *A. setaceus*.

**SALVIA SCABIOSIFOLIA.**—A species from Russia, with tall spikes of greenish pink flowers, and will perhaps make an interesting addition to our hardy herbaceous plants.

**PHALGENOPSIS ROSEA.**—We have before described in our journal. A recent figure in the *Botanical Magazine* shows that it is not so beautiful as the old *P. amabilis*, but it is a good addition to the orchideous collection.

**THE NEW DOUBLE-FLOWERED ZINNIA.**—By favor of M. Vilmorin, of Paris, we have been favored with an engraving of this new candidate for popular favor. Every one knows the structure and form of flower of the common Zinnia. Its head is a mass of small flowers, but the lower ones have the petals developed into long radiating strap shaped forms, giving the head the appearance of but one flower with a row of petals about the base.



In the present improvement the petals of the central flowers have also been developed into the ligulate shape, and the result is, as in the Dahlia, what we call a double flower. There is no doubt but that it will be extremely popular. Though it is of the same species as the one in cultivation, M. Vilmorin says he has never succeeded in obtaining seedlings with more than two rows of petals. He received the first seeds two years ago from M. Grazan, gardener, at Bagneres, who had them sent him from India.

Seedlings from these double zinnias do not all come double, but M. Vilmorin says more than 50 per cent. will; they come of all colors, from rose to violet amaranth, but he has not yet seen a double white or yellow, though there are single ones of that class.

**NEW GARDEN FERNS.**—40. *Gymnogramma Wenhalliana*, Moore.—Fronds dwarfish, ramose, the branches as well as pinnæ corymbosely multifid-cripsed at the apex, bipinnate; pinnules oblong-obtuse, deeply pinnatifid, with small rather distant toothed segments; under surface pale sulphur-colored.

This plant was shown at the meeting of the Floral Committee of the Horticultural Society on the 13th of September last, and was awarded a first-class certificate as a very beautiful and distinct new crested Fern. It was exhibited by Mr. P. Kelly, gardener to Mrs. Ridgway, of Ridgmont, Bolton-le-moors, Lancashire, by whom it was raised; and had been obtained, according to information furnished by Mr. Kelly, from spores taken from a slightly crested branch accidentally produced by a plant of *G. Peruviana*, which plant had been growing in company with *G. sulphurea*. Whether or not the contiguity of these two plants had any effect on the produce, it is certain that the new form, though stated to have been raised from *Peruviana* has more of the general character of *sulphurea*, and that the ceraceous powder which gives the color to the under-surface, is intermediate in color between that found on these two well known species. The conclusion seems inevitable, that the plant is either a sport from *sulphurea*, the spores of the two kinds having become accidentally intermixed before sowing, (which might happen by the natural process of dispersion), or that it is of the nature of a hybrid. It is a remarkable fact that where two or more kinds of *Gymnogramma* are grown near together, intermediate forms not unfrequently occur among the seedlings obtained from them, and these have given some countenance to the opinion that hybrids occur among ferns.

The *Gymnogramma* now under notice, forms a dwarf spreading tuft, the fronds arching outwards from the crown, and becoming borne down over the pot-rim by the weight of the tassels, while those occupying a more central position again arch over these in successive tiers. The fronds are about a foot in length, variously branched in the stripes or rachis, as well as divided into a large spreading corymbous tassel at the end. In one of the larger fronds now before us the stripes is thus divided, and one of the divisions again divided near its base, so that there are three separate branches, each divided at the apex into a tassel, which when spread out measures 3 to 4 inches across; these tassels are densely multifid-

crisped towards the extremities, and furnished below with small pinnule-like segments. The pinnæ are again pinnate at the base, tapering to a slender rib, which is almost leafless, and then spreading out into a dense fan-shaped tuft, of an inch more or less in breadth. The larger pinnules are oblong, half an inch long or upwards, distant, blunt-ended, deeply pinnatifid, the segments being small, distant, wedge-shaped or obovate, and rather strongly toothed. The color of the under surface is a very pale sulphur, almost white. The color of the rachis is a light chestnut brown, becoming deeper-colored in the stripes. It is a very elegant dwarf-tasselled fern, and is stated to be less affected than other gymnograms by cold and damp. The name is given in compliment to a relative of Mr. Kelly's employer. T. M.—*Gardener's Chronicle*.

**DOUBLE WHITE CLARKIA ELEGANS.**—What shall we not have double? Vilmorins now offer a double white *Clarkia*. There has been a double rose before. Only a portion of the stamens are transformed into petals, so that enough pollen is produced to fertilize the stigma and enable the double variety to reproduce itself from seed. The seed should be sown in the open border early in April.

**NEW GOLDEN STRIPED ARBORVITÆ**, *Thuja Ver-veaneana*.—Raised by Vervaene, of Ghent.

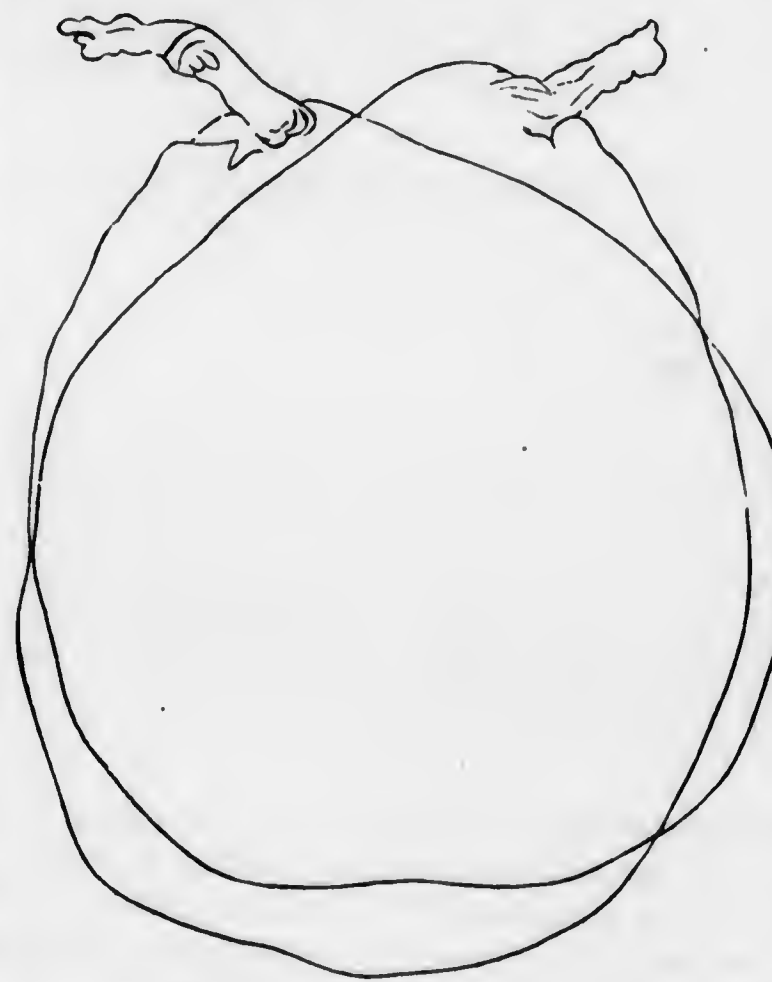
## New and Rare Fruits.

**GOVERNOR CHARTER'S SEEDLING APPLE.**—It is of medium size, slightly and in some instances quite conical; a light yellow skin blushed with bright crimson, and covered with well defined yellow or yellowish dots. Some of the samples are slightly ribbed. Stem short, slender, deeply set in a deep narrow regular cavity, in some instances slightly russeted. Calyx closed; basin moderately deep, slightly furrowed, and open; core small, fleshy; seeds plump, small, dark brown, ovate, roundish; flesh white, cuts firmly, fine grained, tender, mild and pleasant, juicy, scarcely acid, slightly aromatic, exceedingly eatable, perfectly palatable, and at this writing, the last of October, just in good eating condition to be relishable. The beauty as well as the quality of this fruit leads us to commend it to the attention of orchardists as a market fruit. It is sought for in the market where known, and it is hardy and productive.—*Prairie Farmer*.

**DRACUT AMBER GRAPE**—MANNING in *New England Farmer*.—This is a New grape, but little disseminated; origin, Dracut, Mass., from seed. It

ripened this season, the week before the great frost, October 1st, which destroyed most of the best class of grapes for table use. The fact of its ripening ten days earlier than the Concord grape, is sufficient proof of merit. It is a strong grower, hardy, great bearer, color amber, or reddish tinge, cluster large, generally compact, but sometimes loose, berries large, and slightly oval; hold on the cluster very well. It possesses the foxy character to a moderate extent. It is a good eating grape, but not equal to a well-ripened Concord or Isabella.

**MOUNT VERNON PEAR.**—Size, above medium, from 3 inches by 2 7-16, to 2 3/4 by 2 3/8; form, oblate inclining to pyriform; skin apparently a warm russet, but on a closer examination profusely mottled with russet net work on a yellow ground, sometimes with an orange cheek; stem one-half an inch long by three-sixteenths thick, inserted usually by a lip, with a little or no depression; calyx open, set in a narrow, superficial basin; core, rather large; seed, above medium, acuminate, plump, pale cinnamon color, with an angle on the inner edge of the blunt end; flesh, greenish-white, granular, melting; flavor, rich and vinous, with a delicate aroma; quality, "very good;" maturity, last of October and beginning of November.



This fine Pear is probably a natural cross between the Beurre Gris and Figue d'Alencon.

The above description and outline of two varying specimens we owe to the kindness of Dr. W. D. Brinckle, who, in a private note, agrees with us in

considering it probably the best Pear of the season. It is the one we referred to last month as having been raised by the Hon. S. Walker, Roxbury, Mass.

**THE MOORE'S PEAR.**—Has been fruited by Messrs. Hovey's and is spoken of by *Hovey's Magazine* as larger than Doyenne Boussock, and as one of the most valuable of all varieties. It was cultivated sixteen years ago by Sinclair & Co., Baltimore. The following is the description:—Minute greenish specks; stem rather short, about half an inch long, moderately stout, straight and inserted without any cavity; eyes large, open, and but little depressed in a rather small, furrowed, uneven basin; segments of the calyx short, broad, connected; flesh yellowish white, fine, melting, and very juicy; flavor brisk, slightly vinous, exceedingly rich, with a pleasant aroma; core medium size; seeds small. Ripe in September, and keeps a long time.

**THE OPORTO GRAPE.**—Has been recently described in the *Country Gentleman* and *Horticulturist* as a new kind of merit. The last named journal says of it: "The bunch is small, slightly shouldered; berries small, black, round, with a dark purple coloring matter under the skin; pulp firm and mucilaginous, resembles the Marion. Not a good table grape, but may do for wine."

**A NEW FRUIT FROM CHINA.**—Has been introduced by Mr. Fortune into England. It is a scarlet fruit, rough on the exterior like the fruit ball of the buttonwood; a stone like a plum in the centre. It is called Yang-mae by the Chinese, and supposed to be a species of *Myrica*.

**CUYAHOGA GRAPE.**—In our volume for 1859 we stated that specimens which we had received of this variety proved, so far as flavor was concerned, of the highest excellence. It seems to be well thought of in other localities. We annex the following description:

Bunch oblong oblate, blunt pointed, averaging four inches long, and three wide. Berries yellowish white, usually about one-half inch in diameter; skin thin and transparent; flesh sweet and pulpless.—Leaves very small, mostly three lobed, the lobes somewhat straight; the leaves very thick and leathery, and with a smooth and glossy upper surface.

It has the most distinctly marked foliage of any native grape we know.

## Domestic Intelligence.

**CRATEGUS CORDATA.**—Of the beauty of this kind when grown as an ornamental tree, a correspondent writes as follows. It is commonly called Washington Thorn: "The Cordata Thorn will, I think, be among



the most ornamental trees in fruit in this section of country, (Northern Pennsylvania). Tree very upright, 15 to 20 feet high; berries very bright and hold on longer here than the *Coccinea*, which on our mountains is very splendid in fruit, but here has at this time lost leaves and fruit."

**A SPECIAL MANURE—Not Patented.**—At the Woodbury plowing match, Mr. John Daw told the following anecdote:

Having drained a field where nothing had ever grown before, I was standing near looking at a crop I had there, when a neighboring farmer came up. We had one or two loose farmers in our neighborhood; one of them, in fact, came from Woodbury, [laughter]; but that is not the man I am speaking of. He came up and said to me:

"That is a bootiful crop! How did he get it, sir?"

I replied: "Brains." [Laughter.]

"What! manure the field w'brains?" [More laughter.]

"Yes." [Renewed laughter.]

He replied: "Goodness, yer honor, where did you get um?" [Roars of laughter.]

**PEAR STOCKS.**—Mr. Phoenix says in the *Prairie Farmer*:—Without having tried it (though we mean to this winter) we give the following as the practice of a New York man experienced in handling pear stocks: When pear stocks arrive, dig a trench about a foot deep and two feet wide. Heel the stocks in bottom of this trench, having a space of eight inches between top of earth in trench and surface of ground. Cover whole trench with boards and then earth to a suitable depth to keep from freezing. Soon as warm weather is like to come in Spring, graft them, tying joint with flax or soft bass bark, and never let them dry in the least degree, using a short root and long scion, and planting out immediately in open ground.

He also advises to plant pear stocks or grafts over trenches dug 20 inches deep, and a spade or so in width—the trenches being filled full of best surface soil, made rich with rotten manure.

**RASPBERRIES.**—Experience of Rev. Mr. Knox, of Pittsburg, Pa:—

He has ten acres, very densely planted with over twenty varieties. The Fastoff, Red Antwerp, and Hudson River Antwerp, do well with him, but his three favorite varieties are Brinckle's Orange, Franconia, and Improved American Black Cap. Brinckle's Orange, Mr. Knox considers the finest flavored, of large size, beautiful color, unvarying productiveness, and delicious flavor. The Franconia berry is

not so highly flavored, but is very large. Its size and color render it attractive, and ever procure for it a ready market. It is enormously productive, and continues a long time in bearing. The Improved American Black Cap is much superior to the common Black Cap. The fruit is sweet and juicy, and very large—sometimes measuring three quarters of an inch in diameter.

**EXPERIMENTAL GARDENS.**—We are glad to see that the suggestions we made in our last October issue is receiving attention. We hope some of our readers will send us their ideas about their practical management. We may have something to say also on the subject, at a future time. The following is from *Life Illustrated*:—

*What shall we Plant?*—The article with this title, copied in our rural department from the *Gardener's Monthly*, is worthy of especial attention. We commend its perusal to our readers, and that portion thereof which refers to experimental gardens to the notice of the managers of the American Institute.

We believe it was the intention of the founders of the Institute to have had something of this kind connected therewith, and we think it is about time to be about it. Fairs, judging from the success of the past two years, are "played out." Let us have an hundred-acre garden on the Long Island Barrens, and that, too, without delay. It will pay in more ways than one.

**IVY AND DAMP WALLS.**—Our local papers tell us that the oldest specimen of the Evergreen English Ivy in Philadelphia, a noble specimen, covering many hundreds of square feet, has been cut away by the owner, because "it made the walls damp." Sometimes people seem strangely infatuated. Ivy renders walls dry. The leaves prevent heavy rains from getting to the wall, and what little dampness finds a place there, is immediately absorbed by the millions of little rootlets, by which the branches adhere to the wall. The dampness no doubt originated from choked spouts, and we presume the sacrifice of the ivy will make little difference.

**THE FIRST OHIO VINEYARD**, was planted by Mr. Ammen, for Mr. Longworth, with the Schuylkill Grape, four miles from Cincinnati, in 1843. It is still bearing well. Vineyards of foreign vines were planted long before, but were all failures.

**INTRODUCTION OF THE CATAWBA GRAPE.**—Major Adlum, of Georgetown, D. C., sent it to Mr. Longworth in 1825, when Mr. L. introduced it for vinery and culture in Cincinnati.

**APPLES FOR GEORGIA.**—Mr. Van Buren says in *Southern Field and Fireside*, that the Sumerour, Shockley, Home, Mountain Belle, Camack's Sweet, have so resisted the heat of last summer, that while northern varieties have long been eaten, these are (end of Nov.) now sound.

**SOIL AND CLIMATE OF CENTRAL MINNESOTA.**—A correspondent at Minneapolis, writing Nov. 16th, says:—"I have been ploughing to-day a field of common hazel prairie, which appeared to be not less than two feet of black sandy loam, and so abundant in mould that the plough would not clean.

The heat of the summer sun is moderated by the cool breezes, which are nearly always to be felt."

**THE FIRST INDIANA VINEYARDS** were planted with Schuylkill Grape by the Swiss, at Vevay, in 1805.

## Recipes of Fruits & Vegetables.

**BAKED BEANS.**—Few people know the luxury of baked beans, simply because few cooks properly prepare them. Beans, generally, are not cooked half long enough. This is a sure method: Two quarts of middling-sized white beans, two pounds of salt pork, and one spoonful of molasses; pick the beans over carefully, wash them, and add a gallon of boiling hot soft water; let them soak in it over night; in the morning, put them in fresh water, and boil gently till the skin is very tender and about to break, adding a teaspoonful of saleratus; take them up dry, put them in your dish, stir in the molasses; gash the pork and put it down in the dish, so as to have the beans cover all but the upper surface; turn in boiling water till the top is just covered; bake them with a steady fire, four or five hours; watch them and add more water from time to time as it dries away.—*Ohio Farmer*.

**APPLE CUSTARD.**—To make the cheapest and best every-day farmer's apple custard, take sweet apples that will cook; pare, cut, and stew them; when well done, stir till the pieces are broken; when cool, thin with milk to a proper consistency, and bake with one crust, like a pumpkin pie. Eggs may be prepared and added with milk, if handy, though it will do without. No sweetening is necessary. It may be seasoned with any kind of spice to suit the taste; the less the better.

**SPINACH IN CONSOMME.**—Boil the spinach in the usual manner, then roll it up into balls, and stew it briskly in veal broth well seasoned, adding enough

of nutmeg, in powder, to cover a sixpence, and a teaspoonful of Chili vinegar. Spinach dressed in this manner is an applicable accompaniment to veal or boiled mutton; with roast meat it is advisable to serve it plain.—*Flor. Cab.*

## Foreign Intelligence.

**FAIRCHILD**, after whom so many of our old fruits and plants were named, was a gardener near London, and distinguished as the Author of the "City Gardener," a work published there in 1773.

**MULCHING.**—The early part of the past summer was so dry in France and Belgium, that the Market Gardeners very generally resorted to the practice of mulching with straw, kept damp by occasional waterings. This hint may be of service to some of our California readers.

**GRAFTING THE CARNATION.**—Fine double varieties of the Carnation are easily propagated by cleft or side grafting, on common or single stocks, they can also be grafted on the *Saponaria officinalis*, the "Bouncing Betsy" of American door-yards, by taking pieces of the root about one inch long, and from one-third to one-half an inch in diameter, preserving as many of the fibres as possible. Then take a branch or shoot of the Carnation about six or eight inches long and graft it by side grafting on the side of the piece of root at the upper end. The best time for doing this is about the middle of May. Plant them close together and cover with a bell glass. No bottom heat is required.—*Guide du Jardinier fleurist*.

**SEVERE FROSTS IN SAN JOSE.**—Frosts have been unusually severe in this section the present year, more so than they have been for the past eleven years. On the 7th September it was so cold that ice made to the thickness of half a dollar. The cold continued three days and nights. As an evidence the mercury fell to 38° inside a greenhouse.—*California Farmer*.

**DOUBLE CONVULVULUS.**—Mr. Beaton says in *London Cottage Gardener*, that *Calystegia pubescens* is the only double variety of Convolvulaceous plant known. This is a mistake, Messrs. Loddiges, of Hackney, near London, once had in their collection a double variety of *Ipomoea panduratus*, and the same variety still exists in some American collections.

**FERNS.**—"They are destitute of flowers and fruit

and yet they please; there is nothing brilliant or dazzling about them and yet they charm, we admire them as we do a modest virgin, who hides her charms under the veil of innocence.—*L' Horticulteur Praticien.*

**CULTURE OF SOLANUM CAPSICASTRUM.**—The following detail of my success in cultivating this beautiful biennial plant may be useful to many of your correspondents.

In January last I sowed the seeds in pans, placed them in bottom heat, and kept them there till the plants were large enough to be removed into thumb-pots. After this they were placed in a warm pit, kept near the glass to keep them from drawing up till they had filled their pots with roots. I then shifted them to four-inch pots, plunged them into sawdust up to the rims of the pots: they soon made very vigorous growth. I applied water by the syringe daily, as I find this plant very subject to the attacks of the red spider.

At the beginning of April I was obliged to re-pot the plants again into six-inch pots, plunging as above, and still keeping the syringe at work till the plants showed well for blooming, which was in June. While in bloom I kept them free from syringing, and at a much higher temperature till they had set their fruit. I then re-potted them in eight-inch pots, in good, rich turfy loam, with plenty of leaf mould and sand, and kept them watered with weak liquid manure, and well watering them with the syringe morning and evening till the berries began to color. I then removed them to a warm greenhouse, stopping all the points except the leading shoot. The plants are now nearly eighteen inches high and fourteen inches across, with from forty to fifty berries on them, and by the end of next month I hope to see all the berries quite ripe. They will then have a beautiful appearance. I know no plant, with the exception of the *Ardias* for decorating purposes, that has so seasonable an appearance at Christmas time as the *Solanum capsicastrum*.—*THOS. RAWBONE, Gardener, Barlaston Hall.—Cottage Gardener.*

**THIRTY THOUSAND APPLES ON A SINGLE TREE.**—

Wm. R. May, of Pomfret, (Ct.,) picked forty bushels of apples from one tree. He had the curiosity to count the number of apples in one peck, and found 190, making 760 in one bushel, and 30,400 apples grew upon the tree.

**HOT HOUSE GRAPES.**—Mr. Ayers, a distinguished British gardener, says in the *London Gardener's Chronicle*:—

Looking through the Grapes at present in cultiva-

tion, it appears that all purposes of a regular supply will be attained with the following varieties:—White—White Frontignan, Golden Hamburgh, and Charlsworth Tokay. Black—Black Frontignan, Welbeck Black Tripoli, Muscat Hamburgh, Mill Hill; and for late work, Lady Downe's Seedling, Oldaker's St., Peter, and Burchardt's Prince. If more Vines were required I should rather duplicate with some of the best of the preceding than plant a larger number of kinds.

**NEW PAPER PLANT—*Hibiscus Esculentus.***—The French have found the fibre of this equal to hemp for course linens, and are introducing it extensively into Algiers. This is the okra of our gardens, and it might at any rate be worthy of notice by our paper manufacturers. Many of our swamp species might be turned to useful account.

**GAZANIA RIGENS**, and *G. splendens* are highly spoken of in English journals, as bedding-plants. If our summers do not prove too dry for them, as we think probable, they will prove very showy acquisitions. The two kinds are often confounded, but are very different, the former has incised or toothed leaves, the last quite entire.

**PROFIT AND DURABILITY OF POT VINES.**—A writer of the *London Florist* writes on Early Grapes, in which the writer states that as, according to the general practice of fruiting Vines in pots, whereby a fresh supply of fruiting plants is required yearly, pot growing is not at all an economical system, whatever other advantages it may possess. "I determined, therefore," says he, "some years back to see how long I could fruit my Vines so as to pay, in the same pot; and having succeeded much better than I anticipated, I beg to state my practice." This consists in taking the plants in August for next year's fruiting, shift them from twelve to eighteen-inch pots; some in eighteen-inch square boxes also, and allowed to grow on the rest of the season. Nothing is done differing materially from the ordinary routine of forcing. When the fruit is cut, the Vines are allowed to remain a few weeks in the house, keeping the plants and foliage clean by syringing, &c., and giving manure water occasionally. By these means (taking the Grapes to be cut by the commencement of May), the wood is well ripened, by the middle of the month the boxes are placed out under a south wall or paling, where they remain till the end of August, after which they are shifted under a north wall for wintering; and they are allowed to receive the rain, &c. By the end of October they are transferred to a dung pit, in order to swell the buds, and in November taken into the

fruiting-house, the wood being previously pruned back to good prominent eyes. Such Vines are found to break much more freely the second year, and produce larger berries and bunches, ripening also near a month earlier. When placed in the fruiting-house, a little top-dressing of fresh compost is given, and a thick turf put beneath each pot, into which the roots afterwards find their way. The Vines produce on an average nine or ten half-pound bunches of first-class grapes, which, at the end of March, is no bad work. As they cannot safely be removed from the house earlier than the end of May, they have all the air they can, and are syringed daily, to keep the foliage clean. When removed, the roots sent into the turf are cut clean away, and manure water is given through the summer. The third season's practice is the same as the preceding. By pruning to good plump buds, a crop of good quality is certain, which colors well, and is free from shanking. The Sweetwater, Muscadine, Chasselas Musque, and Frontignan, are generally worn out by the third year. Hamburghs will occasionally last four or five years, but then a good deal of soil will require to be renewed. Keeping plants beyond the third year is not, however, advocated.

**FORCING ASPARAGUS IN THE OPEN GROUND.**—M. Joigneaux in his excellent treatises on *Culture maraichere* or market gardening, gives the following very simple mode of forcing asparagus:

"Dig a trench about two feet wide and about twenty inches deep around your old asparagus bed, fill it with hot stable manure with some oak leaves mixed with it; the manure should be heaped up about six or eight inches and well trampled, then place boards on edge all around the bed outside the trenches, securing them with stakes driven in the ground. These boards should be about the same height as the manure, forming a kind of curb all around the bed, then lay across the bed, resting on the boards on edge and on the manure, some old boards, doors or rails and on these straw, litter, leaves or pine "shatters" to keep out the frost. In fifteen days the asparagus shoots will make their appearance.

Asparagus can in this way be forced at any time during the winter, but it is less injurious to the plants or roots to defer it until about the first to the middle of February, so that when the crop is cut the bed can be uncovered and the plants to have an opportunity of completing their growth.

**THE GREEN ROSE.**—The Bengal *verte* or green Rose, according to the *Gardener's Chronicle* is one of the latest novelties in England. It says it "was first introduced to the world" in 1856, by Pere &

Clement of Lyons, France." We do not know who originated the green China, but it has been in the collections of most American Rose-Growers the past twelve years at least. The *Chronicle* suggests that it might make a good breeder. If scarlet and yellow could be introduced with the green, it would be valuable.

**THE JAPAN BURDOCK** is the name of a new vegetable introduced from Japan by M. Siebold. Its roots resemble in taste the Artichoke, and attain a weight of a quarter of a pound.—*L' Hort. Praticien.*

**BLACK CURRANT WINE.**—Under the name of *Liquer de Cassis*, is being produced to a vast extent, superceding the vine in many districts of France. There are between one and two million plants cultivated for wine-making near Dijon, producing from this town alone near two thousand gallons of wine annually.

**HOT-HOUSES BY THE ACRE** is the newest idea started in England. It is proposed to cover whole vegetable and fruit gardens, with glass, one single mammoth house, the roof to be on the ridge and furrow principle.

**NEW ENGLISH WORK ON FRUIT**, by Dr. Robert Hogg, the *Fruit Manual*, is highly spoken of by the English papers as a work of great excellence.

**CUPRESSUS MACROCARPA** and *C. Lambertiana*, Beaton says, in *Cottage Gardener* has been raised in Kew from the same seed, and are of course to be considered, therefore, as mere varieties of each other.

**OFFICE OF THE SEED OF PLANTS.**—Dr. Daubeny, a distinguished English Philosopher, supposes that the office of the seed is not to ensure the perpetuity of the race, but to provide for endless variety. He contends that one of the simplest modes of insuring continuity of individual forms would be by buds and offsets naturally, as we increase the Weeping Willow by cuttings; but by sexual contact of individual plants with one another, no two broods result exactly alike.

A better means of disseminating the species, and of producing endless variety of form, he considers the true office of the seed, and not that it is peculiarly "the most natural mode of propagation."

**HORTICULTURE IN FRANCE.**—The *Scottish Gardener* says, so great is the attention the French Government has bestowed on horticulture, that it believes at no distant day France will become the garden of Europe.

## Horticultural Societies.

### NEW HAVEN LECTURES.

Horticultural lectures to commence Tuesday, February 5th, and continue throughout the week.

|  |                   |
|--|-------------------|
| AMERICAN POMOLOGY, . . . . .               | M. P. WILDER.     |
| PEARS, . . . . .                           | P. B. MEAD.       |
| GRAPES, . . . . .                          | DR. GRANT.        |
| ORNAMENTAL AND EXOTIC GARDENING, . . . . . | S. B. PARSONS.    |
| PRUNING AND TRANSPLANTING, . . . . .       | P. BARRY.         |
| PROPAGATION, . . . . .                     | THOS. HOGG.       |
| FRUIT AND FLOWERS IN CITY YARDS, . . . . . | R. G. PARDEE.     |
| Other subjects by other lecturers.         |                   |
| SECOND WEEK . . . . .                      | SCIENCES.         |
| THIRD " . . . . .                          | AGRICULTURE.      |
| FOURTH " . . . . .                         | DOMESTIC ANIMALS. |

During the fourth week, four lectures on the subjugation and education of the horse, with demonstrations on two living animals. For further particulars address, JOHN A. PORTER, NEW HAVEN.

### MAURY CO. (TENN.) HORTICULTURAL SOCIETY.

We have received the Annual Address of M. S. Frierson, Esq., President of the Society, from which we learn that the enthusiasm manifested at the commencement of the Society's existence has cooled somewhat. The President, however, is determined that "there shall be no such word as fail" in its ultimate success, and after reminding Tennesseans that of the many popular fruits raised in the North, the South and West, not one has the honor of having originated in Tennessee, he makes the following liberal proposition:

- "As an evidence of my earnest solicitude for this enterprise, I place under the control of the Society, whenever necessary, the sum of one hundred dollars, to be awarded as premiums.
- "1st. Twenty-five dollars for the best new seedling Peach, of superior quality and flavor to any now grown in the State, and of large size.
  - "2nd. Fifteen dollars for the best new seedling Apricot of superior quality and flavor to any now cultivated in the State, and to be at least of medium size.
  - "3rd. Fifteen dollars for the best new hardy seedling Grape of like quality and flavor, of fair size, and fit for out-door cultivation.
  - "4th. Ten dollars each for the best seedling Currant and Gooseberry, adapted to cultivation in this latitude and of fair size.
  - "5th. Ten dollars each for the best new seedling Raspberry and Strawberry, of superior quality, flavor and size, to any now in cultivation.
  - "6th. Five dollars for the best new seedling Rose of merit.
- "These premiums are to be awarded to members of the society, or to those who may become such by the first of May next. President and Directors, or such judges as they shall select, shall award said premiums, after allowing ample time for growing trees and maturing the fruits and flowers."
- We hope Mr. Frierson's public spirit will be warmly seconded, and that other parts of Tennessee will find imitators in the laudable ambition to elevate the horticultural character of the State.

### HORTICULTURAL SOCIETY AT HANNIBAL, MO.

We learn that the preliminary steps have been taken for a Horticultural Society as above. Both the fruit-growers and fruit-consumers of that enterprising city will find such a Society, properly conducted, greatly conducive to their interests, and all should take a lively interest in it.

### FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

The Executive Committee of our Society met, a few days since, and decided to hold the next meeting of the Fruit-Growers' Society of Eastern Pennsylvania in Reading, Pa., on the FIRST WEDNESDAY OF FEBRUARY, 1861, which will be the Second Annual Meeting.

Jos. B. GRAY, Secretary.

### POMOLOGICAL CONVENTION.

NOTE BY MR. LYON.

With the constant noise from the street, and the consequent difficulty we all had in understanding properly during the recent Pomological Meeting in your city, it is not surprising that errors

should occur in your report of its proceedings. Permit me, while writing, to make a few corrections that occur to me:

At the foot of page 6, I am made to say of Cogswell or Fornwalder,—"My trees bear well, and the fruit is coming into great favor in our State; they are in demand and are sold at good prices." This I could not have said, as my acquaintance with neither of the varieties would warrant such a remark. I think something of this kind was said by another person.

On page 10 you say "Early Joe was not added;" while by looking to the list on page 36 we find it among the recent additions, which accords with my impressions.

On page 10, (second column), I am made to say, in speaking of the Bonum Apple, "Specimens I saw two years ago were very beautiful." What I said was, "that the specimens I then saw were much larger than these."

On page 11, I am made to say "I received, &c., (see report.) The fact as stated was that I recently received specimens of an apple from Southern Michigan which was apparently the same as this, and which came to this State some years since from Kentucky, by way of Indiana.

On page 14, "Pound Royal" should be Pomme Royal, as Pound Royal is another and a distinct variety.

On page 20, Gooseberries "Martin's Seedling," should be Mountain Seedling of Lebanon.

On page 22, second column, my closing remark should be—Its correctness to name could not, of course, be vouched for. This remark applies to the Clara grape. On the same page, in speaking of To Kalon, as to its liability to mildew, I merely said I had seen no signs of mildew.

On page 25, in speaking of the Emily grape, I stated that I had received a plant which proved to be worthless instead of "worthy."

On page 27, in speaking of the flavor of the Sterling Pear, my remark was that it was too sweet for many tastes, or words to that effect.

I send you the above corrections, in accordance with your suggestions, but I am by no means strenuous as to their publication. Most of the errors are of such a nature that readers will readily infer that they must be such. You will therefore exercise your own discretion as to their insertion.

[The above reached us too late for our last summary. We differ with our friend as to the importance of correcting the "trifling errors." We wish to claim for our work the reputation of standard accuracy, which can only be obtained by careful corrections of "trilles." We are obliged by the trouble he has taken to set us right.—Ed.]

### MEETING OF THE OHIO POMOLOGICAL SOCIETY.

AT CINCINNATI, JANUARY 16TH AND 17TH, 1861.

The past season having been unusually favorable for fruit crops, has awakened fresh interest in the public mind on the subject of Pomology. It has been a year of real progress in horticulture; much new and valuable experience has been gained, and many new fruits have been tested for the first time. It is important, therefore, that we should come together and freely communicate to each other, and to the public, the results of our observations and experiments.

The meeting has been appointed at a season of comparative leisure, and in the midst of a community of much intelligence and zeal in horticultural pursuits; so that a large attendance and much interesting discussion may be confidently expected. A cordial invitation is extended to fruit-growers, nurserymen, amateurs and all interested residents of other States, as well as of Ohio, to meet with us and participate in the discussions.

Specimens of choice fruits are also solicited for exhibition at the meeting—especially of winter pears and such apples as are not generally known. Packages of fruit for this purpose, may be forwarded by express, care S. W. Haseltine & Co., Walnut Street, Cincinnati. The meeting will be held in the Room of the Horticultural Society, corner of Sixth and Walnut Street. By order of the Committee: M. B. BATEHAM, Sec'y. COLUMBUS, 1860.

### HINTS FOR FRUIT GROWERS' SOCIETIES.

BY J. B. GARBER, COLUMBIA, PA.

As the Second Annual Session of the "Fruit Growers' Association of Pennsylvania," will be held at Reading, on the first Wednesday of February, 1861, (Feb. 8th.). I desire to throw out a suggestion, and would be pleased to see it acted on. Last February, at Lancaster, your friend, Mr. Crans, of Mount Airy, near Germantown, set a precedent well worthy of imitation, and to be continued! He brought with him a large lot of "eyes" for gratuitous distribution, of a very promising new Grape—the "Maxatawny." I would like to see so noble and worthy an example, generally followed by the member and visitors, who may have any valuable new varieties of fruits in their possession. At least those who do not care about making a speculation out of it.

[We have headed Mr. Garber's communication with a general application, as we consider the suggestion in every way a happy one.—Ed.]

# THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

FEBRUARY, 1861.

VOL. III.—NO 2.

## Hints for February.

### FLOWER GARDEN AND PLEASURE GROUND.

THOSE who are skilled in what we would term the science of Landscape Gardening, tell us that the effect of any effort in the art is to be judged by its expression. As this is particularly the season of the year when improvements are in progress, it should not be forgotten that,

"To him who in the love of nature holds  
Communion with her visible forms, she speaks  
A various language."

and also, one which he well knows how to interpret and understand. Whatever the improver does will speak not only for or against his taste, but will be perpetually talking to him in his various moods, and expressing thoughts and opinions to others of which, perhaps, even he himself had never dreamed. "Ye may know a man by his garden;" not only what he is but also what he is not, and what he might have been.

We have in our eye a pleasant spot, at least one which might be a pleasant one. As you pass along the highroad you see a splendid lawn, noble trees, and through them you occasionally get a glimpse of a fine old mansion, appearing finer than it really is by the full view being partially broken by the trees. But though the well kept lawn demands your applause, and the grand evergreens and deciduous trees cannot fail to win your veneration,—there is no warmth of feeling experienced for the place as a whole. Something is wanting. There is no expression of life; you can with difficulty realize that any one lives there, or if the house contradicts your feelings, it must be that it is inhabited by some hermit, who in disgust with the world and the "rest of mankind," has shut himself up to meditate on his own sins and unworthiness, and tells you that he desires none of your company. All this results from having the carriage-road on a bye lane, because "we must not think of cutting up our beautiful green front." It is a great mistake. The carriage-road, or at least its entrance, should be the most prominent object of approach. No place is complete without it, and the

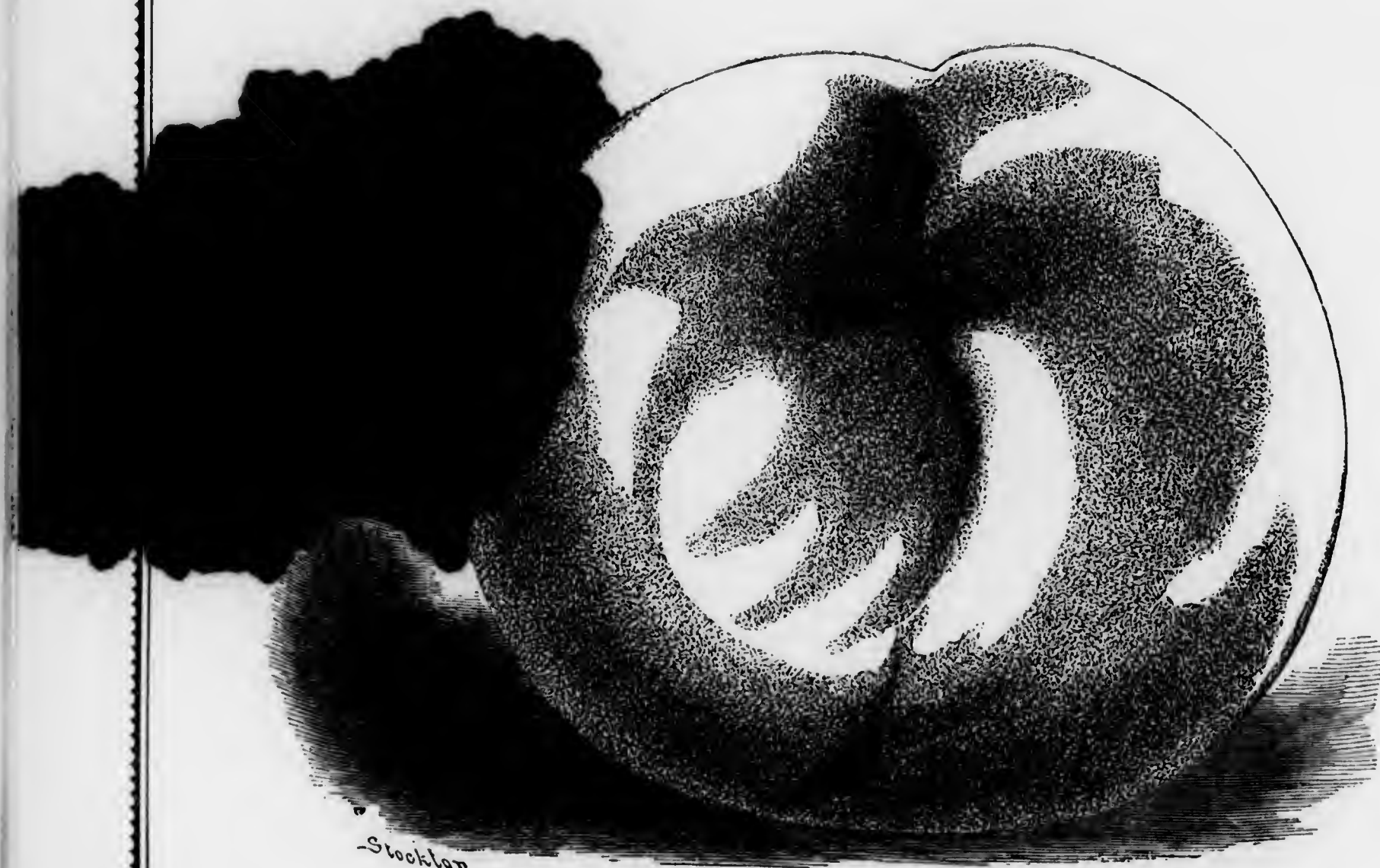
sacrifice of a portion of our friend's "green front" to affect it, would be a greater proportionate gain to the whole effect.

In our last we gave some suggestions for road making from the experience of the New York Central Park, which is worth a serious study. The operation of water on roads is a subject of great importance to the inexperienced. The surface of surface water should be carried over the surface, wherever it is possible to do so, and wherever there is danger of heavy rains, it should be carried under the surface. The stones should be attached to collect the water, and the surface should be laid as close to the surface as possible, and no more gravel should be used than will fairly cover the stones.

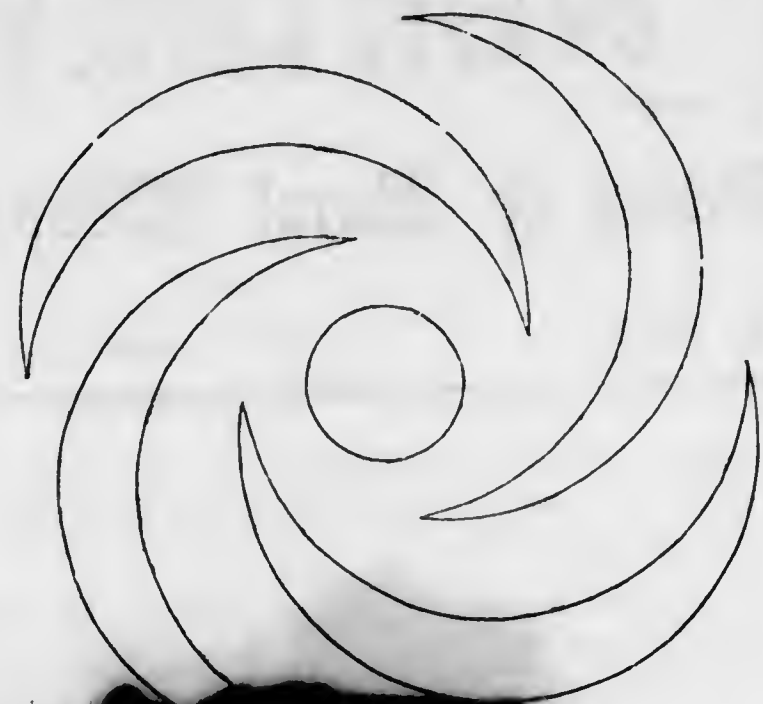
In all permanent improvements attempted on grounds, draining should occupy a prominent position.

Drains are laid often in so that they cannot act, or soon become inoperative, when the report arises that "so-and-so expended vast sums on draining, and it has done no good." The bottom of the trench prepared for the drain—tiles, bricks or stones—should be dug to *one regular grade*. If one part of the drain be on a lower grade than the rest below it, dirt will lodge there and choke it; water will rise to its own level, and all escape, except what is in the low grade, but the earthy matter will not—it will all stay there. The eye can never be depended on in a grade: grading pegs should always be employed; after the drain is laid, shavings, or something like it, should be placed thickly over it to prevent the soil from working its way in. By the time that rots the soil will have become compact. A drain like that will do good and be lasting.

Very few places realize as much pleasure as they might, by the absence of flower-beds. In proper positions they have a grand effect. Masses of flower-beds appear to best advantage when they are looked down upon either from a mound-terrace, or elevated window. The following is a sketch of one, in which the writer has set out many a flower in his boyish days, and it was always looked upon as a very pretty design.



GRAND ADMIRABLE PEACH.



The centre is made higher than the sides, and in the case we allude to, had a sun dial in the centre, though we had a flower-bed would be made of pebbles, about the size of hen eggs, and the borders pieces of slate set on edge were employed being about half an inch above the pebbles. The mass of beds, outside of the inner borders, as they form, was set in grass. In the design which we give, there are but four beds, but any number can be made on the same principle, 5, 6, 8, etc., according to the space to be occupied. Every bed should have but one kind of plant to look well, and the colors should be carefully matched. In the days we speak of, we had but two verbenas, the Scarlet Melindres, and the White Teneroides, but now a splendid selection of colors might be made of verbenas alone. We commend the subject of selecting classes of colors of verbenas for such purposes to Mr. Snow, the verbenas man.

While care is bestowed on preparing beds for flowers in masses, we would not have our friends forget the borders for hardy herbaceous plants. Besides the merit of taking care of themselves, for they require no further care than taking up every second year or so, and replanting, they afford a varying interest with every month in the year. We give a list of six good ones, for flowering near each of the months annexed. April—*Iberis sempervirens*, Double Daisy, Phlox, *subulata*, *Dicentra spectabilis*, Snowdrop. The Forget-me-not or *Myosotis palustris*. May—*Polemonium reptans*, *Omphalodes verna*, *Funkia abbe*, *Geranium sanguineum*, *Fraxinella*, *Aquilegia Canadensis*. June—*Achillea Tomentosa*, *Dodecathron Meadia*, *Funkia cerulea*, *Iris* of sorts, *Lychnis fulgens*, *Pentstemon*

*rosea*. July—*Zauchneria Californica*, *Wahlenbergia grandiflora*, *Spiraea Japonica*, *Potentilla atrosanguinea*, *Lychnis Chalcedonica*, *Campanula persicifolia alba*. August—*Achillea Ptarmica*, *Clematis revoluta*, *Chelome barbata*. *Delphinium formosum*, *Lythrum salicaria*, *Liatris spicata*. September—*Sedum populifolium*, Double Dwarf Sunflower, *Anemone Japonica*, The Lilies, *Dracocephalum Virgineum*, Asters. There are besides a great many other beautiful species, and which others might think even more beautiful than those we have named, but these will at any rate form the nucleus of a good collection.

#### FRUIT GARDEN.

In those latitudes where all danger of frost is over, grafting of trees will be in order. There have been few if any new ideas or improvements advanced on this head for years past, that would call for special note from us. We might perhaps suggest that where branches are wanting to make perfect trees, the vacancy may be filled by a graft. If, however, this be low down in the tree, there may be a difficulty in getting the shoot to push vigorously, through the stronger top branches robbing it of its proper supply of nourishment. Cutting a notch above the graft, into the old wood, is the best way of ensuring the strong breakage desired. Very often indeed, this notching is all that is required to force a bud to grow. In selecting scions for grafting, be very careful that the scions have not been injured through the winter. Many failures, in Cherries especially, result from this cause. Most parties cut off their scions before severe weather sets in, and are safe; where this cannot be done, or has not been done, choose the lower parts of the shoot of last season's growth for the scion, rejecting the extreme points; these always suffer most. The operation is rendered safer. Short scions are better than longer ones; it is best, however, to have two buds to each, in case of accident to one; where the bud is required to make a straight leader, one must be taken out as soon as it is clear that the one left is secure from ordinary danger. In grafting, it is the cells at the extremities of what are termed the medullary rays, which terminate with the wood growth of last season, that most readily unite. These two portions or as it is sometimes said the "inner bark" must consequently altogether coincide to be certain of success. The layers of wood of last year's growth are often much larger or smaller than that of the stock, and to make the connection of the proper parts the more certain, it has been found beneficial in practice to lean the scion a little from the perpendicular, so that the base is a little in, and the top of the scion a little out from the line of the stock; a very little is enough:

by this a portion of the two parts are certain to cross each other.

#### VEGETABLE GARDEN.

There is nothing so acceptable as early vegetables, and one of the most useful aids to this is a hotbed. Every amateur should have one, as every well regulated horticultural establishment regards it as one of its most essential features. Not only is heat generated by manure more favorable to vegetation than that from any other kind of heat usually applied, but the manure itself, after being so employed, seems better than that preserved any other way. We would sooner have one load of hotbed manure for horticultural purposes, especially for pot plants generally, than two of the same kind of manure that had not been so employed.

To make a hotbed, long stable manure should be used, and if it can be turned a couple of times, before heating violently each time, before permanently using, the more regular will be the heat in the bed and the longer will it last.

A south-eastern aspect is best for a hotbed, and it should be well sheltered from winds on the cold quarter.

If the ground is dry, the soil may be dug out about a foot in depth, but for very early forcing it is best to have the whole above ground, as when sunk, the cold rains or thawing snow collects in the pit and cools the materials.

The foundation for the hotbed should be about eighteen inches wider than the frame to be set on it when finished, and the manure regularly laid on till about the height of three feet has been obtained, when the frame may be set on. It is not well to tramp the manure too heavily, or the heat will be too violent. Sometimes the manure is very "strawy," in which case it should be watered with drainage from the manure heap, or the heat will be "a good time coming," when it would be very inconvenient to "wait a little longer."

When the manure and frame are both fixed, a half inch of soil should be thrown over the manure under the sash to absorb the gross gases that would else be too strong. For a few days after, the heat will be too violent, but when the thermometer indicates a temperature of 90°, operations may begin; but the usual aim is 70°. When the bed shows signs of getting below this, linings of stable manure must be applied round the frames, one and a half feet thick, and if boards, shutters, mats, or any similar material can be spread over these linings, the heat will be maintained much longer.

Having secured the hotbed, Dahlias, Annuals, Cucumbers, Tomatoes, Peppers, Egg-plants, and many other interesting things can be started, by which

we may get several weeks ahead of our neighbors in the enjoyments of vegetable luxuries, and when done with the bed in May, it will be the very place for gloxinias, achimenes, and many other beautiful house plants which delight in a warm moist heat.

A great deal of difficulty is often experienced in keeping up a sufficiency of heat in cold weather,—and every care should be taken to prevent a loss of heat. Straw mats, and bast mats, and other contrivances, are employed to throw over the glass during the night, and even warm manure, when a night of extra sharpness is anticipated. There is nothing that requires more skill than to conduct a hotbed well, and yet nothing that is perhaps more satisfactory than it is when entirely successful.

#### PLANTS AND PLANT HOUSES.

The beauty of the Pelargonium is to have it dwarf and stocky, with thick-set shoots, and bold healthy foliage. To our mind there is not a more beautiful object than a well grown Pelargonium. To be kept near the glass, and to have a rich soil, plenty of it, and manure water occasionally, is the real secret. *Calceolarias* are also fine objects in good hands. They also must be kept near the glass, and manure water helps them after they have once begun to grow freely. Chinese Primroses must not be over potted, unless very healthy, or they will be liable to damp away altogether. Gloxineas and Achimenes may be potted for the earliest blooming plants. Fuchsias should be cut down, and started if fine specimens are wanted; and after they have pushed a little, shaken out of their pots, the old balls reduced, and encouraged again to grow with new soil.

Where very vigorous plants are not required, they may have only the side branches cut in. Lantanas are becoming popular pot plants, and should be headed in—the same manner as Fuchsias. Any Ferns that may seem to be approaching their fruiting season, which is known by the ripening of the spores on the back of the fronds, should be repotted into new soil for a fresh growth. We need scarcely observe that partial shade and moisture are essential to the fern tribe. Where no hotbeds are at hand, the next best thing for flowers is to sow in pans a few Phlox, Mignonette, and other things that it is desirable to have early in the greenhouse, by the end of the month. Camellias and Azaleas are about commencing growth, and now is the time to prune and re-pot them if they require it, which starved and stunted growth usually indicates. As to the proper soil for potting; we can only say in a general way, that it is best for the amateur to use

the soft spongy soil, full of dense masses of fibrous roots, that usually forms the surface of old woods, as the basis of all his potting operations. Skill and observation only will teach him how he can improve it by special agents, till at length he can tell what degrees of various soils he can employ to make a compound or compost, that shall exactly suit any of his floral pets. After that he may get up bins in his potting shed, and have as many various soils ready for mixing as there are drugs in a Doctor's shop. These horticultural apothecaries are often laughed at by the generalizers of the art; but we must do them the justice to say that we never knew one of them who was very successful with any particular thing he grew, and had achieved fame and reputation therefor, that could not tell you to a pound, the various soils he had separately mixed together to form his compound.

### Communications.

#### REPAIRS TO TAP ROOTS OF SURFACE ROOTS.

BY H. C. B., PAINESVILLE, LAKE CO., OHIO.

IN *Gardener's Monthly* for December, page 374, you remark, "It has been suspected and with much reason, that all roots of any considerable depth beneath the surface do little else than supply moisture."

I fully believe the remark is true. Let me give you a fact which suggested the idea that there were roots whose sole or principal office is the absorption of water. This village is situated on one of the ridges which extend along Lake Erie parallel with its shore. On all these ridges the soil is a warm, friable sandy loam of very fair fertility, not at all retentive of water, and very easily penetrated even by the most delicate roots. Grapes succeed here admirably without underdraining or subsoiling.

Our soil is underlaid at a depth varying from two to six feet by gravel, which extends downwards to the clay from twelve to twenty feet.

The water of our wells is from the stratum of clean gravel lying next above the clay. My own well is eleven feet deep with two feet of water, bringing living water within some nine feet of the surface of the ground.

Five years since, I constructed a cistern, for which I made an excavation nine feet deep; near one side of this excavation stood a well-established Catawba grape vine, and at eight feet below the surface the workman noticed, in the wet gravel, almost within reach of permanent water an abundance of white, tender, porous roots which I traced upwards towards the vine, to which they unquestionably belonged. The gravel, clean and wet, as if washed, among which

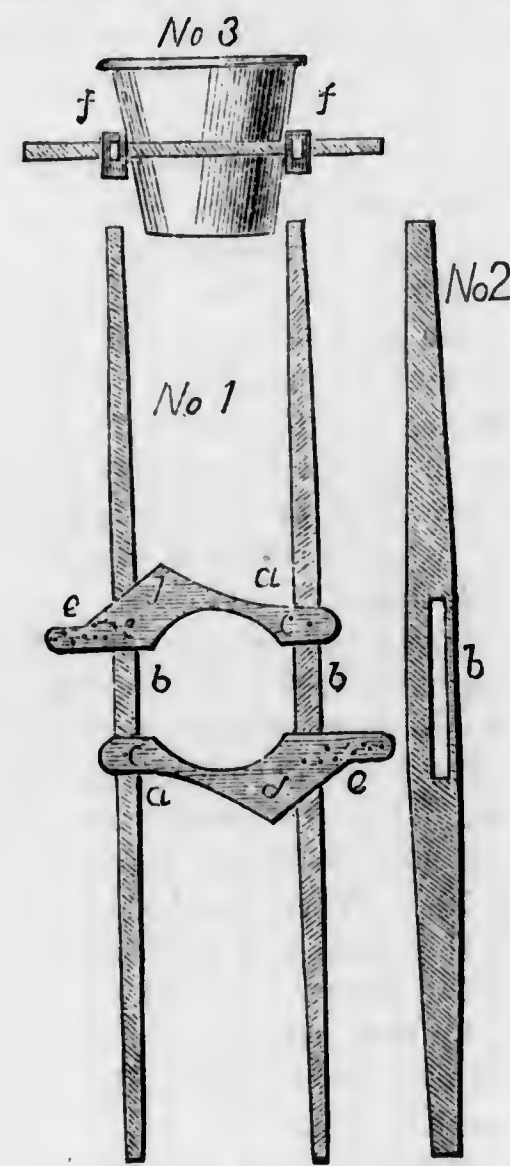
they were spread, could scarcely have afforded them anything but water, and they were, in my opinion, mere absorbents of water.

Our vines never seem to suffer from drought, and I have an idea that in our soil these absorbent roots penetrate till they reach water. The excavation was made in August. It is possible that one signal benefit accruing to the vine, from the very deep trenching so strongly insisted on by grape cultivators, is due to the ease with which the roots penetrate the soil deeply in quest of moisture.

#### SHEPHARD'S POT CARRIER.

BY MR. JAMES EADIE, PHILA.

THIS is a very simple contrivance to carry large pots of flowers or plants. It consists of two common hand spikes, in this case about 6 feet long, 1½ inches thick, and 3¼ inches wide, with a slit or mortise in the centre through the side to receive freely the cross or tie pieces, and two—what I will call the pieces, being boards 1 inch thick and wide enough to be strong, with one end fastened with a pin or bolt so as to work on a pivot in the mortise of the hand-spike; the other end made with a bevel of about 40 degrees, or enough to close the tie pieces as fast as the hand-spikes are closed; then a pin on the



outside of the hand spike put through a hole in the tie-piece fasten the whole together; the end of the

mortise is made to fit the bevel of the tie piece so that the pressure of the pot cannot push it back. To take it off of the pot you draw out the pin from the hole on the outside of the hand-spike and draw the tie piece out of the mortise. The pins are fastened to the hand-spike by a string or chain so that they cannot get lost. The curve or circle in the tie pieces need not fit the circle of the pot exactly, but may be about a medium of what is intended to carry; if intended to carry from ten to eighteen inch pots, the curve might be seven inches wide or fourteen inches diameter.

#### DESCRIPTION OF FOREGOING CUT:

No. 1 shows the manner the tie pieces lie in the mortise; *a. a.* are the two ties; *b. b.* are the mortises; *c. c.* are the permanent pins; *d. d.* are the pin holes to hold it together; *e. e.* are the closing slides.

No. 2 is a side view of the hand-spike showing the size of the mortise.

No. 3 is a cross view showing the manner of catching the pot; *f. f.* are the two pins holding the hand-spikes together.

#### THE ALLEN RASPBERRY AGAIN.

BY L. F. ALLEN, BUFFALO, N. Y.

IN your January paper, the Committee of the Eastern Pennsylvania Fruit Growers' Society say they meant no personality or charge of deception—that is the gist of it—on my part, but simply an "error" in sending out *other* plants than the "Allen" raspberry to the public. In my remarks in the December number, I did not mean to say that they had charged me with "deception." But whether my plants were wrong through *error* on my part, or *intended* deception, the consequence to the receiver of them would be the same, to wit: A different thing from that or those which he expected to receive instead of the genuine.

My reply that I did not cultivate any other raspberry plants than the "Allen" and "Red Prolific," and therefore could not and did not send out any other varieties, which I here repeat, ought to be sufficient, so far as I am concerned. But "the Committee" now meet that disclaimer, with the assertion of Mr. Freas, of the *Germantown Telegraph*, that he got plants from me for those two varieties, neither of which were the "Allen," and that after proving them so, and worthless, to boot, he threw them out. Now is not Mr. Freas mistaken as to the identity of his plants?

If I am not mistaken, a pomologist in one of the interior counties of Pennsylvania, soon after my plants went into the vicinity of Philadelphia, asserted in the *Germantown Telegraph*, that he had the "Allen," or a raspberry like it, in cultivation, which had been in his grounds for some years, and proposed growing

them side by side to compare them, or something of the sort. I did not keep the copy of the *Telegraph* containing this notice, which Mr. Freas was kind enough to send me, and cannot now state the least particulars. I simply wish to ask "the Committee" the question, whether or not, Mr. Freas had any *other* raspberry plants from any other person, and cultivated them at the time he had the "Allen" in his grounds? If so, could he not have got them intermixed or confused, one for the other?

The "writer" of the committee's report says, "that he examined the two varieties of raspberry plant which Mr. Freas received from me, and that neither of them was the Allen, 'to a certainty.'" Here is a contradiction—point blank—no mistake about it, so far as the committee and Mr. Freas are concerned on one hand, and myself on the other. "A question of veracity," as gentlemen of punctilio would have it. How is the fact to be settled? Either Mr. Freas must have been mistaken as to the identity of the plants he received from me, or the gentleman of the committee who examined them was not an accurate judge of what the "Allen" raspberry is, or I committed an *error* in sending out a variety of plant which I did not grow and did not have in my possession, and which it was impossible for me to send out, as I sent out no others than the two varieties which I did grow; or, further, the package got changed on the way to Philadelphia.

I intend no *personalities* towards any gentleman; on the other hand, the parties are personally unknown to me, and I can entertain no other sentiment towards them than those of entire respect, such as their position in the community entitles them to. Thus I leave the whole subject.

As to the "hardiness" of the "Allen" variety, and the Red Prolific also, I have had several thousand plants of them both standing in my grounds, *unprotected* through the winter, for eight or ten years past, and never, to my knowledge, lost a single cane by the frost or cold weather; my latitude is a few minutes less than 43° north. BLACK ROCK, February 1, 1861.

#### LANDSCAPE-GARDENING.—Contracting.

BY GEORGE WOODWARD, NEW YORK.

THE execution of landscape work by contract is one of those subjects that will bear further discussion. Though it has been pretty well handled on all sides, yet, so far, without a satisfactory conclusion, the arguments advanced against such a manner of doing work, to our mind, have no application whatever.

It seems to be a necessary requirement among many who cannot give their whole attention to the improvement of their country homes, that, as a matter of economy to themselves, the contract sys-

tem should be, to some extent, adopted. Like every thing else, it has its defects; but it has also some strong recommendations.

The laborer working by the day has no ambition or study above earning his wages with the least amount of work. No matter what may be his ability or intelligence as compared with his fellow-workmen, he is ranked as low as the dullest and slowest of them all. It is presumed they are equal in all respects; but such is, by no means, the fact. There is no doubt but that a very much larger quantity of work might be done in a given time, if the incentive to do it was governed by the amount to be done. A man will work harder for himself than he will for another; and if his intelligence and ambition are excited, there is to him a new interest in his pursuit.

The supposition, however, that any man can be a contractor, is an erroneous one,—it is a calling that requires intelligence and experience. The contractor who proposes to execute landscape work should be educated to his business. Those who contract for masonry or carpenter work are those who fully understand what they are about.

The prevailing notion that the lowest bidder is the cheapest is scarcely realized in practice. Those who expect to get work done below its fair value, will reap some disappointments. Those who propose to do it for less than it is worth, intend in some manner to deceive. Contractors' prices may vary, however, from many circumstances. One may have better facilities in the way of horses, carts, men, means of living, capital, &c., and thus be able to work cheaper, or when times are dull may take work at a loss, in order to make the loss less on his unemployed horses and time.

As a general rule, however, the most satisfactory contract work that is done is that which is let at a fair price to competent men who place a high value on their reputation. Irresponsible men should not be entrusted with much work at once. The conditions of getting more should depend upon doing that well.

The execution of landscape work by contract is a subject of discussion,—the conclusions thus far drawn being against it; but the hypothesis being erroneous, the conclusions must be so too. If the ground be taken that a contractor should be able to bid on effects, then the system fails; but why should he be expected to bid on effects in landscape scenery any more than he should in a church-spire? Is architecture any less a fine art than landscape-gardening? But what has a contractor to do with effects or results? His business is to execute a certain specified piece of work in accordance with a certain plan, and under the superintendence of the

designer or his assistant. If the form be ugly, or its effect bad, it is nought to him. Has an artist no conception of the beauty in surface? or does he only know that it is beautiful when he sees it? Suppose digging and dumping is done, and no beautiful effect is produced, must it be done again and again? and when an effect is produced, by what process shall we know that it is the most beautiful that could have been found? If "it is impossible for any landscape-gardener to say how much digging and dumping will be necessary to produce the effect he seeks," why not have him educated up to that point where he shall know? Are we to suppose that Powers watched the marble, uncertain whether it would produce the Greek Slave or a "what is it?" or that Sir Christopher Wren piled stone upon stone to find the effect he wanted?

Proposing to make a park by contract is not contracting for effects. Plans and specifications do not imply that a contractor shall be responsible for harmony, proportion, or beauty, and no estimate of them by the foot or pound is indicated or expected. If a landscape-gardener cannot plan and specify the improvement of ground, he is deficient in his professional education. If he can plan and specify his work, it is a subject of contract. There is a certain point in all works of art where the hand of the artist is required; and it is that point where his genius rises above the machinery of the bone and muscle around him. It cannot be presumed that the heavy and laborious work attendant upon works of art is executed by the controlling mind that designs them. The marble statue is finished, to unprofessional eyes, when the artist takes it. The bulk of the work on large paintings is done by inferior hands. Why should a skilful artist employ his time and talents on mechanical details, his work begins where the medium skill of others end? His practice lies in the higher walks of art and design. Composition and effect are his great forts. There is a very wide difference between contracting for the execution of any class of work, and contracting for the impression it shall produce upon the mind. This last hypothesis, including a presumption that a landscape-gardener cannot know his business, is the basis of all argument against the possibility of executing landscape work by contract,—a very specious mode of arriving at results.

Before proceeding farther, we should state, that that part of the creation of landscape scenery which applies to the formation of surfaces, construction of roads and walks, ornamental water, terracing, bridging, drainage, &c., &c., should be considered under a different head from that which treats of grass, trees, or shrubbery. The first implies a knowledge of civil and topographical engineering, but which

we designate as landscape-engineering, as it must combine results, not only useful and practical, but a development of the artistical and beautiful. The second implies a knowledge of gardening, of the habits and future forms of trees, &c., the best manner of transplanting, arranging and nursing them, the character of the soil, exposures, &c., together with a knowledge of the harmony of color, and the effects of aerial and linear perspective.

It is a well-known fact, that the resources of civil engineering will give the necessary information required to perfect any design in earth-work, and to plan and specify it; and we therefore conclude that it is a subject of contract, always reserving that the finish of the surface should be done under the personal superintendence of the designer. The result of our convictions arising from a series of actual experiments, and a thorough investigation of similar operations in the hands of others, have satisfied us that the contract system is applicable to landscape work, but that it involves a high degree of skill in landscape-engineering, and the employment of honorable and skilful contractors.

The policy of doing work of this class by contract may require further consideration. Economy may dictate it, because the equipment and organization of contractors' forces enable him to execute work at a less rate and make more money. What is business to him are experiments to others; and system will make available the full power of a gang of men, while others would waste a third. The employment of superintendents who are well posted in all the processes of grading is by too many considered expensive practice. Our experience has taught us that the employment of the best talent that could be found was, in the end, the cheapest and most satisfactory.—cheap men, like cheap houses, being the most costly; and there are too many who love to see the folly of oft-repeated experiments, not content to begin where others leave off, but prefer to follow in the same track to encounter and repeat the same faults. Landscape-gardening is progressive, and the amateur of to-day commits a mistake when he fails to post himself up on the results of all experiments that have already been demonstrated.

#### IS IT IMPERATIVELY NECESSARY TO CUT DOWN THE OLD CANES IN THE VINERY?

BY H. E. CHITTY, NEW LONDON, CONN.

I HAVE read, with much interest, the remarks which have appeared, from time to time, in the *Monthly*, upon grape-culture, especially the articles from the pen of Mr. Bright upon The Renewal System of Pruning. But I think Mr. Bright takes

very strong ground when he declares, in the last number, the imperative necessity of cutting down the old canes. Now, in the first place, what does Mr. Bright style an old cane? I have under my charge a span-roofed vinery, eighty feet long, half of which was built three years ago. The border was well made, and the vines planted four feet apart on both sides. The other forty feet were added last winter, the border made, and young vines planted in the spring. Last summer was the third season of the first-mentioned vines. Each vine produced, on the average, as many grapes as was consistent with the age of the vines. They were beautiful, and the admiration of every person who saw them. The wood ripened well. They were spur-pruned in November, cleaned, layed down and covered with dry sea-weed for winter. And they are at this moment every thing that could be desired in vines of that age. Now, I wish to ask Mr. Bright if he would consider these as old vines? And if, to insure their future productiveness, it is imperatively necessary that they should be cut down to within a foot or so of the ground?

I would also ask Mr. Bright, if he could conscientiously recommend and advise my employer to sacrifice those vines at once to the the long-cane renewal system. Just after my apprenticeship was finished, I lived two years with Edward Mitchell, of Brighton, England. Mr. Mitchell, long previously, had been noted as one of the leading grape-growers in England; and he sustained that reputation long after I left him. He generally took the first premiums in the market-growers' class at Chiswick and Regent's Park, had the first grapes in market, and commanded the highest prices for his productions. Mr. Mitchell, while I remained with him, was fruiting vines that had been regularly spurred for sixteen or eighteen years, and the grapes still were of the very finest description. The vines were smooth and healthy looking, though very thick; the leaves were also perfect. And when the grape-mildew first made such dreadful ravages in England, Mr. Mitchell suffered with the rest, but those old vines were the only ones which resisted the mildew sufficiently to ripen the crop. I have often heard Mr. Mitchell say that they were his best vines. He used, however, to adopt Mr. Bright's long-cane renewal system occasionally when the crops failed to set good, or the canes became unsightly. I have also seen it practiced at the Duke of Norfolk's, at Arundel Castle; at Hampton Court Palace Gardens; at Wilmot's, of Isleworth, and various other places. I have also, long ago, practised it myself. I, however, have no wish to dispute Mr. Bright's claim to the originality of the system, though it was undoubtedly practised in England many years before

either Mr. Bright or myself saw the light; probably as long as the vine has been cultivated there. The chief novelty of Mr. Bright's system consists in his exertions to make a rule of what has heretofore been the exception,—a practice universal, which, in some cases and under some circumstances, may be advantageously adopted. Here is a case to the point. Last winter two of the canes in one of our vineries became exposed during the severe weather, so that in spring I found it necessary to cut them down. They started again, and made fine new canes clear to the top of the house, and are every thing which could be desired in one year's canes. But my employer only estimates their value at *one-fourth* that of the other vines which were not cut down.

Here, then, is an instance of the long-cane renewal system, dictated by *purely accidental* causes, which, in a measure, proved successful. I have under my management two vineries, the vines in which are of two years' growth, since planted out, and I think no argument Mr. Bright could employ could convince me of the advantage of cutting them alternately down. But I am acquainted with vineries not a thousand miles from where I write, on which the renewal system might be employed to advantage, *provided* they could be judiciously managed afterwards. In fact, two years ago a gentleman asked me what was best for him to do with his vines. I advised him to cut them down and get new canes from the roots. Whether my advice was acted on or not, I am not able to say; but this, as well as the instance cited above, was long before I saw Mr. Bright's views in print.

Again, Mr. Bright refers to the fact of Mr. Ellis finding it beneficial to cut down some of his vines, as materially assisting his theory. Now, to me the article referred to in the December *Monthly* has a very different signification. Mr. Ellis is an intelligent man, ready and willing to employ the means at his disposal, which in this case must result to his advantage. It clearly shows, however, that Mr. Ellis has long been familiar with the result, and advantages of the practice in certain cases, although his faith in it as a system may have been strengthened by Mr. Bright's writings.

But the context shows that Mr. Ellis is not willing to adopt Mr. Bright's practice *in toto*. He does not intend fruiting the canes the entire length of the rafter the first season, but to gradually fruit and spur it according to circumstances. Thus we see that Mr. Ellis, as well as all other practical men, are impelled by force of circumstances to adopt measures of the greatest practical utility and economy temporarily, which, as a rule, would be extreme. How prone are gardeners to go to extremes in theory! If a dwarf pear becomes broken down,

and we find, after cutting it off smooth, that it throws up a strong shoot, and eventually makes a handsome, thrifty tree, should we be justified in advocating the indiscriminate breaking and cutting down of all dwarf pear or other trees?

Mr. Bright finds, from experience, that, for pot-culture, and in some other cases, the annual renewal system is best, and declares the *imperative necessity* of cutting down all old grape vines, and actually reducing the grape vines, in all cases, to a mere annual or biennial plant. I could mention plenty of instances where it would not only be extremely injudicious, but absolutely at variance with my ideas of common-sense, to adopt Mr. Bright's system as a regular practice.

Mr. Bright, in quoting the article from the *Gardener's Chronicle*, says:—"To my mind, the Doctor's reasoning is very conclusive and satisfactory." Mr. Bright is more easily satisfied with what may have a bearing on his darling theory than what I would be. While I am perfectly ready to admit the Doctor's eminent skill as a botanist and physiologist, I am afraid he would make a poor show as a practical gardener, and very much doubt whether he could produce a house of grapes of even ordinary excellence from his own management, with the very best of tools and materials to work with. For my part, I fail to see the conclusiveness and real practical bearing on the subject of any sentence in that quotation. But allow me to ask Mr. Bright one question, then I am done for the present. Allowed that the roots of a vine elaborate each year a given amount of sap, what will be the difference to those roots whether the same amount of sap adds a new layer of wood to the old cane, or goes to the formation of an entirely new cane?

[Dr. Lindley's argument is very clear. No matter how many *roots* a plant may have, their action is secondary to the amount of healthy *leaves*, which "elaborate" or prepare the sap, which the roots merely *absorb*, not "elaborate," though there is a mutual influence on root and leaf. Healthy leaves induce healthy root-growth; and healthy root-growth induces, in like manner, a healthy growth of leaves.

In reduced terms, Dr. Lindley's argument may be stated:—The quantity of wood formed depends on the quantity of leaves. The trunk or stem of a tree requires an increased proportion of wood each successive year. If the proportion of leaves is not increased, the proportion of wood cannot increase; therefore the stem or trunk does not get what it requires. This seems sound.

We think the question of pruning becomes one rather of profit and loss, than of science and logic. The lat-

ter can be made to partially support both views; but the former will suit the masses best.

We should like to see the question put in this shape: By planting a double number of vines than is usual, and cutting down each one alternately annually; can a greater weight of fruit be produced in an equal space, in an equal period, and at an equal expense?

Science has done her part for Mr. Bright's view,—facts and figures we are anxiously awaiting. Excellent results have followed the old system, and Mr. Chitty well presents them. We should ourselves adopt the old system, trying Mr. Bright's, however, on a small scale wherever practicable, until time had struck the balance of results for or against it.—ED.]

## AGE.

BY JOSEPH AMRAM.

SPRING is coming. With the return of sap in vegetation, with the re-awakening of nature, there returns and re-awakens in man's soul the desire to do and to act. *Improvements* appear before his desire. The air gets just balmy enough to invite him out of doors, and is still bracing enough to fan him into brisk activity. He wanders about the farm, the park, the garden; and, in running over the ground, he runs over, in his mind, the schemes of last year to correct this or that, or he forms new ones on the spot.

Whatever he may undertake, let him try for the appearance of age. The newness of things is distasteful. To be comfortable in mind and body, we want our house to be old,—not decaying,—but worn by and fitting its inmates, every nook and corner with its use and its tale. Old wine, old love, old trees, old friends, old faith,—they are always fresh in their age, and very little good in their youth. Indeed, if I look round creation, I discover but one thing which must be new and young for me; and that—why not say it?—is a baby. Nobody likes an old baby.

To steer now to the point. In improving ground, had we better not avoid all look of newness? For my part, I rather carry my new road or walk a little out of the way to get near old trees or an old bank of brambles, than be obliged to plant it along with young stuff. It will not fit to the rest if I do.

I also have to paint the woodwork of my house afresh. But I will not paint staring zinc white,—that failing of our American country-houses. White is no color,—is but an intensity of light which hurts the eyes, the brain, the soul, and looks well only in long distances, *e.g.*, when, a mile off, you get a peep of a white house on a green-wooded knoll. There the white is broken by the green, and is no more

actual white, the distance and the clouds having shaded it down already into grey tints.

What, then, shall I paint? I will take sober colors *in soft contrast* with things round. But no one color will suffice for my eye, if there is not at least one more of the same tint, lighter or darker, going along with it as the shade goes naturally with the light. Frames, panels, columns, and their caps and bases can thus alone get their value. But even the sober tints are too new and fresh to me for the first few months. I know the house newly painted will chafe a little on me like new boots, or a new coat not broke in.

"A fop, a poodle, and a bran new coat,  
That's what's in every line he wrote."

However, there are creepers on the wall, and there are pillars hid under roses, and they will soften the harshness of new paint. Who will teach me to lay on paint so as to look old?

My barn, too, wants whitewashing; but here, happily, I have an arcanum. My whitewash is greywash, bluish grey. It will be splashed on, rather than washed on. The stones are uneven; it will, consequently, look uneven; and what with the ogive windows, and the small panes, and the trumpet-vine hanging from the top of the roof, seeking the denied support, my barn will look old enough to my taste. If it does not, I shall try, and by kindling wet brush against it, shall smoke it to make sure of age.

What an absurdity this will appear to many! I appeal to good taste, of the approbation of which I feel confident. Newness borders on show and vulgarity. Newness as often expresses an intention, rather than a power. Age alone is character. Newness is a misfortune, which either years must overcome or our double-distilled ingenuity. And whoever will be good enough to state his recipes for age in this our *Gardener's Monthly*, will earn the thanks of a grateful gardening and improving public.

[Our good friend seems to be inspired to write to us only once a year, and that about spring-time. We do wish spring came to him every month.—ED.]

## BELTED PARKS.

BY WALTER ELDER, PHILADELPHIA.

It is surprising that among our boasted rural improvements, our wealthy citizens do not adopt the sensible plan of adorning and sheltering their *parks* or country-seats with belts of trees. A belt even along the wayside, with an ornamental gate and *lodge* at its side, gives the place an air of magnificence and seclusion, that nothing else could, and which are considered the first marks of refinement, and convey the idea to the mind of the passer-by



that all must be beauty and splendor within, and glimpses of the interior in passing the gateway and through the openings of the belt. The sod looks greener, the avenue brighter, the trees on the lawn more massive, and the buildings larger and more noble. It is the belted park that imparts that picturesque beauty to the landscape which is so highly admired in other lands. Nor are these all. It has been proved that the extremes of summer and winter are several degrees less in belted parks than in open fields; and surely our extremes and sudden changes of weather are greater than that of any other country of the same latitude. Our summer hurricanes and winter tempests sweep over the open plains in wild, untamed velocity, carrying havoc and destruction in their courses, unroofing buildings, blowing some down, and others off their stands, and almost withering up man and beast unless they get timely shelter; but no such desolations occur in well-belted parks. The resisting power of the trees cheats the violence of the storm, and stays the rage of the winds, and breaks their force into fragments as they whistle through the belts and loudly moan over their own destruction, and pass over the park in a subdued mood. Indeed, trees are a divine gift, to give shade and shelter to the world. It is high time that we, in the Eastern and Middle States, should stay the stroke of the woodman's axe, and employ the ploughman and delver to prepare the soils and plant out trees. Many of our finer fruits have become precarious crops for want of shelter from the sudden changes and violent freaks of our climate. And some cultivators go so far as to say that our climate is changed; but those kinds of fruits which are now uncertain crops in open farmers' fields will be of easy and successful culture in belted parks. The same may be said of some culinary vegetables,—they will be earlier and last longer.

The great drawback to planting out trees with us is, that so many improper persons are employed to do the work. Many of our wealthy citizens are to blame for this. The first and main questions asked are, How much do you charge per day? How much will you charge to plant so many trees? It is not, How well will you do so? Now, there is as much difference of men as of merchandise in their value. The great greed and hurry to get great quantities of work done cheap is the true cause of disappointment and bane in gardening. In preparing the soil for belts of trees, give a deep subsoil-ploughing early in spring, and sow it down with oats; harrow and roll it down, and when the crop is a foot tall, plough it under, and, after lying a fortnight, sow it thickly with buckwheat; harrow and roll it in, and when it is coming into bloom, plough it under, and the beginning of October harrow and roll again, and open

furrows, by running the plough both ways in the same furrows, say seven or eight feet apart, and plant the evergreens in them at once. The beginning of November plant out the deciduous trees, say eight or ten feet apart in the furrows, breaking the openings in each furrow. Trees six to eight feet tall are large enough, and a sixth part of them should be evergreens; and the first year the weeds should be kept down with hoe and cultivator, and the second year cut them off once a month, with hook or scythe, to prevent their seeding. After that they will need no care but topping-off the deciduous trees occasionally to make them branch below, but let evergreens run up.

Do I hear some one say, "The belts of trees prevent a free circulation of air passing through the place"? I answer, They check the speed of the air, but refine it fitting for the lungs. The life-giving part, *oxygen*, is heaviest, and falls down, and you get it. Trees sift the air, and separate the "wheat from the chaff," and you get the grains. Strong currents of air are injurious to health, especially evening currents to matrons and maidens who have been shut up in close and dark rooms during the day. Any one can obtain a current of air by walking, running, and riding through it. In that case, it is the exercise, and not the quantity of air, that gives strength. It is a well-known fact, that those who live in belted parks in Great Britain are longer-lived than those who live out of them. But the belted parks give shelter to large tracts of the country. The breeds of horses, cattle, sheep, &c., have improved with the increased number of belted parks there. Indeed, it has been proved that the yield of ten cows in a belted park is equal to that of fifteen in an open farmer's field, all other things being equal. The same may be said of fruit trees and culinary vegetables. [Neither fruit trees nor vegetable garden should be within, at least, a hundred yards of trees.]

Another says, "The trees will hide the view of the landscape around us." I answer, that the larger kinds of trees in the belts can be so arranged as to suit that, and an observatory can be made upon the house-top to view the landscape; but the fashion of taking visitors up there to see the landscape around, and carry their eyes off our own places, is imprudent. Better make beauties upon the place, and show them to our friends, and when they depart they will speak of the place and all they saw upon it. And to show them the landscape, take them to a height in the distance, from where our own place will show to advantage, and be a particular striking beauty in the scene; for nothing can be more beautiful in the landscape than a finely-belted park.

#### EFFECT OF DEW ON PRODUCING ROT AND MILDEW.

BY A. A. MULLET, GLENDALE, O.

As no one has responded to the invitation for more light on the culture of the grape on Kelly's Island, I consider the subject of sufficient public importance to make a few remarks on Mr. Bateham's article.

Undoubtedly, great success has attended the culture of the grape in that region; but I do not think the evidence warrants the conclusion that it is due to the absence of dews and fogs. Let us examine the points laid down in Mr. Bateham's communication.

First, "That the mode of training and pruning differs materially from that practiced around Cincinnati, especially in allowing the vines more wood and leaf."

Secondly, "The vines are planted 6 feet by 8."

Thirdly, "The soil of the Island is naturally well adapted to the grape, consisting of friable, deep, calcareous loam, resting on shale or lime rock having deep fissures which afford natural drainage."

The first and second of these positions is simply stated in that report, and little value is attributed to the last, for the *main secret is believed to be due to the absence of dews and fogs.*

Now a large number of vineyards around Cincinnati is comparatively as free from fogs on account of their high elevation as Kelly's Island, and yet they are subject to mildew, nay, the crops have been entirely destroyed. We therefore must look to other causes for the success, and I believe those causes are clearly pointed out in these valuable positions as stated above. Let us carefully examine these three *important* facts, set before us in that communication, and which I consider to be its true value and the real cause of success, viz.: *the distance of planting; the method of pruning; the preparation and drainage of the soil.*

Mr. Bateham is fully aware of the general method of planting and pruning adopted in the vicinity of Cincinnati, for he speaks of the *material difference, especially in allowing the vines more wood and leaf; and knows something of the controversies that have taken place in the Cincinnati Horticultural Society, on the long and short system of pruning, for he is a constant reader of its weekly reports, and has, no doubt, read some of the reports of special committees appointed by that society to investigate the causes of the failure of the grape crop. Perhaps an extract from a report that I, as chairman of a special committee, read to the Society on November 15th, 1858, may not be amiss here:*

"That the most judiciously planted vineyard that I had visited belonged to a member of this society. His vines are planted wider than usual, and every fifth or sixth row he left a space wide enough for a

wagon to pass; thus giving the vines a greater supply of sun and air." And Mr. Buchanan, one of our most successful cultivators, immediately named Mr. Hodge as the person referred to. The usual distance of planting has hitherto been 3 to 4, or 4 by 5, but few could now be found to plant closer than 5 by 6, and some would even prefer 5 by 8. The Catawba and Isabella are the principal varieties grown on the Island, as at Cincinnati and elsewhere. Native varieties are said by Mr. Longworth, Mr. Garber, Mr. Prince, and a host of others, to be well adapted to our climate; and these authorities have repudiated *all foreign varieties* as not suitable to our climate, and some have gone so far as to reject even seedlings from foreign varieties. I do not believe this theory of fog and dews could be assented to without repudiating what has been said by those experienced cultivators as to the fitness of our *native vines for our climate.* If we examine the method that has been generally adopted in the Winter or Spring pruning of our native vines, we shall find that it is according to the German method, whose vines are comparatively of a feebler growth when compared to our robust and luxuriant growers—the Isabella or Catawba; both of which are capable of maturing, under favorable circumstances, over five hundred of well developed bunches. And here is one of the material points noticed in Mr. Bateham's report—*"especially allowing the vines more wood and leaf."* If Dr. Hales' statement be correct, he found that a cabbage emitted nearly half its weight of moisture in twenty-four hours. This watery expiration takes place chiefly during the day, and is checked by rains and reduction of temperature, and every nurseryman is fully aware of the immense expiration that takes place through the leaves; for, if they take a spray from a tree for the purpose of budding, they invariably cut off all the leaves to retain the moisture.

Let us now apply the principles to the culture of the vine, especially in ill-drained and clay subsoils retentive of moisture, and see if cause sufficient cannot be found in the short system of pruning to account for the principal cause of the mildew. And if so, we have at hand a practical and scientific remedy.

Should there be, in the month of June, much rain, followed by a hot sun, we may expect the mildew; for the soil being well filled with moisture, and the hot sun causing an excessive flow of sap. For a want of sufficient leaves to evaporate the excess, the tender cells of the young berries become ruptured, thus producing the mildew, which is entirely avoided on Kelly's Island by the especial allowance of more wood and leaf. I well recollect in a discussion that took place in the Cincinnati Horticultural Society, a remark made by Dr. S. Mosher, "that the French *Oidium* differed from the American; the former was

from without, while the latter was from within." This, at the time, I considered a concession to the advocates of long pruning. But I see by a recent report to the Cincinnati Horticultural Society by Dr. S. Mosher, R. Buchanan and J. E. Mottier, some of our best and most successful wine growers, condemn the erroneous system of short Summer-pruning, having found it detrimental to the ripening of the fruit, and I doubt not that the short system of Winter or Spring pruning will before long receive also its just condemnation.

It is seldom or ever that the mildew attacks vines until after the fourth year, for in the same vineyards and under the same atmospheric influence, the vines of three and four years old have had a full crop, while those of six years and upwards were entirely destroyed by mildew. I had a proof sufficient to convince me of the correctness of this theory in 1858. I visited a vineyard of about six acres, the crop of which had been entirely destroyed by mildew, with the exception of a few vines that had run up some cherry trees; these had a fair crop, and one row which had all the roots cut off on one side of the row for the purpose of making a drain for a cellar, and that one row had a full crop of well-matured grapes. The owner had root-pruned that row, and hence the success.

The roots of the Catawba have been traced over twenty feet, and yet these native and luxuriant vines have been subjected to the same short and murderous system practiced by the Germans on their vines, which are of a feeble growth. Mr. Bateham speaks of the influence of the lake in ripening the fruit; if those grapes exhibited at Cincinnati be taken as fair samples, they are not to be compared to those I saw in Mr. Mottier's vineyard, either in color or quality. I thought them exceedingly deficient in grape sugar, consequently not well adapted for wine. But Mr. Mottier does not practice Summer-pruning, but believes that the leaves have important functions to perform; and while others cut off the tops of the vines to let the sun in to ripen the fruit, he lets the leaves accomplish this, and the richness of his grapes both in color and quality, proves the correctness of his practice. If any one doubts the correctness of this system they can satisfy themselves by visiting his vineyard at the proper season, or his wine cellars at any season, and I am satisfied they will fully endorse my judgment that his grapes and wine are hard to beat by those of Kelly's Island or elsewhere, and should they be fortunate enough to get a glass of his "United States Fair Premium Wine," they will, no doubt, approve the committee's decision, and perhaps secure a box of the same for their use. I have digressed a little from my subject, and having extended this article beyond the limits I intended, I

shall conclude by stating that if I am not mistaken in the signs of the times, that not only the Summer pruning will be generally discontinued, but that the short system of Winter-pruning and close system of planting will soon be superseded by wider planting, better drainage and especially allowing the vines more wood, as so forcibly stated by Mr. Bateham in his communication.

[Around the Lakes and in Canada, where the extremes of moisture in the atmosphere are not sudden and violent, the foreign grape is entirely free from mildew. On Kelly's Island, where, by the absence of dews and fogs, the climate is proved to be in a like regular condition, Mr. Bateham notices the same success in the culture of the native grape. When we come to a dryer and more changeable climate, the foreign grape fails. Its tender leaves and spongy wood part with moisture too rapidly, and mildew ensues. So the cultivator builds a cold vinery over the grapes, which insures the moist and regular climate of the Lakes, and mildew is in a measure conquered. Mr. Mullett's experience is similar in its results.

In drained ground, where heat and moisture are more regular; in wider planted vineyards, where the plants cannot rob each other so easily in a dry time; in less Summer-pruned vines where the well-known effect is to produce harder and less spongy wood; and in vines running over trees where the partial shade checks evaporation; the same effects are produced that nature effects on the atmosphere of Kelly's Island, and the foreign grape grower does in his vinery. The whole series of experiences shows a striking coincidence of causes from the most opposite views to one point. It is highly probable that it will become an admitted principle that "an over dry or suddenly dried atmosphere is the most common cause of the mildew and rot in grapes, causing a greater evaporation than the plant can healthily supply." All this can be partially remedied by correct pruning, draining, shading, or locality, as well as the selection of kinds with thick leathery foliage, that will not easily wilt under any common sun.

We should be glad to receive from other of our correspondents any additional observations, confirmatory or otherwise, of these views.—ED.]

#### PACKING FRUIT.

BY "CLAUDE," LODI, N. J.

MAY not the decay of the large Duchesse d'Angouleme pear, sent from Wayne County to Philadelphia, (as mentioned in the December *Monthly*), be as attributable to their enormous size as to the effects of their transit?

I have noticed, this last season, many large fruit of this variety quite diseased in the flesh, whilst the

outside was to all appearance quite sound; and this too, in the case of fruit that had been gathered and brought into the fruit room carefully. If, however, such large fruit are sent to any distance in barrels, great care indeed would be required in the packing to insure their safe arrival. The barrels should be divided into two or three compartments, according to the size or substance of the fruit, by portable divisions—false-bottom like—which will not only lessen the weight and pressure of the fruit on one another, but will also prevent the *springing* or *yielding* in the sides of the barrels; to prevent which, and also to pack the fruit so as to prevent shaking or shifting in the smallest degree, are the two main points to be attended to in the packing of all kinds of fruit for a journey. Even a short journey is sufficient to injure them if not put up with some sort of care. As an instance, a bushel basket of Duchesse's was sent from this place to New York this last season, and though it is scarcely an hour's ride, they were reported as having come to hand in "*smash*."

On the other hand, some boxes of the same sort were sent to Canada, and they were acknowledged as having arrived quite safe; "Not so much as an injured fruit being among them." They were packed in kiln-dried sawdust, and care was taken to shake it in well through each layer of fruit, and press it down round the sides of the boxes. The fruit was placed stalk upwards, and each layer occupied the hollow spaces formed by the one under it, the sawdust preventing the fruit from touching each other. Each box was finished off with a good layer of the sawdust, pressed down, and left rather fuller than the sides so that when the lid was pressed on it the dust formed a slight convex surface, which made up for any shrinking that might take place on the journey. The fruit, to be sure, were not such monsters as those grown by Mr. Yeomans, but were considered good representatives of the Duchesse d'Angouleme. There were from 7 to 8 dozens in each box.

Fruit of such a size as Mr. Yeoman's should be each wrapt in paper, and particular care taken to keep the ripest, regardless of size, on the top. Boxes are preferable to barrels, and should be made stout in proportion to their size.

I may mention as another instance of success of the above mode of packing, that a box of choice pears was sent from this place to England, about four years ago, which arrived in perfect condition, and were much prized for their very superior flavor and texture. They were kept in the ice house of the ship during the voyage.

Permit me also to mention, as an instance that firm packing holds good in the case of the softest fruits, that some years since, in the "old country,"

I had occasion to send all the forced peaches a distance of seventy miles, but they got more jolting and delays for that distance than on a thousand miles of rail. They were generally two, and in more than one instance three days on the road, owing to mistakes, and in no one instance did they arrive in a damaged condition. They were all packed with perfectly dry moss in stout boxes. Figs, plums and grapes were sent at the same time with perfect safety. The figs, like the peaches, were first wrapped in paper; the plums without paper were packed in the moss; the grapes were packed in their own leaves; a few holes being bored in the tops of the sides of the boxes to prevent heating. In all cases the fruit was perfectly ripe at the time of gathering them.

I am aware there is nothing new in all this; but that most gardeners have practiced it, and are frequently called upon to practice it in most places, private or public; but as the growth of choice fruits is becoming more extended, the knowledge of the best mode of packing them must be also of increasing importance; I have, therefore, given you a hurried outline of mine, and would be glad to see and profit by the experience of others, recorded in your very valuable journal.

#### PRUNING EVERGREENS.

BY WILLIAM BRIGHT, PHILADELPHIA.

LORD CHESTERFIELD, in his advice to his son, instructed him, when his vanity was assailed by flattery, never to permit himself to be "giggled" out of the return compliment. In accordance with this sage advice, I will say to the EDITOR of the *Gardener's Monthly*, (politely lifting my chapeau), that if there has been a Garibaldi in horticulture, there has also been an Editorial good King Emanuel, under whose wise and benignant sway the aid of Garibaldi is no longer necessary to the public.

Still, I must confess, that praise of my evergreens touches me in a vulnerable point. I believe I have produced some good specimen trees, and with your permission, I will state some of the rules which I have adopted in pruning and training them.

In the first place, it may be set down as a fact, that our principal evergreens will bear the use of the knife in pruning as well as the Osage Orange, the Buckthorn, or the Honey Locust, and a great deal better than the plum, the cherry, or apricot.

Evergreens naturally form beautiful trees, but their primitive beauty is often destroyed by close planting in nursery rows, by injuries received in cultivating them with plough and hoe; by packing them for shipment like bales of hay, and by other causes. If you have one of these deformed seedlings just transplanted to your grounds, with its roots abridged and mangled, it is of no use to prune it when first planted

I do not think that you can aid a sickly evergreen by pruning; indeed, it is my practice never to prune an evergreen at all when transplanting, as we do deciduous trees, but to wait till it is well established before I undertake to improve its form with the knife. If you treat an evergreen so badly in transplanting that it is likely to die, pruning with a view to lessen evaporation, will not save it. On the contrary the shock occasioned by pruning will increase its debility and hasten its death; at least this is my opinion. I rarely, if ever, apply the knife to an evergreen until it has been a year or two transplanted, unless it be taken up carefully with a large ball of earth, and nearly all its roots uninjured.

A perfect evergreen, such as the Norway Spruce and Austrian Pine, generally presents to us a fine pyramidal form and a perfect circle, with branches of nearly equal size, at equal distances, from its base to the top of the leader.

If you have a tree which has a break or vacant space in its structure, in its centre or at its base, you must, of course, cut the top well back so as to throw out the lower deficient side shoots with greater vigor, just as you would in the case of any other tree.

If the tree is one sided, you will cut in the full side, and thus encourage the deficient branches to extend themselves to the limits of the circle which the tree is expected to describe. Sometimes a branch may be twisted around from the full to the weaker side and tied to a stake so as to fill a vacant space with great advantage.

The upper branches of an evergreen must never be allowed to extend over the lower. This is always fatal to the perfection of the tree in single specimens or in hedges. You must keep the pyramidal or wedge shape constantly perfect, or the base of your tree will surely decline in vigor and beauty. Trees of this order never recover their lower shoots so long as the upper branches extend over them. This idea is so imperative that I repeat it in various forms.

It is probably unnecessary to say more about what is required to be done in order to change the form of an imperfect tree. The main questions are:—when to prune? how to prune?

The best time to prune evergreens is in the Spring, just before they commence to grow. Of course, a moderate trimming may be given with safety in the Fall after the Autumn rains commence, and the work may also be done in the latter part of the Winter, if the season be mild, a month or two before they start.

How to prune? I will try to explain what I have done. I cut an evergreen anywhere, with the most perfect freedom, even back upon wood three years old, and two or three inches in diameter if necessary. I think we may train or prune an evergreen with

success to any form we choose; I believe I can form a Norway hedge, only three feet high, and keep it to that height for a lifetime; or I can prune a Norway to the shape of a crescent or a mill stone, a pyramid or a liberty pole, or any fancy figure except that of an inverted cone, or other shape which throws out the upper branches so as to shade the lower ones,

If you have a tree which is so broken and imperfect in its form that you desire to cut it back severely, you may cut to any point you please if it be even three-fourths of the main stem, with perfect safety, if the tree be well established. When you do this, you will select a side shoot or branch, to which you intend to cut back, *to be tied up for a leader*. All side shoots, or laterals, in evergreens, readily assume the form and functions of main shoots or leaders as desired. But mark this rule: when you cut back the leader or main stem upon old wood, *leave two or three inches of the old wood above the side shoot or branch intended for a leader*, and never cut close to a bud or shoot, as you would on a pear tree. If you neglect this rule you will most probably lose your leader or bud. The old wood left above the bud or shoot will, it is true, form an unsightly snag for a time, but in a year or two it may be neatly trimmed off, and the cut will also by that time be concealed by the new shoots and foliage.

If managed in this way, a Norway Spruce, eight feet high, and four to six years old or more, may be cut down to a height of two to four feet, so as to resemble a mere shrub, or bush, without the slightest injury to its general health or vigor.

If the tree be too heavy and luxuriant in its upper portion and weak and deficient in its lower branches, the leader may be cut back, or disbudded, and the upper side shoots may be thinned and shortened at pleasure, so as to preserve the tapering form, by cutting out the centre, or leader as we may say, of side shoots, and shortening all such shoots or branches as required; or even entire branches may be taken out, if desired, always recollecting, when cutting on old wood or new, not to cut too close to shoots or buds, but to leave a *snag*, as before directed, for the main stem. This rule, however, is not so imperative when applied to the terminal points of growing side shoots.

In pruning the side shoots of evergreens, do not cut all of them to the exact form of the pyramid, but cut-in-and-out, as I may say, so as not to leave the cut ends all on a precise line, but some shorter and some longer than others, just as a skillful barber trims hair, concealing by his art the fact that it has been trimmed. If the cut ends are all on one line the tree will look "buzzy," as the gardeners say.

I warn the novice in this work not to be too radical in his first pruning; not to do too much at one

time. You cannot change the whole form of an imperfect tree in one season. Be gradual in your work. After the first judicious pruning many dormant eyes will break, and the necessity for severe pruning may be prevented by the growth of new shoots. When there are two stems, the weaker one should be cut out as soon as possible.—The great points are to retard the top all you can, by disbudding and cutting back the leader, and thus encouraging the basal shoots, to keep the upper portions of the tree short and thin, and within the line of the perfect pyramid. This is almost the entire art of evergreen pruning.

The rules above given apply more strictly to the Norway Spruce than to other evergreens; but still, with slight exceptions to nearly all of them. I think the Norway may be kept down to a hedge plant, three or four feet high, till its stem becomes a foot in diameter, or more, if the upper shoots be kept shorter than the lower ones, and moderately thin; or it can be grown twenty or thirty feet high, like a liberty pole, with a huge feathered stem, if the same rules be observed in the pruning; that is, to keep the branches at uniform distances, so as to admit the air into all its parts, the top short and thin, and the basal shoots strongest.

The Scotch Fir, unlike the Norway, in its most perfect form is not pyramidal, but has rather a round head. The object in pruning this tree should be to preserve its natural form; hence, any branch or shoot, extending beyond the bounds of the true form, should be cut back near to a lateral shoot, as directed for the Norway. If the branches are too thick they may be taken out. The top should be kept slightly oval in form instead of sharply wedge-shaped, but still comparatively thinner and shorter than the base. It is better to disbud the Scotch Fir, in the Spring, than to use the knife too freely.

The Austrian Pine, while it is one of the most beautiful of evergreens, is the most difficult to manage, and requires less direct use of the knife than any other tree of its class because it makes new shoots but slowly, and has generally but little spare wood in its branches. If an Austrian has one full and one weak side, it is better to try and twist a branch round to the vacant side, and tie it in place, in order to get the desired form, than to attempt to create new shoots by pruning. You cannot force a new growth, as in Norways; pruning may, however, be done in the same way as on Norways, when required by the form of the tree. The leader may be taken out and a side shoot brought up, or branches may be cut back; but, as in the Scotch, it is better to disbud than to prune.

The White Pine may be pruned very freely when three years old, with great advantage. You may

take out the entire third year's growth of the main stem and tie up a side shoot for a leader. A very beautiful form may be created by twisting shoots round to fill vacant places and disbudding the strongest branches. When the White Pine has been cut back it should not be pruned again till the second year afterwards, when, if necessary, the main stem may be taken out again. The object of this treatment is to thicken the tree and to protect the main stem against storms, as it has a strong tendency to become too naked.

The Silver Fir is rather tender and very liable to lose its leader, and the terminal buds of laterals, especially after transplanting. It does not always start well; in case the main buds of the leader or laterals are destroyed, you may cut back to a side shoot and tie up a new leader as directed for all the other evergreens. It bears pruning as well as the Norway, and is to be managed by the same rules.

The Hemlock, as all gardeners know, may be trimmed with as much freedom as a box hedge. The same general rules which govern the pruning of other trees of this class should, however, be kept in view in our treatment of the Hemlock.

The American Arborvitæ, whether in the hedge, or grown as single specimens, has a very strong tendency to become thickest at the top and to lose the wedge or pyramidal shape so absolutely necessary to its continued thrift and beauty. You must keep the top thin and the branches of the entire plant equalized, from the base to the top, and the basal shoots very strong. In the hedge, the wedge shape must be very sharply defined, and the upper angle very acute. After opening the top carefully with the knife, cutting large shoots to a proper lateral, you may go over the hedge with a large knife, or reaping hook, and cut off the tips carelessly to produce the desired form. Never use a pair of shears for this work; let it be done, as before suggested, just as a first-class barber trims your hair, *i. e.*, "shingled" off.

The Hemlock in the hedge will be treated in the same way as the Arborvitæ. I think the Siberian Arborvitæ forms the finest evergreen hedge. The Hemlock is next in beauty. The American Arborvitæ is the cheapest and most speedily grown, and perhaps the most vigorous. The Norway Spruce, six feet high, and properly pruned, makes a magnificent and very strong hedge. In perfection of beauty as a hedge plant, nothing, however, has yet surpassed the Siberian Arborvitæ.

[It will be seen that we differ entirely from Mr. Bright, as to the advantages of pruning evergreens at the time of transplanting; also in some other matters which will be readily noticed on reference to

our paper last month. So far as Mr. B.'s paper goes his views are excellent and will be read with great interest—for once we have to go farther than he does and hold to the extreme views.

By way of appendix to what we have already said, we add the following: An acquaintance of ours is famous for his success with evergreens transplanted from the woods. As soon as he gets them in Spring, they are thickly set in nursery rows. He usually gets plants about one foot or fifteen inches high; as soon as they are set, he with a box or hedging shears clips them all "unmercifully," down to about six inches, and they are left afterwards without any protection from sun, wind and rain. We have known him practice this successfully the past five years at least, and to employ his plan on arborvites, hemlock, and balsam firs. He scarcely asks how the plants have been taken up, though, of course, the more carefully the better; about ninety-five per cent. invariably live.

As to pruning other kinds besides those named by Mr. Bright, the following from the *Germantown Telegraph* will be very interesting. We have seen Major Freas' specimen, and it is a very beautiful one.

"We have likewise a *Cryptomeria*, some fourteen or fifteen feet in height, the branches of which grew almost horizontally and very stragglingly, and became very much rusted by our severe climate, and interiorly bare. We determined to improve it or destroy it; but believing it partook of the same nature of all the evergreen family, we cut away every branch except the leader, within two or three inches of the main stem. Indeed there was nothing left of it except a *bean pole*. This was in the Spring of 1859, and the result was that new and numerous shoots made their appearance from the main stem and the stumps of the absconded branches, and stood last winter, which was more than usually severe upon not entirely hardy plants and trees, admirably—grew luxuriantly the past season—forming a handsome tree, with most of the branches growing *perpendicularly*. Competent judges say it is the handsomest *Cryptomeria* they have yet seen, and believe it to be the tallest in the country." ]

#### WINE-VAULTS AND VINEYARDS OF N. LONGWORTH, CINCINNATI, O.

BY K.

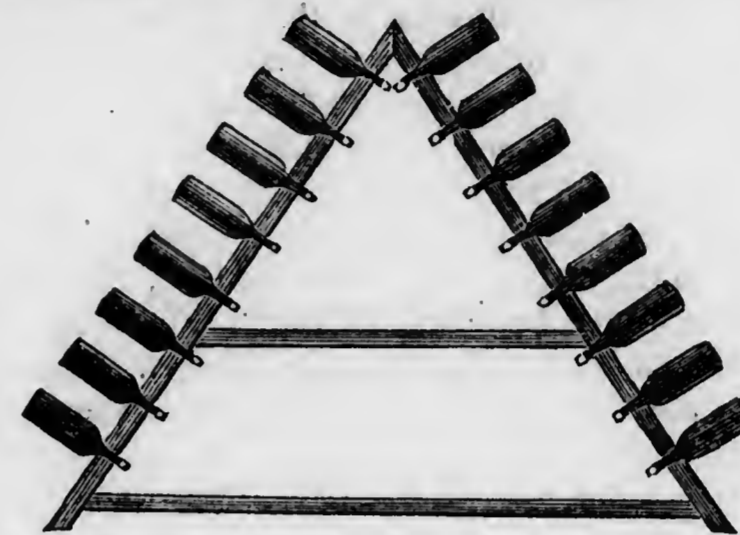
HAVING frequently heard of the extent of Mr. Longworth's operations, and feeling a strong desire to examine his establishment, I had recently an opportunity afforded me of doing so during a short visit to Cincinnati.

Supposing that it would require a note of introduction from the excellent proprietor, I wended my way to his elegant and comfortable mansion, but

was so unfortunate as to find him out. As my time was limited, I concluded to make the trial on my own responsibility, and soon found myself before a large and massive building situated at the corner of Sixth and Broadway, the only entrance to which was through a gateway. I entered the office boldly and stated my wishes to a very polite French gentleman, who instantly called one of the workmen to show me through the establishment. The upper part and ground-floor of the building is principally devoted to the processes of bottling, packing in cases and baskets, shipping, and distilling. The basement is used for storing wine in immense butts during the process of fermentation; and in a building on the opposite side of the court-yard is the distillery, capable of distilling one hundred and fifty gallons of Catawba brandy in twenty-four hours. This brandy is distilled from wine one year old. Underneath the basement and entirely below the fluctuation of temperature at the surface, in immense vaulted apartments, is stored the enormous and valuable stock of champagne or sparkling, and still wines both of the Catawba and Isabella grape in bottles and casks. In the bottling-rooms are several machines of a very simple construction, by the aid of which one man can bottle five thousand bottles of champagne per day. On the ground-floor and basement I was shown a large number of butts of new wine, just made and commencing to ferment. To give the reader some idea of the extent of the stock of wines, here I will mention that I noticed one butt which contained 4575 gallons, and fifteen butts which contained 2000 gallons each, besides an immense number of a smaller size.

The wine for champagne is kept one year in these casks before bottling; but the *still* wine is allowed to remain in them, closely bunged, until it is needed, and then drawn off into casks or bottled, as may be preferred by the purchaser. In these apartments is also kept a large stock of Catawba brandy, and also of a *liqueur* called by the French *Parfait amour des dames*, which is also manufactured in the establishment in large quantities. I was shown, in one of the rooms on the ground-floor, a wine-press of the same kind as that described and figured in your July number of last year. As a general rule, the grapes are pressed at the vineyards immediately after being gathered, and but little work of this kind is done in this establishment. After examining the *super-terranean* departments, our polite attendant prepared to make a descent into the *sub-terranean* regions. Being both provided with a candle, we bade adieu, for a time, to the cheerful light of day, and plunged down a yawning abyss into what appeared more like the dreary realm of Pluto than the courts of vine-crowned and laughing Bacchus. I found myself in one of a series of immense vaults of about

one hundred and fifty feet in length, the whole of which are filled to their utmost capacity with bottled champagne, arranged in long tiers or piles, the bottles being mostly laid in a horizontal position. The wine, just after being bottled, is kept for a time with the mouth of the bottle down in a wooden case, as shown in the annexed sectional drawing.



In one of these vaults alone, my guide informed me, there were over 100,000 bottles. The piles or tiers are about five feet high, and occupy nearly the entire floor, only leaving a narrow aisle or path. I was forcibly reminded, by the sight of so many bottles of champagne, of an old German legend. It is as follows:

His satanic majesty called a mass-meeting on a regimental muster of his imps in a large wine-vault, in which was stored a large quantity of champagne. As they arrived before his majesty, they amused themselves by drinking the champagne; and by the time Beelzebub arrived, his satellites were considerably elated, if not quite drunk. This *undevish* conduct on the part of his imps so excited the ire of their master, that he immediately corked one of them in each of the bottles; and this (the legend says) accounts for the *effects* of drinking champagne; for in drinking a bottle, you at the same time become possessed of a devil. Now, do not understand me as in any wise endorsing the truth of this legend. On the contrary, I look upon it almost in the light of a libel; for most persons will agree with me in the opinion, that where taken *in moderation*, it has, unlike most other alcoholic beverages, the effect of producing hilarity and promoting wit and humor.

Some idea of the importance and extent of the wine business of Cincinnati may be formed from the fact that Mr. Longworth's stock of wine alone is estimated to be worth *two millions of dollars*, and there are several other establishments here largely engaged in the same business.

Although I have been through some of the largest wine districts of France, I had not an opportunity of seeing the process of wine-making, or rather of wine-pressing, it not being the vintage season. I

was, therefore, much pleased to hear from my guide that this was the height of the season here, and that I could witness the whole operation by walking up to a vineyard owned by Mr. Longworth, which occupies a slope of one of the hills overlooking Cincinnati, known by the name of the *Garden of Eden*. The whole property contains, I believe, about one hundred and fifty acres, a part only of which is planted in vines, the remainder being devoted to other fruit, peaches, apples, pears, strawberries, &c. After searching for some time to find the wine-press, I at last found it in a small barn, situated nearly in the centre of the estate. Here I found the process of picking and pressing the grapes in full operation. Half-grown boys were busy picking the grapes in baskets, which they emptied into a light oaken firkin, provided with leather straps to pass over the shoulder. When this was full, it was carried by a man to the rolling or crushing-mill, and from that to the press. It is scarcely necessary for me to describe these machines, as the designs and descriptions furnished by Mr. Hazeltine to your magazine have already familiarized your readers with them. I cannot, however, forbear to add that the *fresh* juice or *must* of the Catawba grape is the most delicious drink that I have ever tasted.

I have thus, Mr. Editor, endeavored to give your readers an idea, imperfect though it be, of these interesting establishments, and will close by advising them, if they should visit Cincinnati, by all means to visit them.

#### WATER IN GREENHOUSES.

BY J. C. URE, CHICAGO, ILL.

READING your remarks in your leading article in the December number, where you recommend placing pans of water on flues, reminded me of an article I contributed to the *Prairie Farmer*, of this city, which may be of some service to your readers,—if you think so, please publish it.

HEATING GREENHOUSES.—The majority of greenhouses have the common brick flue. One difficulty with the brick flue is that you have to start the fire an hour before it is necessary to have it, in order to get the required heat. It also dries the atmosphere, so that it has been found necessary to keep vessels filled with water standing on it, the evaporation from which would afford the necessary humidity.

In a house where I have one, I have placed over the furnace on the flue (the brick being removed so that the bottom of the boiler comes in contact with the fire,) a copper boiler with a tin lid, with a weight on it. Two inches above the bottom of this boiler I have inserted a coupling—a common hose coupling, to which is attached a lead pipe— $\frac{3}{4}$  inch—nine feet long. It passes from the boiler under the walk,

and into a large barrel. A hole was bored in the side of the barrel, on the same level with the coupling in the boiler, the end of the pipe inserted, and enlarged on the inside of the barrel with iron and hammer. White lead was used to make the hole about the pipe, water-tight. Such is the apparatus. Now for its use. When the fire is made in furnace, the water being low in the boiler, it immediately produces steam which may escape directly into the greenhouse if the cover is open, modifying the temperature of the atmosphere at once.

This is of great service when but little is wanted, and is wanted immediately—especially in the early morning before the sun rises, on a spring day—and sometimes in a winter day, if the fire has gone down in the furnace, as it sometimes does. It also, with the lid or cover closed, heats the water in the barrel, causing constant evaporation, and creating a moist atmosphere. The water in the barrel is almost always in condition to be used in watering the pots and syringing plants. By adding another pipe the water may be kept in constant circulation on the same principle as houses are heated with hot water; the only difference being its passage through a barrel of water. The pipe can readily be detached from the boiler at the coupling and the boiler removed without disturbing the pipe. But it is not necessary to remove the boiler in order to fill it, as the water in the barrel above the pipe is equal to that in the boiler—hence if it descend to fill the boiler the barrel may be filled. The cost may be more or less, according to circumstances. I had a barrel, and an ordinary east-aside stove boiler, on hand. The pipe, &c., cost near \$2, which, was the cash cost outside my own labor. This will be saved in a single week in winter.

It can be made an ornament by putting rocks, moss, aquatic plants, &c., about it. There is a good opportunity to make it beautiful, as well as useful.

#### THE FARMER AND HORTICULTURIST.

BY N. S. N., COLUMBIA, TENN.

THERE has been much ridicule lavished upon book-farming and scientific horticulture. It is said our fathers were farmers by nature, and horticulturists from instinct, and that we, their descendants, have or ought to have inherited their endowments. Consequently the attempt to impart information to our farmers through the medium of books and papers, or to educate our horticulturists, is mere humbuggery; a useless consumption of time, and a wasteful expenditure of money, doing more harm than good. They maintain that farming is no science, neither is horticulture an art, that can be cultivated and improved by studying books or reading papers. Now there is one thing very certain, that

is, those who advocate such opinions are themselves the *moderns* advocating a new theory, and not us who are advocating different principles. These book-hating farmers have really less information on any subject that requires thought and reflection than any other class of society. The difference between a *scientific farmer* and *educated horticulturist* on the one side, and a mere cultivator of the soil, and a planter of trees on the other, is well drawn by a very old writer of the first century, Philo Judeas, who with the Greeks and Romans, regarded farming as a beautiful science, and horticulture as one of the fine arts. He says, on this account shall he, "meaning Cain," cultivate the earth; "He," meaning God, "does not say" "He shall become a farmer." For every farmer is an *artist*, because farming is an *art*. But any of the common people are cultivators of the earth, giving their service to provide themselves with the necessaries, without any skill. These men, then, as they have no superintendent in all that they do, do much harm, and whatever they do *well* they do by chance. But the works of farmers, which are performed according to knowledge, are all of them of necessity useful. And among the trees capable of cultivation, he manages them in different ways, and not all in the same way; pruning some, and adding props to others; training some to increase their size, and cutting down others so as to keep them dwarfs. There are also an innumerable host of other operations in farming which proceed by rules of *art*, which it would be superfluous to enumerate on the present occasion, for we have only dwelt on this point at such length for the purpose of showing the difference between the man who is only a cultivator of the earth, and one who is a farmer."

The only object we had in copying the above, was to show that pruning, in all ages, has been regarded as a science, and horticulture one of the fine arts, and the imputation that they are of modern origin, a *clap trap* to make money, is without foundation, made by the penurious and those who believe knowledge to be a curse instead of a blessing. Salt cannot save such.

We are now in January 1861; some day, if nothing unforeseen happens, we expect to have a small mess of very large *Strawberries*, Downer's. They were potted about the middle of October, and placed under glass, but without heat,—they are very large and fine.

#### HOT DRAINS IN THE OPEN AIR.

BY WALTER ELDER, PHILADELPHIA.

IN answer to the query of E. R. N., St. Louis, I would say that in my business, I visit many country-seats, and when at Charles D. Meigs, M.D.'s

place, last June, I observed some rows of peas earlier than I had seen that season; and, inquiring into the reason, was shown a drain, (tile, I thought,) and was told that a fire was made at the lower mouth on cold nights in spring, and the smoke went out at the upper end. The ground slopes for about thirty feet from the mouth of the drain, and rises three feet in the thirty, and then runs on a level full fifty yards. The fire is made upon the ground, and, as heat ascends, much of it will be lost; but as it is easier to improve than invent, I will give another mode of heating. There are plenty of sheet-iron stoves with rings of fire-brick inside, and cost, when new, one dollar. Make the fire in the stove, and enter the pipe into the drain, which should exactly fit the tile, so as to draw better; and the pipe might have two branches with pipes to lead into two other drains, say three feet or six feet apart, and one fire would heat all the three at once, and no heat would be lost. The pipe fastened upon the stove can have two side holes like a drain-tile where two drains cross each other, and the branch-pipes fitted upon them. The stove and pipes would last many years, and the expense of fuel would be very trifling; and as for the cost of the tile for the drains, that would be nothing in comparison with the pleasure to the owner.

I think that it will do best upon land that has a slight ascent. The tiles should be a foot under the surface, and a row of peas on each side of it, say eighteen inches off it, which will make three feet between the rows. The roots would not be so apt to dry that way, than where a row is right on top of the drain, and the warmth in the ground would be enough to keep frost off the surface and the plants. These drains would be good for early lettuce, radish, beets, &c. A fire is not made every night, but only when frost is expected. Gardeners all know well the value of moderate bottom-heat. More or less fire could be applied at pleasure. The peas in Dr. Meigs' garden were two weeks earlier than others of the same kinds twenty yards from the drains. And the value to a market-gardener can be conceived by the high price such early peas would command, compared with those two weeks later. When I was in that line, I have sold my peas at fifty cents per half-peck; and in ten days later they were down to ten and twelve cents a half-peck; besides, any thing early makes other things sell, and draws new customers to the stall. If I were to rent a truck-garden for but five years, I would make these hot-air drains and make one stove heat three drains six feet apart. When my lease was ended, I could take the tile up and move it to another place. I feel convinced that this mode of forwarding vegetables in spring will be largely adopted when it is more widely

known. It would be a coining of money to the market-gardener near to a large city. Such drains in the alleys between asparagus-beds and between the rows of rhubarb plants, beans, potatoes, tomatoes, egg-plants, and almost every kind of vegetable can be brought into use a fortnight earlier than by the old system; and I say so from ocular demonstration.

[In addition to the suggestions of Mr. Elder, we append the following, from the *London Gardener's Chronicle*, as applicable to the same subject:

#### "BOTTOM-HEAT STEAM.

"Suppose a furnace and boiler (placed in a hidden corner of a garden), such as to generate a large quantity, and an iron pipe to issue from it conveying the steam, to be laid three feet under the surface of the ground. Suppose a portion of ground to be laid with bell-shaped draining pipes, two or three inches in diameter, in parallel lines, three feet under the surface, and all to be connected with the iron pipe conveying the steam. At the opposite ends of the earthen drain-pipes let there be perpendicular pipes or shafts coming up to the surface, to act as safety-valves and to secure the current of steam, to be kept open, or more or less closed by a small wisp of hay. Let the steam be kept up, more or less, at such seasons of the year, and at such times in each day as experience and the objects sought might direct.

"What would be the effect of such an action of steam on the subsoil and upper soil? Would it not gradually create a warmth in both, ascending upwards, and would it be to a moderate or great degree, requiring to be regulated and controlled? The steam would, no doubt, be condensed to a certain extent, and the water would run off in the pipes, which would act as drains, but the pipes would themselves get hot and communicate a dry heat to the subsoil; while, on the other hand, steam would escape from each junction of the bell-shaped earthen pipes, which fit into each other, but are open to water or steam. This steam would ascend into the subsoil and reach the upper soil, imparting a moist heat as it went, and it would create a moist and warm atmosphere above the surface of the ground. The great question is, the degree and proportion in which all these things would happen, and how far the whole action would be considerable and susceptible of being controlled and moderated, and how far it would be salutary in reference to the growth of plants.

"That such a system would act well under glass can scarcely be doubted. It might be regulated so as only to exclude frost, or a little more; or it might be applied as regards season and degree, so as to govern all the various objects in forcing fruit. Any

excess of moisture in the atmosphere under glass might be corrected by ventilation.

"What would be the effect of such a system applied to the border of a fruit wall, so as to influence the roots of fruit trees, and what the effect on garden culture, applying the steam at such seasons as should ward off frost, and such as were suitable to promote early growth.

"But the idea is probably more applicable to fruit-houses, orchard-houses, and others, and the scheme seems to be a more simple mode of applying heat and moisture than the whole apparatus of hot-water pipes, and much less costly—certainly in the construction, and not more so as respects fuel. It seems likely to create bottom-heat in a more effectual and salutary manner than any other system, if there be no objections which have not been apparent. It would seem to be an idea on the merits of which it is difficult to decide *a priori*, and where experiment is required. It may be observed, that lines of pipes under glass could, of course, be laid at such distances as might be deemed and found to be best, and if perpendicular shafts were brought up inside the houses, thereby diffusing steam, they might be opened or closed at pleasure. On the other hand, the warm vapor rising from the earth inside a house might be found sufficient.—*Steam.*"—Ed.]

#### FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA. REPORT ON RASPBERRIES.

THE Belle de Fontenay Raspberry mentioned in the Report of the Philadelphia Committee, criticised in your last number by Mr J. T. Harris, was described from plants growing in the grounds of the writer, obtained from an amateur who had imported them from France, and from plants imported in the spring of 1860 direct from Bagnolet, near Paris, the great centre of raspberry culture for the Paris market, which were identical with those of the Committee. Their Report was written, though not published, prior to the meeting of the Pomological Society. The remarks of the President, Mr. Barry, and other experienced horticulturists, confirmed the accuracy of their description. Its peculiar characteristics are a short, stiff, upright cane, thick foliage, *silvery white* on the under side, and very numerous suckers. Its fruit is large and purplish-red. The fruit of the *Merveille* (not *Mervaille*, as Mr. Harris has it,) *des Quatre Saisons* is bright red, the canes very tall, and growth rampant; suckers not numerous.

If Mr. Harris will read the remarks on this raspberry made at the Convention and reported on page 19 of the *Gardener's Monthly Extra* for November, he will, we think, be convinced that the Committee are

not in error in their description of this, the finest of all the autumn-bearing varieties of the raspberry.

It has been disseminated by some parties as the *Merveille des Quatre Saisons*, and by others as the *Reine de Fontenay*; the latter is a synonym, the former a misnomer.

J. E. MITCHELL,  
R. CORNELIUS,  
A. W. HARRISON.

### New and Rare Fruits.

MARION PORT GRAPE.—Mr. J. B. Good of York, Pa., send us the following history:

It is often called York Madeira here, but is very distinct from the Schuylkill Muscadel, Cape, or Alexander Grape. Between thirty and forty years ago, a German brought some grape cuttings into this neighborhood, and offered them for sale. My grandfather bought of this person a parcel of cuttings, (for which he paid sixteen dollars,) and planted in his garden. Most of them grew, and when they came into bearing, there were about half a dozen sorts, one of which was a white grape of very vigorous habit, and bore several very large crops, fruit of the finest quality; but the original vine of this variety has probably been destroyed. Another was the Schuylkill Muscadel, which is much larger than the Port, and not so early. Several of them were common Fox Grapes, another was the one, the subject of my history, and known in Ohio and elsewhere as the Marion Port Grape. This grape has been described in No. VII, vol. XIV. of *American Farmer*. There are three or four varieties of grapes cultivated here which are often confounded with each other, and are known under the synonyms of Schuylkill Muscadel, Cape, Alexander, York Madeira, Canby's August, &c., and are also sometimes confounded with the Marion Port Grape. But this latter is very distinct from the Schuylkill or Cape, both in fruit, foliage, and wood, this latter having very large leaves, and somewhat long jointed wood, while the Port has only a medium sized leaf, of a very dark green appearance, and very short jointed wood, and propagates very easily, almost every cutting grows. The Port is a very strong grower, and prolific bearer, even under the most unfavorable circumstances. This grape is much disseminated throughout this State and part of Ohio, but is often found spurious in the nurseries, the varieties above named often being substituted. It succeeds well in all situations, high or low, only varying somewhat in size and quality of fruit, being larger in low situations, and not quite so sweet as on elevated soil.

Ever since introduced here, it has not failed to ripen its most abundant crops, even if neglected. It has not been known to rot or mildew in its thirty years of cultivation here. My grand-father has the original vine yet, and it is still thriving, although, for many years neglected. He has made excellent wine from it, quarter century ago. It is also an excellent table grape when fully ripe. It ripens here the last of August, hangs long and improves.

Rev. Mr. Shepherd says, "It was originated as near as I can trace its history, by the Moravians, at Bethlehem, Pa., and was brought to this vicinity by a German about thirty years ago."

I have several thousand cuttings of this grape which I am willing to distribute in small quantities, (free of charge) among those wishing to give it a trial.

VAN BUREN'S GOLDEN DWARF PEACH.—The following note from Mr. Van Buren, was received last summer, and not intended for publication, but we think it so decided an acquisition, that we "take the responsibility" of its publication:



Enclosed I send you a drawing of a new seedling peach of my own raising, which I think, will prove to be a very valuable variety. The tree is a dwarf, is now four years old, and but 28 inches in height, to the topmost leaf, has small flowers. The drawing sent is the exact size of an ordinary sized specimen, for I made the measurement with a pair of dividers, and pricked it off on paper, and then cut thereon. The fruit is a clingstone, and of first rate flavor. I think it will be invaluable for cultivation in the cold climate of the North, where the buds get winter-killed; for cultivation in small lots and gardens in the cities and towns, as well as for border-

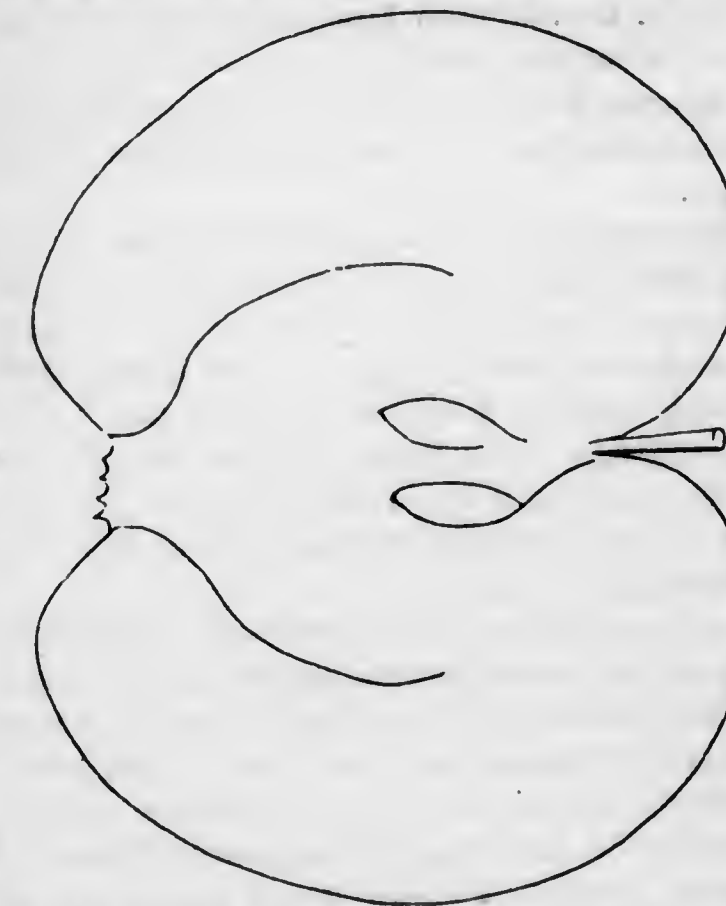
ing walks, for it is truly a beautiful sight to look at these miniature trees, with its golden and carmine fruit.

While every peach bud on my place, having small flowers was killed last April by the frost, I saved this by inverting over it, a three-bushel basket, and throwing on that a horse blanket.

I can now always have a crop of peaches in their season, and snap my fingers in the face of Jack frost.

This is the second year of its bearing; it has made about three or four inches growth the present year, and as it is now in full bearing, I presume will grow but little hereafter. It is a seedling I discovered in the nursery now three years since, and is probably a sprout from some ordinary variety; it grows in ground of ordinary quality, and was manured last spring with a wheel-barrow load of chip-manure and lime, which is all the care it has received.

JACKSON APPLE.—Amongst a lot of apples recently received through the kindness of Mr. Wilson Dennis, of Applebackville, Bucks Co., Pa. It cannot be called new, as it has been years ago described by Dr. W. D. Brinckle; but it is not near as well known as it deserves to be, and we, therefore, have pleasure in giving the following outline and description of Mr. Dennis' specimen, from the pen of our accomplished Pomologist, Dr. J. K. Eshleman.



Above medium in size, oblate conic in form. Skin yellowish green, with streaks of pale red and russett, and small russett dots. Stem short, in a deep, narrow cavity. Calyx brown and large, core small. Herb greenish white, crisp, tender, juicy, "very good,"—some think "best."

## The Gardener's Monthly.

PHILADELPHIA, FEBRUARY 1, 1861.

All Communications for the Editor should be addressed "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

Our Subscription list for Rathvon's Entomological Essay, is fast filling up, and as we have only intended publishing a limited number, we would desire all those who may wish to have the work, to send their name and address as early as possible.

## RAISING SEEDS.

MANY of us find a great difficulty in raising seeds of flowers, fruits and vegetables, and yet, if the seed is good there is no reason why it should not grow.

We have a friend who is quite a genius in this line. It matters not what is given to him—whether it comes from the Catacombs of Egypt, the claw of an Australian bird, or from the coat of some fierce animal that has for many a long year been the terror of little children in some museum of natural history, all he wants is the privilege to scratch it with his knife to tell you at once what he can do with it. It is a maxim with him that "birds that can sing, and wont sing, ought to be made to sing," and what is more, they "do sing" when he gets hold of them; that is, if the seed *can* grow, in his hands they *do* grow.

Some time ago, a friend remarked to the writer: "Can you get the seeds of the Fraxinella to grow? I have tried, time and again, and have got —, and —, and —; and though they are famous horticulturists, they nor I have ever raised one." The writer replied, "Give them to Jones, he will raise them for you!" and Jones *did* raise them. In two weeks, to the astonishment of our friend, Jones had plants for him.

In company with our friend, we recently paid Jones a visit, and after praising him and his system "up to the skies," hinted that we should like to know the secret of the business; whether it was to him merely the common course of the common laws of nature—or whether he had the additional aid of Diabolous' influence; in short, whether it was his art that did it, or did he employ "conjuring powder?" But Jones said candidly that he did not think it fair that what had taken a life-time of study and experience should be given in one moment to two men for the asking. We then fell back on our official position, representing that we would give it to our readers through the *Gardener's*

*Monthly*. Still he was obdurate, talking something about "sections" and "parties," and so on, till we really supposed that he mistook us for a politician, and he was being asked for some "force to be employed against the North, or element of destruction to be used against the South." But this was enough to give us the cue to his weakness. He evidently, with all his eccentricities, was a man who felt for men as *men*, and when they were worthy did not stop to inquire what government they lived under. We accordingly pointed out to him where "we circulated," and who were "our readers"—Jews and Gentiles, believers and unbelievers, secessionists and disunionists, monarchists and republicans; that what we published was for the benefit of all, freely and without price; and that "all," too, embracing a numeral of no mean proportions. The spark took effect. He said, "It was one of the green spots amidst desolation he loved to see," and taking our hand with that firm and friendly grasp for which he is well known when his feelings are warmed, he thus began:

"It is necessary first to be sure your seed is good. This is ascertained by dividing a few of them. If the kernel shows no sign of having shrivelled, is plump, and bright, and solid, it is good. Most seeds, such as pines, have naturally a bright ivory look when good, as soon as they lose the germinating power they become of a yellowish tinge; when like this they may be thrown away without the trouble of trying them to grow—(this was his own expression.) Others, such as buckthorn, and most seeds whose plants yield dyes, have the seeds tinged with the same colors as the dyes produced; when bad, these colors are of a blackish or brownish hue, and a little experience readily detects their worthlessness. Then, again, seeds that have no feathery or woolly appendages will sink in water when sound. All seeds that swim are not bad, but all that sink are certainly good in any case, and are well worthy of whatever care we may wish to bestow on raising them.

Having got good seeds, to grow them is easy. They must have moisture to soften the outside skin, and perhaps to afford some of the elements of growth or nutrition; they must have plenty of air, as its oxygen is necessary to destroy some of the parts of the seed, and life only exists by the destruction of other organized matter; and it must have absolute darkness, for light is a fixer of carbon, a hardener of the parts of vegetation, which, it is the object of successful seed-growing to loosen and make soft.

If seeds could be always sown at the moment of gathering, difficulty would not often be experienced in germination, but as they have to be preserved, light and dryness harden the shells of most seeds. Waxy tissues become as horn, horny ones as bone,

bony ones as flint, and sometimes they become so hard that, in some instances, as in Nelumbiums that were some years old, I have had to file holes in the seeds till my wrist ached before I could get a successful growth. In hard or flinty seeds artificial means must be resorted to to soften this unnatural hardness before growth can commence. Large seeds may be filed or cracked, and smaller ones may be soaked in warm water for a short time, or suddenly scalded in very hot water, or steeped in solution of potash, or any material of a softening tendency. But I seldom have to resort to any of these extreme measures. My usual plan is to sow anything I get as soon as I get it. I do not cover the seed with soil, or if I do think it necessary in some instances, I cover very slightly and with some material that is very porous and that will admit all the air possible. Then I set my pots in a dark place, that is moderately damp and warm. On the first sign of vegetation, the pots are gradually brought up to the full light, and to their regular conditions of growth."

But, said we, this is all very well for gardeners who have greenhouses, and rare seeds to raise; but tell us something that will benefit our lady leaders, many of whom have such poor luck, as they say, with their flower seeds sown in early Spring.

"They cover them too deeply," replied Jones, "the moisture they get is not in proportion to the air about them—too much of the former, too little of the latter—let them sow them on the surface, and cover with moss, or leaves, or cotton, or anything, taking care only to remove it at once on germination and they will never fail if the seed is good."

For the benefit of our nursery readers, we concluded to press our friend's experience still further, and we said, "Mr. Jones, how would you treat fruit seeds, hedge plants, &c.?" I should like to add something to your hints for the especial benefit of the trade." But here we made a mistake, which we discovered on the instant of passing the word *trade* from our lips. "The trade?" said he, "let the trade study and pay for their education in the same way that I did." We told him that they were willing to pay and did pay for any information they got, as he would find if he would read the *Gardener's Monthly* regularly; that a great majority of the best minds amongst them had already given freely from the stores of their studies and experience in return for what hints they got; that more would do so when his liberal example came before them, and that more over, and above all, he had promised me, at the outset, to tell me what would benefit "all," which includes the "trade." "Well," said he, "I will answer your inquiry by an anecdote. Some years ago, when Osage Orange seed was high in price in this section—\$24.00 per bushel—I was, one day, in

a seedman's store in this city, and in the course of conversation, the proprietor said to me, 'Mr. Jones, I wish you could tell me how to make good Osage Orange seed out of bad; here is a lot I have had on hand for two years, and I am afraid my reputation will suffer if I sell it.' 'Let me see it,' says I. On cutting open a few seeds, I found that it was good. 'What will you take for it?' I asked. 'Glad to get \$12.00 per bushel for it,' he replied, and at that price I bought the lot. This was, I think, in February. I put a large packing case under my greenhouse stage, mixed a good quantity of sand with the seed, put it in the case, and watered the whole with warm water. Every few days with a spade I turned over the whole mass, to be sure that it did not ferment or rot too soon or without my knowledge, and by the middle of March, every seed had a nice little point bursting through the outer skin, when it was soon after sown, and I had the pleasure and profit that always results from a good business operation, the following Fall. All seeds are governed by similar laws, which only require varying a little with different seeds; the principal variation being that the thicker the shell or harder, the more air, darkness and moisture it will require to soften it, and when it is thin or soft very little, if any, previous preparation will be necessary. Let your nursery friends never bury their seeds deeply, but as moisture must be retained, and shallow covering thus be an evil, let that be remedied by precautionary measures—as to time of sowing, covering with porous matter, and so on."

We took our departure, edified and instructed, and on our friend (who, whenever he pleases can express himself in a much more refined manner) exclaiming "that fellow is a brick," we replied in the same unpolished strain—"that's so! and I'll build out of him a pretty good article for our next month's paper."

We will only add a remark of our own, as our good friend Jones did not allude to it. It does not follow that because seeds do not grow it is through our ignorance, and that the seeds *are not good*. There are hundreds of respectable seedsmen through the country who will not sell a bad seed if they know it, and who know enough to know the difference; but there are some of whom this can not be said. The remedy is, to buy as much as you can from those you know, and in your own neighborhood whenever you can. Those who have a reputation to lose are usually careful not to risk losing it.

## THE HORTICULTURIST.

WE regret to learn that the Printing Office in which our estimable contemporary the *Horticulturist* was printed, together with the whole of the January number was consumed by fire. We are happy to find that but little delay occurred in republishing it.

**BEN DAVIS AND NEW YORK PIPPIN APPLES.**

FROM all that we have been able to learn of these apples, we have had an idea that they are identical; and it has been in several instances suggested in this journal; and in one, a correspondent, Mr. Caldwell, confirmed our opinion by referring to "page 119 of Downing's revised edition." Mr. Downing does not refer in the cited instance to the New York Pippin, and we understand our correspondent to have meant, that by taking a New York Pippin, and comparing it with the description and cut of Ben Davis there given, they would be seen to be identical. If the specimens we have hitherto seen of these two apples were correct; we think this would be the inference of any one. But at the last Pomological meeting, in September, both Mr. Wilder and Dr. Warder seemed to be decidedly of the opinion that they were *not the same*; that we felt there was something wrong somewhere, and laid the matter over till another opportunity should afford us a better chance of judging where the error had crept in.

In the meantime we find that Mr. Downing has given a cut and description of the "New York Pippin" in the last number of the Horticulturist, which we think, instead of proving that it is not the Ben Davis, rather shows that it is.

In Mr. Downing's work, at page 119 above referred to, Mr. D. says of Ben Davis:

Fruit large, roundish, narrowing a little to the eye. Skin beautifully striped, splashed and marbled with bright red, on yellowish ground. Stalk short, deeply inserted in a deep, narrow, somewhat uneven cavity. Calyx closed, in an angular deep basin. Flesh white, sometimes slightly tinged with red, tender, juicy, with a mild, sub-acid, very pleasant flavor. Season winter and spring.

In the last Horticulturist he thus speaks of the "New York Pippin:"

New York Pippin.—Baltimore Red, of southern Illinois.

Baltimore Red Streak, of southern Illinois.

Victoria Red, of some parts of Missouri.

Kentucky Pippin, of south-western Kentucky.

Red Pippin, in some sections of Illinois.

Fruit large, variable in form, (judging from the dozen various specimens sent,) truncate conic, a little oblique, sometimes cylindrical, scarcely angular, sometimes sides unequal, light in weight. Skin somewhat waxy, whitish yellow, much shaded with crimson, and considerably splashed and striped with carmine, and moderately sprinkled with gray dots. Stalk short and small, in a rather large, deep cavity, often with light russet, which sometimes extends in rays on the base. Calyx closed, segments short, in a large, rather deep, slightly corrugated basin.

Flesh white, a little coarse, rather tender, moderately juicy, with a pleasant sub-acid flavor. Quality "good." No material difference.

The cuts that are given in the Horticulturist with the New York Pippin, and the one given in Downing's Fruits of Ben Davis, are all so near alike, that no aid to their distinctness can be had from them.

In reply to our remarks, it may be said that Mr. Downing would certainly be the last person to describe a fruit in one place as one thing, and in another place, the same article as something else; but we are sure Mr. Downing himself will be the first to admit that all are liable to err, and he himself may be no exception.

Our journal has earned, and we think honestly, a reputation for general pomological accuracy, that we are proud of, and are jealous of seeing damaged "by authority" without good proof; and as it is through it that Ben Davis and New York Pippin are considered the same thing, we want to be the first to correct the error, if error it shall be proved.

**GRAND ADMIRABLE PEACH.**

[See Frontispiece.]

AT the last September Meeting of the Pomological Society, Mr. Lawrence Young, of Louisville, Ky., exhibited some splendid Peaches under this name. We made a sketch of an average-sized one at the time, which we now give as a frontispiece. Usually monstrous fruits are poor in quality. We did not get the opportunity of testing it personally, but were assured by a gentleman acquainted with it that the quality was not inferior in proportion to its size.

The engraving is a specimen of a new style recently introduced in France, and here offered, we believe, for the first time in this country, and reflects great credit on our excellent artist, Mr. Frank R. Stockton. Since writing the above, we have received the following history from Mr. Young:—

YOUR note of inquiry respecting the history of the "Grand Admirable Peach," is at hand. In answer, all I can say is, that about 20 years ago, a young gardener, who had lived several years with Mr. Gano, a gentleman of taste and enterprise, near Cincinnati, was allowed by his patron to propagate trees and plants for his private use, that afterward the young gardener settled in Louisville, and having no suitable lot for his trees, I purchased them, with a catalogue of names in too much confusion to be reliable. Grand Admirable being one of the catalogue names, was given to this fruit—more because it was known not to belong to the other varieties, which were mostly well known, than from any confidence that it is the true name of the fruit in question.

Since I first cultivated this peach I have bought in the Eastern Nurseries almost every peach that gave promise of good size or other good qualities; but I have received this fruit from no other source. And in 1852, I made a tour during the peach season along the Atlantic, as far South as Virginia. Searching especially for this Peach, I did not recognize it if I saw it in New York or Philadelphia. At a Horticultural exhibition in Baltimore, I saw and confidentially recognized two plates, one of very fine grown specimens by the lady of the Rev. Dr. Wolf, another by some of the Feasts, but neither of these were named, although as well as memory serves me, that of the lady was honored with the blue ribbon. I mention these names because now that you have the subject up, it is possible the Feasts, who I think, are fruit-men, might give you some information.

In regard to its value I unhesitatingly say, that my experience has found it to be the first in value of all the white fleshed cling-stone peaches. It is white fleshed to the stone, and nearly as large as the Heath. In the latitude of Louisville, it always ripens with flavor, whilst in very short summers it does not. It ripens after the bulk of the peach crop is over, so that while in beauty and size, it equals any cling preceding it, at the same time it fills a space in the circle of successive ripening which would otherwise be vacant.

Leaves, reniform glands; fruit large, rather long, with a heath-like protuberance or teat; suture slight; skin white, with a beautiful red cheek when exposed to the sun; flesh, whitish, melting and luscious, occasionally a very slight tinge of red at the stone, generally as free from it as White Heath. Flowers small.

I am very glad you are about to bring out this peach, for if it is in Downing I do not recognize it, and I think it will be found desirable as far north as the Heath grows.

**FORCING FRUITS AND VEGETABLES IN THE OPEN GROUND.**

IN another part of our paper appear some remarks on the application of heat to the forcing of vegetables in the open ground, that are worthy of the reader's careful attention.

It is an unquestionable fact that a *few days* advance in a crop over its regularly expected season, is far more profitable to the marketman than it is to have the same article months ahead, and out of its regular season; not so much because the extra early crop is necessarily raised at a greater outlay of cash and skill, as because no one expects it so early, and therefore no one feels the *want*, and without this want there is no care or desire to gratify oneself with a luxury not felt to be so. Luxuries become wants, in

a great measure, by habit; and while the custom is slowly forming, the enterprising raiser of the unseasonable crop is permitted to starve. This we have seen exemplified.

But when the expected season is about to arrive, the first few days of the crop's appearance in market brings very large and profitable prices—profitable because the extra expense of a few days' earliness is comparatively small in proportion to the extra demand and extra price.

Up to the present time, little has been done in this line but to plant in places naturally warm, or to accelerate the growth of seedlings for transplanting in hotbeds or frames, but with recent improvements that have been made in systems of heating, as modes of distributing heat are termed, very much more might undoubtedly be obtained than is now accomplished.

Heat, for instance, by the laws of gravitation, ascends much more rapidly in a strict perpendicular direction than in any approach to a horizontal position; hence, heat might be perceptible at the end of a thousand-feet flue on a rise, when, with the same measure of coal, it would not be perceptible at the end of a hundred-feet flue on a dead level, without some extra and expensive means were taken to counter-balance the gravitation of cold air.

With this view, it might be worth considering what could be done with houses run up longitudinally on hill sides where the soil could be heated by underground drains to great lengths. It must not be forgotten that the amount of heat from an equal quantity of the same kind of coal is always the same; when it is said, therefore, that a house of large extent, on ascending grade, could be heated better than a smaller one on a level, it is meant that the volume of heat would be more equalized through the enclosed space. A house of large extent on an incline could not be highly heated with a proportionately small fire; but for the few days difference our article supposes, it would not be required.

By the old system of building houses or pits with sash frames, such structures could not be well built on sloping ground, because it is essential that a sash should lay level, both for working well and avoiding leakages, but on the now popular fixed roof principle it is not so essential that the work should be level.

There are several questions worth considering before such a plan should be extensively tried. Plants require *perpendicular* space for their growth; a portion of such space is always lost on an incline, and it has to be ascertained whether the area thus lost is fully compensated by the increased facility for the heat's distribution. We merely make the suggestions.

For many things in the open ground no artificial heat might be necessary, and yet cheap glass frames



be found of great assistance. For Rhubarb, Strawberries, Asparagus, Lettuce, and the like, the glass should be set as near the ground as possible—but a few inches from the ground at the front, and but little more at the back, just enough to throw off the water. This would retain the natural heat in the ground and assist the soil to absorb that from the sun, and thus, in many instances, weeks in advance would be gained. As soon as the crops had grown large enough to demand the removal of the sashes, the season would be so far advanced that the plants would be safe without them.

To those friends who have already given us their observations and little experiences on these points, our readers will, we know, award their best thanks, and we hope for further notes. Any small facts in relation to the matter may originate important modes of practice.

#### MR. RATHVON'S ESSAY.

In order to clear off some matters on hand, we have delayed the continuation of this excellent paper till next month.

## Scraps and Queries.

Communications for this department must reach the Editor on or before the 10th of the month.

**GRAPE INSECTS, &c.—H., Worcester, Mass.**—In the November number of the *Monthly* you inform a questioner that there is danger of getting certain kinds of insects with grape-vines or cuttings.

Now, I wish to inquire if the risk may not be avoided by dipping the cuttings into some preparation which will prevent the eggs from hatching.

I have been told that a mixture of strong tobacco-water and whale-oil soap will destroy the eggs of all kinds of insects. Is this true? and, if so, will you please to give a recipe for the preparation of it? Would such a mixture do injury to cuttings of single eyes? (1.)

Can the Rebecca Grape be successfully grafted upon our wild vines—the *Vitis Labrusca*? (2.)

Does the Maxatawny Grape ripen earlier than the *Isabella*? and if so, how much? (3.)

Lastly, will common window-glass answer for glazing hotbed sashes? (4.)

[1. It would certainly lessen the risk. There are no fixed proportions necessary. The soft or whale-oil soap is nearly as good without the tobacco-water, and that without the soap.

2. Perfectly well.

3. It has been ripened here but in one spot. That is not sufficient to establish a general character for time of maturity in a grape-vine. We incline to the

opinion it will settle down as a few days later than *Isabella*.

4. The only objection is, that cheaper glass will do as well for hotbeds.]

**GREENHOUSES.—R. B. C., Moundsville, Va.**—Is it the best to have the side lights open or fixed? (1.)

Will it do to have the top lights fixed? (2.)

Is it necessary to have shutters in our climate? (3.)

Will it do to heat a greenhouse seventy feet long with hot-water tanks? Will one do for sixteen feet wide? (4.)

Will it do to have the fire inside? (5.)

Is it the best to have the house on the ascending principle where it is heated with hot water? (6.)

[1. We would have side lights; but it is not essential that they should be made to open, though they are usually so made. All the necessary air will find its way in when the heated air is allowed to escape out of the top.

2. All the roof may be fixed, except a space a few feet in width along the whole or a greater part of the length of the apex of the roof.

3. If the house is snugly built, and tolerably closely glazed, shutters are unnecessary in your district. In forming the laps in the glass, they should not all entirely touch the under pane of glass. It is advantageous to permit the escape of a little moisture in winter time, which very tight glazing prevents.

4. We would heat by tank only when a bottom-heat was required,—such as for propagating, &c. For atmospheric heat in a greenhouse seventy feet long and sixteen feet wide, we would use hot-water pipes.

5. Outside is best, on the whole.

6. We do not regard the relative merits of houses on the ascending principle as fully settled. See article in another column. The pipes will certainly work best when the flow-pipe is on a gradual ascent. The return pipe may be bent, sunk, or made to rise in any direction, so long as it does not in any part rise higher than the flow.]

**GRAPES, SHRUBS, AND ROSES.—E. B. G., Manchester, Pa.**—Is not the Logan Grape very nearly allied with the true York Madeira? I have not seen the growth of the Logan; but from what I can learn, it must be nearly the same in habit of growth, fruit and earliness, &c. (1.)

Would it be any benefit to underdrain soil for grape-vines, that is for vineyard, where water will remain less than twenty-four hours on the top of the soil after a heavy shower, where the subsoil is sandy and porous below eighteen inches? (2.)

Will grapes grow with any certainty in the open

air, in a moderately shady place, from *single eyes*, after the callus is well formed? (3.)

What twelve varieties of hardy deciduous flowering shrubs would you recommend for the garden or lawn, so as to get the longest-continued bloom and the greatest variety of flowers? (4.)

What twelve varieties of hardy standard roses would you recommend for the garden, so as to get the longest-continued bloom and the greatest variety of flowers? (5.)

[1. York Madeira is later, but a better grape than the Logan.

2. It would.

3. Not well, unless watched, carefully shaded, &c. They would otherwise soon dry up.

4. 1 *Forsythia viridissima*, 2 *Wiegelia rosea*, 3 *Spiraea prunifolia*, 4 *Spiraea Reevesii*, 5 *Pyrus japonica*, 6 *Hypericum kalmianum*, 7 *Colutea arborescens*, 8 *Philadelphus coronarius*, 9 *Deutzia gracilis*, 10 *Persian Lilac*, 11 *Magnolia purpurea*, 12 *Missouri Currant*.

5. Baron Prevost, Prince Albert, Garibaldi, Paxton, Youland d'Arragon, Coronet, Monthly Cabbage, General Jacqueminot, Lion of Combats, Triomphe de l'Exposition, Dr. Marx, and Caroline de Sansal.

**CRACKING OF GRAPES.—A Subscriber, Skenealle, N. Y.**—I last year allowed a few bunches to ripen on most of the vines planted in 1859. The fruit was good, both in flavor and color, with the exception of two bunches on a plant of *Muscat Blanc Hatif*, the berries mostly all cracking when half ripe. What is the cause?

[It is not well understood, though most practical men hold their "most decided opinions" on the cause. Some varieties are more liable to cracking than others. *Muscat Blanc Hatif* is one of them.

**DRAINING WITHOUT AN OUTLET.—A correspondent at Bridgeton, N. J.,** inquires whether he can make a well, and use it as an outlet, into which to run the tiles with which he wishes to underdrain his garden. We presume, under some circumstances, such a plan would serve; but have never known the experiment tried. Have any of our correspondents had experience in such a case?

**GRAPE-CUTTINGS.—R. C., Provincetown, Mass.**—They are best cut into lengths of two eyes, one at each end of the cutting, and set down into the soil so that the topmost eye is nearly level with the surface. Situation for striking is one partially shaded. Put out as early in spring as possible. They may be cut off at once, and kept till spring in a cellar or shed, covered

with soil. There is no advantage in planting them at once where they are permanently to remain.

**SCORCHING GRAPE-VINE LEAVES.—J. M., Portland, Maine,** writes that he has a vinery that is seventeen feet wide, having a border the whole width. A very porous soil, not very rich, but fully three feet deep. The inside one similar in material, ten or twelve feet in width. Its front elevation is fourteen feet, and the principle a "lean-to." The vines are trained up ten feet up the side lights, and fifteen inches from the roof. Every year the leaves "scorch," or appear to burn up at the edges. Thinking it was the sun, he had them shaded, without a better result; and fearing the inside border might be too dry, he had that guarded against; but the injury still occurs. He inquires, what can be the reason? By the scorching being confined to the edges of the leaves, we should certainly still think they were too dry at the roots. Were the leaves equally affected all over, we should look for red spider, or even thrip, as the cause of the mischief.

**ERICAS.—G. F., Mattapan, Mass.**—The month of February is the best to pot *Ericas* in this country. They will then get a good mass of roots before the hot weather sets in. We have found nothing like a sunk pit, with a frame over the top and the sides open, to get them well over our dry summer, as well as to prevent their being sodden with our heavy summer rains.

**NAMES OF PLANTS.—H., Lancaster, O.**—*Acacia Farnesiana*.—This tribe of *Acacias* has the flowers somewhat different in appearance to the usual New Holland forms.

**LEAF PLANTS FOR A WARDIAN CASE.—Mrs. L. P., Russell, St. Lawrence Co., N. Y.**—Ten handsome leaf-plants of easy culture for a glass case, we would name *Begonia rex*, *Tradescantia discolor*, *Tradescantia zebrina*, *Saxifraga sarmentosa*, *Hydrangea variegata*, any one of the variegated *Caladiums*, 2 *Ferns* (1 *Adiantum*, 1 *Pteris* or *Blechnum*); *Lycopodium*, say *L. denticulatum*, *cæsium*, or *arborescens*; *Variegated Periwinkle*. This list will afford a great variety of form of foliage, color, and habit, bearing confinement tolerably well, and are plants that can be readily procured of almost any florist.

**RICHLAND PLUM.—A Subscriber, Wilkesbarre.**—"I see in an advertisement in the *Monthly*, a notice of a plum called *Richland*. I would like to know whether this plum is worthy of a place in a small collection, and further I see the advertiser says it is free from the attacks of the *Curculio*. Now I would like to know whether there is any philosophy for such an

assertion. I have not been able to make up my mind that any plum could be considered exempt, unless it be too hard for them to penetrate.

[It is figured and described on page 154 of our first volume. No plum is "free from attacks of Curculio." The rot does not follow the attack in Bucks Co. In West Chester it does. The reason is not clear; but the fact indicates that the puncture of the Curculio is not in itself a sufficient cause of rot.]

**ROSES IN A GREENHOUSE.**—G. F., your roses have evidently suffered some injury to their foliage but we cannot judge from the circumstance you have detailed what is the exact cause.

**STRAWBERRY WORM.**—A Cleveland correspondent writes:—"In your December issue a subscriber inquires about a 'Strawberry Worm.' It is common here, and is the false caterpillar of a saw fly that I have failed as yet in identifying, as the pupa all died before being transformed. At present I have pupa, and hope to succeed better this time."

**J. B., Baltimore.**—Your leaf from the woods appears to belong to *Cypripedium acaule*.

**GRAPE-MILDEW.**—A correspondent from Bloomington, Ill., says Norton's Virginia mildews with him, and that the Concord does the same in Pope Co. We presume there is no kind but is at times liable to it,—some much more so than others.

**THE WEED AND INSECT DESTROYER.**—This is the name of a body existing at Nazareth, Pa. Mr. G. H. Bute, corresponding Secretary. They report favorably of their operations the past two years, though we have no account of the manner in which they operate, or the nature of their successful achievements.

**INSECTS**—B. S., *Mt. Vernon, O.*—We will endeavor to answer all your inquiries next month.

## Books, Catalogues, &c.

**RURAL ANNUAL AND HORTICULTURAL DIRECTORY.** By Joseph Harris, Rochester, New York.

This is the sixth annual appearance of a very useful little volume. It contains treatises on The Farmer's Kitchen Garden; Shade and Ornamental Trees; Management of Window Plants; Cultivation of Everlasting Flowers, Ornamental Hedges; Sulphur for Mildew on the Grape; Designs for Farm Houses, Cottages, Suburban Residences, Barns, &c.; Ornamental Fountains; Construction of Gates; Calendar of Operations; Cultivation of

the Pear, and one of the most novel subjects treated of is the Essay on Cacti and succulents as window plants, by F. A. Baller, which alone is worth the price of the work. The writer remarks:

"One very great cause of the failure and disappointment felt in the cultivation of window plants, is the lack of moisture, whereby ordinary greenhouse plants soon fade, turn yellow, and become stunted in their growth—not being able to keep up the excessive waste continually going on. So different is the atmosphere from that of a greenhouse, that they have in self-defence to part with foliage that they would have maintained in health and vigor, in more favorable circumstances."

Nothing is better suited for window plants than the innumerable members of this family, and we hope to hear more of them in this connection hereafter.

**THE ILLUSTRATED SELF INSTRUCTOR IN PHRENOLOGY AND PHYSIOLOGY.** We have received from the publishers, Fowler & Wells, Broadway, New York.

**PROCEEDINGS OF THE SOUTHERN VINE GROWERS' SOCIETY** at Aiken, South Carolina, held August, 1860.

This Society appears to have been a great success. Over one hundred delegates were present. Dr. Hume's account of his experiments in wine making received marked attention. We are pleased the society has met with such solid support, as it is one calculated to effect much good.

**THE NURSERY CATALOGUES** of our friends' begin to crowd in on us within the past few days; we have received of Marshall P. Wilder, Dorchester, Mass.; General List. Thos. Morgan, Lyon's Farms, N. Y.; Flowers. Robert Buist & Son, Phila.; Trees and Shrubs. W. Sumner, Pomaria, S. C.; General Stock. A. Bridgeman, Broadway, N. Y.; Flower Seeds. W. Perry & Son, Brigeport, Conn.; Grapes. H. A. Dreer, Phila.; New Verbenas, 1861. Darlington & Co., West Chester, Pa.; General List. J. F. Hill & Co., Indianapolis, Ind.; General List. Joshua Peirce, Washington, D. C.; Small Fruits. W. P. Shepherd, New York.; various Catalogues of foreign firms. W. Tompkins, Germantown, N. Y.; Grapes and Small Fruits. John Perkins, Moorestown, N. J.; General List. Dr. E. Taylor, Cleveland, O.; General List. D. Landreth & Co., Phila.; Schmitz Dahlias. Larison & Holcomb, Lambertville, N. J.; Fruits. W. Mann, Bangor, Maine.; Evergreens. Hatch & Co., Natchez, Miss. J. M. Jordan, St. Louis, Mo.; General List. W. R. Prince & Co., Flushing, N. Y.; Greenhouse Plants.

**LANDRETH'S RURAL REGISTER and Almanac** for 1861, D. Landreth & Son, Philadelphia. Contains a very complete calendar of work to be done on the

farm, kitchen garden, greenhouse and flower garden throughout the year, besides the usual list of vegetable seeds sold.

**THE VALLEY FARMER.**—Published by N. J. Colman, St. Louis, Mo., is one of the best Agricultural Journals published. We presume all the principal agriculturists in the West and South-west own a line in its subscription-book. We would at least commend it to the attention of those who do not.

**THE CINCINNATUS** of Cincinnati, one of our standard Agricultural and Horticultural exchanges has passed into new hands, and will in future contain with its usual agricultural excellence, a department devoted to the Mechanic Arts.

**American Bee Journal.**—Published by A. M. Spangler & Co., 25 North Sixth Street, Philadelphia. — The first number has just been received. It is published in neat style, and as it is confined entirely to a subject just now exciting interest, it will prove a boon to Apirians.

**FARMERS' HIGH SCHOOL, Penna.** Report for 1860, is a gratifying exhibit of success and usefulness; we are much indebted for the Essay on the Source of Nitrogen in Plants, to which we shall refer hereafter.

**MINER'S RURAL AMERICAN**, of Clinton, N. Y. We accidentally omitted from our list of excellent agricultural publications last month. It is one of the best issued.

**GARDENERS' PROGRESSIVE SOCIETY OF PHILADELPHIA.** We are indebted to the kindness of Mr. Walter Elder, for the Essays and Discussions of this Society for the past year.

It is a neat little pamphlet of 129 pages.

Mr. Elder has left some copies at our office for sale to those who may wish to procure them. It will be found to contain interesting essays by C. H. Miller, on gardeners and gardening in America; Wm. Saunders, ventilation of glass structures; C. H. Miller, Manuring and Subsoiling; Walter Elder, deterioration of fruit; John Landers, causes of the deficiency in color and flavor of the exotic grape; Prof. Stevens, manures; W. Grassie, mildew; R. R. Scott, small fruits; Jas. Eadie, habit in plants, and discussions on a variety of other very interesting topics.

**BOOK CATALOGUE.** Messrs. Randolph, of Richmond, Va., send us a Catalogue of books on Agriculture, Horticulture, &c., that we take to be perhaps the most extensive list published in the Union. It embraces five hundred different works on these subjects. Amongst other things we notice "Wells' Manual of Scientific Discovery for 1860," about which a correspondent recently inquired.

**HORTUS LINDENIANUS.** We have received through

the kindness of Mr. J. Linden, of Brussels, Belgium, two numbers of his *Hortus Lindenianus*, which contain very beautifully colored illustrations of some of the finest new plants introduced by him. We are pleased to learn that Mr. Linden has just been appointed director of the botanical and horticultural department of the Garden of Acclimation at Paris, and that he is about forming a department for the introduction of new plants, fruits and vegetables on an extensive scale. The example of the French government in aiding this enterprize is worthy of imitation.

## New or Rare Plants.

**CALADIUM BELLEYMEI.**—In the collection of Jas. Dundas, Esq., of Philadelphia, we frequently notice new plants almost as soon as they are announced in England. Under Mr. Pollock's good management, they are not long in being metamorphosed from "little bits" to mammoth specimens.



Here we now have one of the newest of the *Caladiums*, and one of the most striking. Our engraving is one-half the size of nature. The veins and margin of the leaf are light green, and the body of the leaf pure white, as our cut represents. *Caladiums* usually require a moist stove-heat in winter to grow to perfection, and partial shade agrees best with them.

*CISSUS VELUTINUS* is a new species from the Malay Islands. Nearly allied to *C. discolor*; the leaves not quite so interesting, but the flowers larger.

*ANÆTOCHILUS INORNATUS*.—From Ceylon. A variety of, and not quite so handsome, perhaps, as *A. selaceus*.

*SALVIA SCABIOSIFOLIA*.—A species from Russia, with tall spikes of greenish-pink flowers, and will, perhaps, make an interesting addition to our hardy herbaceous plants.

*SARCANTHUS PARISHII*.—An epiphytal orchidææ, from Moulmaine, rather pretty, and flowering in August.

*CYRTANTHUS SANGUINEUS*.—A new bulbous plant, allied botanically to *Crinum*, but with red flowers of something the habit and appearance of *Tigridia*. It is handsome, and will be popular. Introduced by Mr. Backhouse, from Caffraria.—*Bot. Mag.*

*NEW DAHLIA*—*Schmitz's Conqueror of the Whites*.—We have received from Messrs. Landreth & Son, of Philadelphia, a lithograph of this, we believe, the best white dahlia ever raised.

## Obituary.

DEATH OF EX-PRESIDENT WALKER, of Mass.—When calling attention to Mr. Walker's new pear in our last number, we little expected to announce his death in this. At the Mass. Horticultural Society, Hon. M. P. Wilder feelingly announced his decease in the following terms, and the society passed appropriate resolutions, expressive of their loss:

Mr. President—But a few months since I stood before you to announce the death of one of our oldest and most respectable members. And now an inscrutable and all-wise Providence calls me to make known to this Society the afflictive dispensation which has removed from us another of our shining lights, and again thrown the mantle of sorrow around us.

I allude, sir, to the Hon. Samuel Walker, who died at his residence in Roxbury, on the evening of Tuesday last, and whose precious remains were borne by us, yesterday, to his favorite Auburn, and there committed to the bosom of his mother earth—"earth to earth, ashes to ashes, dust to dust,"—a

spot which was ever dear to him, and which will forever be hallowed in our affections.

Mr. Walker was one of the earliest and most influential members of this Society. For nearly thirty years he has been deeply interested in its objects, and ardently devoted to its welfare. Among the offices which he held were those of Treasurer, Vice President and President, and during this long period his name has annually been associated with us in some official capacity.

He was of foreign birth, but was truly American and national in his feelings. He was one of the founders of the National Pomological Society, for many years a Vice President, and at the time of his death the Chairman of the General Fruit Committee of that association. He also held offices of honor and trust in his own city and county, and in the Commonwealth.

Mr. Walker was in most respects a model man. In perception, quick and accurate—in taste, intuitive and refined—in manners, unassuming, courteous and polite—in duty, conscientious, faithful and judicious—in life, earnest, exemplary and practical. As a friend and companion, he was genial, sympathetic and confiding. His heart was full of love to others, and often have I heard him remark—"he that would have friends must prove himself friendly to others."

In connection with the last remark of Mr. Wilder, in the extract we have given, we append the following extract from the last letter we ever received from him:

"I tender you my hearty thanks for the opportunity you have afforded me of perusing the kind letter of our mutual friend Dr. Brinckle, which I herewith return. I am pleased that you should all esteem my pear so highly, though I must say, that I think it 25 to 30 per cent. below its standard, but if I have any fruit next season, shall, if I am living, send you some again. For the reason you state, it would not be well to name the pear as you wish. I have many old particular friends whom I much value, and I would not disappoint or do injustice to any one of them. I have, therefore, decided to give it a name that shall be national and acceptable to all, and I propose to call it 'Mount Vernon' (Walker's.)"

It would be pleasant could we all be as thoughtful of respecting the feelings of our friends as Mr. Walker, and it would be well for our young readers to commit to memory the beautiful lines of Cowpe:

"Who seeks a friend, should come disposed  
To exhibit in full bloom disclosed  
The graces and the beauties  
That form the character he seeks,  
For 'tis an union that bespeaks  
Reciprocal duties."

## YALE AGRICULTURAL LECTURES.

Apprehending the effect of political excitement in diminishing the interest and usefulness of an Agricultural Convention, it has been decided to postpone a repetition of the "Yale Agricultural Lectures" to another year. The regular lectures of the Institution on Agricultural Chemistry and the General Principles of Agriculture will be given as usual, commencing February 1st.

## ILLINOIS HORTICULTURAL SOCIETY.

The State Horticultural Society met at Royce's Hall. Mr. Sam'l Edwards in the chair, and Mr. A. B. Galusha acting as Secretary *pro tem*.

The first item discussed was, the leading varieties of trees for ornamental and economic parts of the State.

Mr. Overman suggested the Cotton Wood as the most available of the deciduous trees. Large trees can be raised in a few years. The wood is valuable for fuel, and even for rails. He has had rails that lasted for years.

Mr. Phoenix and Mr. Minkler agreed in the main with Mr. Overman; and the Society resolved to recommend the Cotton Wood for planting in groves, for shelter, and for shade for animals.

Mr. Phoenix would speak of the Golden Willow. It is a desirable tree wherever it is hardy enough for culture, probably all through the State. It is easy of propagation, and the timber is valuable for posts, and even for rails. It will grow rapidly and of large size. He has seen long rows of it in La Salle County. Its rapid growth and its beauty recommend it.

Messrs. Overman, Phoenix, and Whitney spoke in its favor, and the Society voted to recommend the culture of the Golden Willow for the same purposes as Cotton Wood.

Mr. Overman introduced the Silver-leaved Poplar. He said it was beautiful in the street, but objectionable in lawns and cultivated grounds.

Mr. Phoenix thought there was a variety that did not sucker. Mr. Galusha thought that trees from seed would not sucker as bad as those from cuttings. Other members gave their opinions, and the Silver Poplar was recommended as a tree for the roadside.

Of the Silver Maple it was said by Mr. Galusha—The seeds ripen in May, varying according to the season. They should be gathered soon after they fall, for bugs eat out the kernel. He gathers them from the surface of streams, from eddies and bays in the shore; has taken up a bushel in fifteen minutes. The seed must be planted almost immediately, between layers of moss, they may keep for a week, but generally only three or four days. He plants in a line in well-pulverized soil, thrusting them with the thumb and finger to the depth of the wing, from two to four inches apart; they may stand two years. They seldom form tap-roots. In the first season they grow eighteen inches; has had them grow four feet.

Mr. Huggins, of Macoupin—The seeds in his county drop in April. He can keep the seed two or three weeks; he has them gathered dry, by boys. The ground is prepared as for corn; the seed is dropped and covered one inch deep. Too little moisture will kill either before or after planting. The tree bears seed early, even in its fifth year. From five eight year old trees he has obtained two bushels; it grows fast, as fast as the Locust, and gives shade earlier in the spring. Some of the five just named were ten inches in diameter.

The Ash Maple or Box Elder was spoken of as a desirable tree, both useful and ornamental, and easily cultivated. It may be raised from slips.

Mr. Clark of Brighton has cultivated it successfully; it is hardy, and grows well; he has had trees of four feet in height from cuttings the first season.

A motion to recommend the Maples as a class, and especially the Soft, or Silver-leaf Maple, for all purposes of grove and ornamental trees, was agreed to.

Mr. Huggins suggested next the Catalpa for discussion, as a tree for Central Illinois. He raised them from seed; others from cuttings. Recommended.

On Elms there was a difference of opinion as to their merits in the State.

The Elms as a class were recommended for all the State.

Mr. Shaw proposed the Tulip Tree or Yellow Poplar, improperly so called.

Mr. Overman said—The Tulip Tree is the most magnificent tree, and has the first place as an ornamental tree for yards. It is free from all objection. It is said to be hard to transplant, but this is because of delaying too long; when very young it may easily be taken up. Its roots spread far; has seen them 100 feet from the trunk. He has known it injured by severe frosts.

The seed is in a cone; if obtained from immature trees, it is defective. The seeds must be sown very thick in the spring; in the fall of the first year they must be taken up and protected. It cannot be propagated by cuttings or layers.

The Tulip was recommended as an ornamental tree, and the Linden for general purposes, all through the State.

Mr. Freeman would recommend the Black and Sweet Gum for the south of the State. His suggestion was adopted.

Mr. Phoenix thinks the Cucumber Tree—a species of *Magnolia*—worthy of trial. The European White Birch is very desirable, as are also some American Birches. He would recommend them for trial.

The Beeches were spoken of with approbation.

The Chestnut was named. Mr. Phoenix said that it is in demand and can be cultivated prosperously.

Mr. Edwards has raised the American Chestnut in Bureau Co., despite the winters, while the Spanish has suffered severely.

The Sycamore was recommended for fuel and ornament without debate, for the whole State.

Mr. Galusha proposed the White Walnut for its value, especially for timber.

Of the Black Walnut Mr. Snow says that if planted in a furrow two feet distant, it will make a perfect fence against cattle.

Recommended for Northern and Central Illinois.

The Austrian and Scotch Pines were discussed.

Several members spoke of falling with them when fall-transplanted, but they were recommended for general culture.

Mr. Galusha offered the following, which was adopted:

*Resolved*, That evergreen trees in nursery should not be allowed to stand longer than three years without removal or root-pruning.

The Norway Spruce was next spoken of.

Mr. Phoenix has raised from the seed successfully; would soak evergreen seeds three or four days in varnish-water; perhaps this is not necessary. The difficulty with evergreens is "burning-off," the effect of the hot sun in the first summer, he believes he can succeed whenever he has sufficient shade and water. Has always sowed the seed late in May or June, but has come to doubt this practice. An early start is desirable. He has not experienced sufficient to recommend any course; his opinions from his experiments are against prevalent views.

Dr. Kennicott has known them raised with great painstaking; with too much shade and moisture "damping-off" is the trouble. A gardener in Lake County has mixed sand with 1 lb soil when that threatened.

Mr. Shaw has had trouble raising Norway Spruces from a little black beetle, that eat them off while small,—a great jumper; jumps like a flea.

Mr. Galusha moved to recommend the Norway Spruce as the best evergreen; which was agreed to.

The Balsam Fir provoked a brisk controversy, but it was recommended for the northern part of the State.

The Hemlock was praised by many members; but the difficulty found in getting those from the woods to grow, made it expensive.

Mr. Bragden moved a resolution, that it is the most graceful of evergreens, and the most difficult to raise, and that it be recommended to those that can afford it. Agreed to.

The Red Cedar Mr. Overman has not succeeded well in raising from the seed. The seeds must often lie in the ground two years. A larger share of these than of other evergreens will grow without shade. The best plan is to plant them in boxes, and let them freeze two winters; keep them one or two years in the box. It grows more in the first year than any other evergreen; thinks the seeds must be frozen; never tried planting in wood-ashes; thinks nature has a process for germinating them more rapidly; that seeds passing through animals or birds will germinate early.

Red Cedar was recommended for extensive cultivation for low screens.

The American Arborvitæ was recommended for screens and hedges.

The Trailing Juniper and American Yew were recommended for lawns.

The Siberian Arborvitæ was recommended for ornamental purposes. Dr. Kennicott remarked that when it becomes cheaper, it will supersede the American.

Mr. Clark spoke of the Chinese Arborvitæ as a fine variety; improved by trimming.

The European Larch was recommended as an ornamental tree.

Mr. Chase has heard that White Pine and Hemlock grow best if cut close at the time of transplanting. Is it so? Most that gave any opinion strongly dissented.

Fruits were next taken up, and first the Strawberry.

Mr. Galusha named the Wilson's Albany as most prolific. Neck Pine bore neglect well. Hooker he preferred for flavor.

Mr. Kennicott would take Neck Pine and Virginia.

Mr. Galusha is satisfied to raise the Wilson's Albany as long as he can sell them at fifteen cents per quart, or even at ten cents.

The Neck Pine needs staminate plants near to impregnate them. Mr. Galusha inquired if any member has fruited the *Triomphe de Gand*.

Dr. Warder said the *Triomphe de Gand* is rather a poor bearer; all the runners should be cut off. Plant the Neck Pine thirty feet apart, and let it run; protect with a little straw, and you will hardly take pains to cut runners. I have seen this "contemptible Neck Pine" six inches in circumference; but that was an accident.

The Wilson's Albany is a fine bearer; bears neglect nearly as well as the Neck Pine, but he does not like the flavor. It is one of our best staminate varieties.

Mr. Galusha moved to recommend the Neck Pine, Wilson's Albany, and Early Scarlet. The Wilson's Albany an account of its fertility, every flower being hermaphrodite.

The McAvoy, Superior, and Longworth's Prolific were recommended for amateur culture, and the Extra Red for trial.

Of Currants Dr. Kennicott said—To have fine currants, you must cultivate them nicely, and make the soil rich. The Red and Black Currants bear manure better than any other Small fruit. They should be kept clean, trimmed well, set three feet apart in rows six

feet apart, and never set in the shade, except to prolong the season. Mr. Overman asked whether shade is not necessary to prevent a kind of blast.

Dr. Kennicott has seen it only on weak or old plants. In Central and Southern Illinois shade may be necessary. The Red Dutch, the White Dutch, the Victoria, and the White Grape were recommended, except for the extreme south of the State. Grapes were next brought up.

Mr. Whitney spoke of the Diana as doing well in the north of the State, making a fine grape, hardly distinguishable from the Catawba. He would never recommend for general circulation in Northern Illinois the Isabella and the Clinton.

Mr. Whitney's motion prevailed. Mr. Shaw would recommend for Central Illinois the Catawba, Clinton, and Concord.

Mr. Huggins moved to include the Isabella, Mr. Barry concurring, as it thrives in his culture at Alton.

Mr. Shaw accepted Mr. Huggins' amendment, but under protest that such is not his opinion.

The recommendation of Messrs. Shaw and Huggins was adopted. Mr. Freeman recommended for Southern Illinois the Catawba, Herbermont, and Norton's Virginia Seedling.

Dr. Schroeder said that the Missouri growers now call the last-named Hermann's Red Diamond.

Mr. Freeman grafts upon wild grape roots, in the spring, after the grape leaf is developed. Next year the wild root may be dispensed with by rooting in the grafted scion.

Mr. Freeman's recommendation for Southern Illinois was adopted. Dr. Warder would recommend that the Delaware vine be tried extensively; that is, by many persons; but not much by any one until it is cheaper, and until its qualities are better tested; at present it seems likely to be deemed the very best of grapes.

**Raspberries.**—Mr. Huggins would recommend for Central Illinois at least, the Allen Raspberry. Has had it for several years; it is hardy, an annual bearer, very prolific, and good. Its forming suckers is objected to; just treat them as weeds and clear them out.

The recommendation was agreed to.

Mr. Galusha moved to recommend for North and Central Illinois the Black Cap and the Purple Cane.

Dr. Warder says that it is not a new Raspberry, but has long been known under various names, and is always a favorite.

The recommendation was adopted.

Dr. Schroeder finds the Belle de Fontenay the best of nine varieties that he has; they were planted in low ground, four feet apart, and it is very sweet. He moved that it be recommended for Central Illinois. Agreed to.

Mr. Phoenix spoke in favor of the Orange Raspberry, for size, beauty and flavor it is superior; it is tolerably hardy.

Mr. Huggins never could get a mess from fifty or sixty plants of it. Others had had similar experience. It was said to be much approved along Lake Michigan, and in various northern localities.

Dr. Warder—Burying in the dirt don't pay; it is too much trouble, and there is risk of breaking the plants or of their being frosted or burnt. He cuts off his canes to six inches and turns a furrow against them. But trimming makes them late.

Mr. Phoenix—Along the Hudson River they take great pains to bury their raspberries, and realize five hundred dollars an acre by sales to New York.

The Brinckle's Orange was recommended for amateur culture in Northern and Central Illinois.

Mr. Galusha moved to recommend, of Gooseberries, the Houghton's Seedling and the Pale Red. The latter is known by several names. He sets the Houghton's Seedling in rows six feet apart, plant five feet apart. After gathering fruit, he spades the ground, mulches in the fall with litter and manure, and after the fruitage removes the straw and renews the process. Thus he gets large fruit. He thinks this fruit much neglected; it is bottled easiest of all fruits, and fine for culinary use.

Mr. Bragden says it is the most profitable of the small fruit for sale in Chicago market.

Dr. Warder—This berry sells best when it is half-grown. In Ohio they rake off the berries, with a little wire-rake, upon sheets spread under the bushes. For family use they make the best kind of tarts, pies and preserves—after they get ripe; he wouldn't touch them before. When green, they are sold at one dollar a bushel in Cincinnati.

The Gooseberries named were recommended.

Mr. Huggins moved to recommend the Lawton Blackberry for Central Illinois. It is fruitful, hardy, and very luscious when fully ripe.

The recommendation was adopted.

The Committee on Cherries for Northern Illinois recommended the following:—Early May, Belle de Choisey, Belle Magnifique, May Duke, Late Duke, and Reine Hortense.

Dr. Kennicott moved to add the English Morello. The Committee agreed, and the list was recommended.

Mr. Huggins moved to recommend the Myatt's Linnaeus and the Victoria Rhubarb for general culture. He also regards the Early Tobolsk as a valuable variety, because of its earliness, and it can be pulled all summer. It also requires less sugar than other sorts. It is small, and not the best for market. The Linnaeus is good all through the season and productive. The Cahoon is utterly worthless; he will not have it in his place. The varieties named were recommended for qualities named.

On motion of Dr. Kennicott, the Cahoon's Seedling was unanimously rejected as utterly worthless for general cultivation. The following were chosen Officers for the next year:

**President**—Dr. J. A. Kennicott, of Chicago.  
**Vice-Presidents**—Dr. E. D. Kitto, J. W. Wakeman, S. G. Minkler, Nathan Overman, J. H. Stewart, J. Huggins, — Hostetter, Charles A. Kennicott, and G. H. Baker,—one from each Congressional District.

**Corresponding Secretary**—O. B. Galusha, Lisbon, Kendall Co.  
**Recording Secretary**—H. C. Freeman, South Pass, Union County.  
**Assistant Recording Secretary**—C. T. Chase, Chicago.  
**Treasurer**—S. G. Minkler.

#### MERAMEC HORTICULTURAL SOCIETY.

The following are the officers of the Meramec Horticultural Society for this year:

**President**—Dr. L. D. Morse. Post Office—Allenton, Mo.  
**Recording Secretary**—William Muir. P.O.—Melrose, Mo.  
**Executive Committee**—T. R. Allen, Dr. A. W. McPherson, and L. D. Votaw.

**Corresponding Secretary and Librarian**—T. R. Allen, Allenton, Mo.

#### CHICAGO GARDENERS' SOCIETY.

The Annual Meeting of the Chicago Gardeners' Society was held at their rooms in Metropolitan Hall. The following officers were elected for the ensuing year:

**President**—C. D. Bragdon.  
**First Vice-President**—D. Worthington.  
**Second Vice-President**—C. Layton.  
**Secretary**—Edgar Sanders.  
**Treasurer**—John C. Ure.  
**Executive Committee**—J. Worthington, J. C. Ure, J. C. Grant, A. F. Williams.

**Librarian**—William Lumbard.

The President-elect, on taking the Chair, made a few appropriate remarks, in which he referred to the meeting of the State Horticultural Society, which is to take place in this city in December next, and pressed upon members the necessity of preparing therefor.

Messrs. Kennicott, Sanders and Chase were appointed a Committee to Revise the Constitution and report to the next meeting.

The Committee on Procuring a Herbarium reported progress.

Mr. Wakeman's paper on Fruit Culture was deferred until the next meeting, January 21st, to which time the meeting adjourned.

#### CONNECTICUT GRAPE-GROWERS' CONVENTION.

The Annual Meeting of the Connecticut Grape-Growers' Association was held at the New Haven House, New Haven, January 8th. After the reading of the annual reports, the ballot for officers resulted as follows:

**President**—Col. D. S. Dewey, of Hartford.  
**First Vice-President**—C. S. Middlebrook, Bridgeport.  
**Second Vice-President**—E. A. Holcomb, Granby.  
**Secretary**—M. C. Weld, Hartford.  
**Treasurer**—William H. Riskey, Berlin.

Voted, That the Association offer Premiums for Grapes and Wines presented at the next Annual Meeting; and that the officers of the Association be a Committee to carry out the design of this vote, at their discretion.

The following resolutions were unanimously adopted:

**Resolved**, That it is the opinion of this Society that those tried varieties, the Isabella and Catawba Grapes, ripen well in many parts of this State—especially along its southern shore; but that, unless the situation be very favorable, neither (and particularly the Catawba) will ripen in its more elevated portions.

**Resolved**, That the Hartford Prolific and Concord are grapes that will generally ripen well throughout the State, and hence are to be recommended.

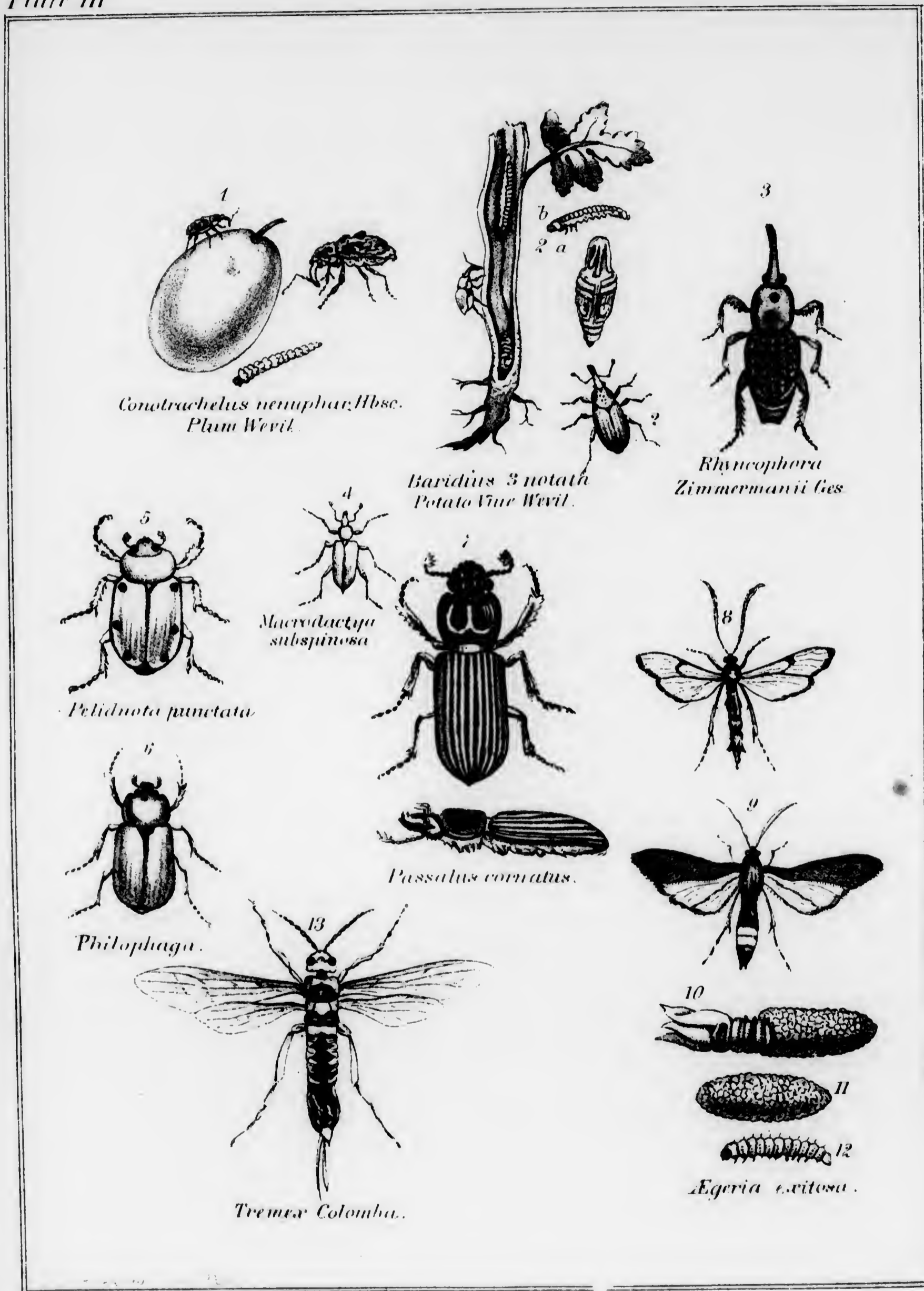
**Resolved**, That the Diana Grape has been quite extensively tried and approved, and is to be recommended as quite sure to ripen in all fair exposures and for its great excellence.

**Resolved**, That the Delaware Grape now promises exceedingly well, but has not extensively fruited that we can, from personal knowledge, give positive assurance that it is worthy the high character claimed for it by many.

**Resolved**, That the Rebecca Grape has been sufficiently tested to show that it is a fruit of good promise and excellency; hardy and likely to ripen, at least, in good exposure.

Mr. E. S. Elmer, of Hartford, presented three varieties of grapes—Dianas, Isabellas and Catawbas—preserved in cork-dust. The Dianas were remarkably plump and fresh, showing a peculiar excellence in that variety.

A sample of wine, made in 1858, from the juice of the Hartford Prolific Grape with the addition of 1½ lb. good brown sugar to the gallon was tried, and universally pronounced a remarkably fine dry wine.



*Conotrachelus nemophilus* Hbosc.  
Plum Weevil.

*Baridius notatus*  
Potato Vine Weevil.

*Rhinocophora*  
*Zimmermanii* Ges.

*Macroductya*  
*subspinosa*

*Pelidnota punctata*

*Philophaga*

*Passalus cornutus*

*Tremex Colymba*

*Egeria cecitosa*

# THE GARDENER'S MONTHLY.

DEVOTED TO  
Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR. MARCH, 1861. VOL. III.—NO 3.

## Hints for March.



### FLOWER GARDEN AND PLEASURE GROUND.

MANY things that appear frosted a little at the tops should be severely cut down; it will prevent disappointment in the end. Shoots that are injured in winter—especially in the case of the rose—will often have just sufficient vigor left to enable them to put forth leaves, and sometimes even go so far as to attempt to flower, and then die off suddenly under the first hot sun.

This is the proper season to lay down box edgings. To make them properly, the soil along the line of the edge should be first dug, and then trod very hard and firm, so that the soil may sink evenly together, or the line will present ugly looking undulations in time. Rooted plants should be employed; cuttings are sometimes used, but frequently die out in patches,—a good edge can rarely be made from them. The plants should be set pretty low down, leaving the plants, when set, one or two inches above the soil, according to their stockiness. Sometimes box-edgings are laid around beds formed in grass. When so, a few inches of clear ground should be kept clean between the grass and the box, or the weeds will be so intermixed with the box after a while, as to render it a nuisance.

Walks should now have their spring-dressing—the verges cut, and a thin coating of new gravel laid on. Before putting on the new, harrow up the face of the old gravel with a strong iron-toothed rake. Roll well after the new is laid on.

Planting trees will require particular attention now; but do not be in a hurry the moment the frost is out of the ground. Cold winds are very hard on newly set out trees. Wait till they are gone. Always shorten-in a little the shoots of all trees planted.

They will grow the faster for it, and are more certain to live. Evergreens should be left to the last.

As soon as the frost is thoroughly out of the ground, and while the surface is yet soft, lawns should have a thorough rolling, which will not only tend to level the surface, but also press into the earth the roots of any of the finer grasses that the frost may have drawn out. Lawns frequently become coarse, by this operation of the winter season. If the grass is poor and thin, a top-dressing of guano and salt may be applied before the rolling. Stable manure injures fine lawns by introducing coarse weeds. Soot or wood-ashes are excellent for giving lawns a fine green color. In making new lawns a deep soil is very important. In shallow soils the soil soon dries in hot summers, and the lawn becomes brown when its green is the most desirable.

### FRUIT GARDEN.

It would be impossible to recommend to our readers the best fruits to grow, any more than the best flowers,—local circumstances having much to do with the comparative value of fruits; but the following six in each class will be found under most circumstances reliable and worth growing:

GRAPES—Isabella, Concord, Diana, Delaware, Clinton, and for a white probably Taylor's Bullitt, though it has not been tested to the extent we desire for recommendation in this column.

CURRENTS—Red Dutch, White Dutch, Black Naples, May's Victoria, Versailles, and the Cherry to "look at."

RASPBERRIES — Orange (Brinckle's), Catawissa, Franconia, Belle de Fontenay, Allen, and true Red Antwerp.

STRAWBERRIES—Hovey's Seedling, Albany Seedling, Triomphe de Gand, Longworth's Prolific, Early Scarlet, Peabody's Seedling.

APPLES FOR DWARFS—Gravenstein, Red Astrachan, Indian Rareripe, Fall Pippin, Lady Apple, Bough.

STANDARD APPLES — Baldwin, Rhode Island Greening, Early Harvest, Smith's Cider, Fameuse, Porter.

PEARS FOR DWARFS—Belle Lucratif, Louise Bonne, Beurre Superfin, Rostiezer, Beurre d'Anjou, Urbaniste.

STANDARD PEARS—Bartlett, Seckel, Beurre Giffard, Sheldon, Lawrence, Beurre Diel.

PLUMS—Jefferson, Washington, Green Gage, McLaughlin, Bleeker, and Prince's Yellow.

CHERRIES—May Duke, Black Tartarian, Early Richmond, Governor Wood, Downer's Late, Coe's Transparent.

PEACHES—Early York, Late Heath, Crawford's Late, George IV., Crawford's Early, Morris' White.

We have before remarked that fruit trees and bushes should invariably be cut in severely, and not allowed to bear the same season of planting. It is a fatal mistake to look for fruit the same season of setting out the trees. This is at the expense of future growth, and without future growth there will be no future crops.

Raspberries, Blackberries, &c., frequently bear and die when so treated. The canes should be cut back to a few inches on transplanting. Raspberries for fruit in fall should always be pretty well cut back. It is not essential with the regular fall-bearing kinds, but it aids them much.

Grape-vines in the open air, on arbors and trellises, should have their pruning finished before warm spring days set in, or they will bleed. It does not injure them much, but it looks bad. The pruning must be regulated by the condition of the vine. If the vines are young and the shoots weak, cut them all back, to make a new and vigorous growth. If already a fair quantity of strong shoots of last season's growth exists, cut out the weaker ones, so as to leave enough of stronger ones. The cane system, slightly modified, is best for arbors and trellises in the hands of amateurs generally. This implies a new set of canes every year or two. If, as frequently happens from bad management, all the young and strong-bearing wood exists only at the end of the vines,—and these latter have become nothing but long, rosy-looking apologies for what a vine should be; the whole cane may be buried down in the soil to where the strong shoots spring from, and the young wood of last season trained up from this. The plant will then recover its good appearance quite as well as by cutting down, with the advantage of not sacrificing a year's crop of fruit.

Many kinds of raspberries, especially in dry soils, have a tendency to throw up innumerable suckers. These should be thinned out. Three or four canes are enough to leave in a "hill." We like, however, to grow raspberries in rows, where each cane may have a chance to enjoy an independent existence of about a square-foot of soil for itself.

The strawberry, also, pays well for being well thinned out. Formerly Cincinnati used to carry off the palm for strawberry culture. All the thinning they there get is by horse-harrowing them. Fifty

bushels to the acre, under that system, was thought to be a fair average crop; but other localities, by a careful system of hand-culture, in thinning and cutting away runners, have borne away the palm from the Queen City of the West, and boast of their two hundred bushels to the acre, and above.

#### FORCING.

In our March number for 1859 we gave the following hints under this head, which, as the facts relating to the necessity of healthy foliage are not generally recognized, and also as nearly two-thirds of our present readers were not then subscribers, it will be novel to many to repeat:

"The earliest houses will now have their grapes about stoning, which is one of the most critical periods of the fruit season. If any check is experienced, the grapes will be small, or perhaps fall off altogether. If they do not fall, they stand still for some weeks, and thus are not only inferior in size, but they are so much later than they otherwise would be. The temperature should be raised, if any thing, and particular attention paid to its regularity, as well as so the regularity of the atmospheric moisture and air. The foliage, also, should be carefully guarded from the injuries of mildew, insects, or other evil. Many more diseases than gardeners think for are caused by injuries to the foliage. The first leaf that appears should be the one the last to fall, as near as may be. The nearer this can be achieved, the healthier will the vine be, and the more certain will it be to carry its fruit through to perfection. Some will depend on their soil, others on their pruning, others on the build of their houses, others on their general management, and each class fancy their success has depended on these matters, because others who had not paid attention to these matters failed. But the probability is in every case, that the vines did well, because, from some chance, the foliage remained healthy.

"A stock of fruit trees for next year should now be potted in 12-inch pots, choosing those which will make the handsomest trees. It is only a matter of course to repeat that the soil should be coarse and open, and well-drained. After potting, they should be severely pruned into shape, and the pots plunged into any spare piece of ground where they will be sheltered from the wind. Here they may remain all summer, being taken out and re-set in the plunging place about twice during the season, to break off any roots that may be growing through the hole in the bottom of the pot.

"Grapes, in pots, intended for next year's fruiting, should, of course, be kept in the house to grow all summer. Those who have not the advantage of any

but a cold house, or with but a very little heat, may start vines for pot-culture about this time. Choose good strong plants in six-inch pots from last season's eyes. Cut them down to one strong eye, and set in the warmest part of the house. As soon as the eye has pushed forth into growth an inch, shake it out of the pot, reduce the fibres, and repot into a 12-inch, with rich, coarse, turfy soil, well drained. Keep it as warm as possible, and as soon as it has grown six or eight eyes in length, pinch off the point. This will induce the part left to grow stocky, and, if care be taken to keep the leaves healthy through the year, these eyes, though close to the pot, will produce nearly as good bunches as those on the top of the vine. After the pinching, the shoots that afterwards becomes the leader may be allowed to grow five or eight feet long before finally stopped."

#### GREENHOUSES, &c.

At this season of the year the aphid, or green-fly, is one of the most troublesome of nuisances, though all insects are more or less active at this life-invigorating time. So many modes of destroying insects have been given in our last volume, that the cultivator of plants has a good choice to please his taste from. Where green-fly prevails badly, and is pretty general through a house, nothing is better than tobacco-smoke, as it penetrates easily and effectually through every part of the enclosure. Yet it is dangerous when in unskilful hands. Three light doses three successive nights are better for the plants than one strong dose, and the insects are more effectually destroyed. Any old vessel does to contain the tobacco-stems. The bottom of the vessel should have paper that has been steeped in a solution of saltpetre and dried, put in the bottom, to be lit when ready. This is much better for the plants than the live coals often used.

Be careful of houses taking fire. Every week we hear or read accounts of such losses. Wood will, in the course of time, take fire a long way from the furnace or flue. While it is new, there is little danger, even if the wood is nearly in actual contact with the work, but every year adds to the risk.

We have seen wood-work take fire four feet from the flue, that had already been there several years safely before. Of course, iron should be preferred wherever practicable in all places where danger may be apprehended; and, in some instances, it is cheapest without the usual cautious provision of in the "long run." For gangways in conservatories, for instance, we have seen oaken work employed that could not have cost less than ten or fifteen cents per foot, when cast-iron, at three or four cents per pound, would certainly be cheaper. The pathways in

the conservatory of Captain H. Ingersoll, near Philadelphia, afford an excellent illustration of the relative value and cheapness of iron over wood.

There is no doubt about plants requiring all the sun-light they can get; and they should be frequently turned round, so that every part of the plant, in turn, should profit by its influence.

Continue to watch for plants requiring repotting. When the oldest leaves on a growing shoot show symptoms of premature yellowness, it is usually the best sign that it requires nutriment. When the younger leaves become first yellow, the injury is traceable most frequently to external causes,—dry air, too much root moisture, escape of gas, &c.

Ventilation is very important; but at this season of the year, the top sashes only should be opened. Injury frequently results from opening doors or side sashes.

Fuchsias must be repotted as the pots become filled with roots. They like rich soil, and do best grown rapidly. The pyramidal form is the best to train them to; it suits their habit of flowering best. If they do not seem to branch out enough to make well-furnished cones, pinch out the leading bud, and train up a new one to replace it. Plenty of light and a rich soil, however, usually induces them to break freely enough. The following are six good old kinds, easy to be procured, that may do to start a collection with:—Guiding Star, Rose of Castile, Souvenir de Chiswick, Macbeth, Fairest of the Fair, Gem of Whitehall. Six newer ones for those who wish to be up to the times:—Sir Colin Campbell, Little Dorrit, Isa Craig, Flower of France, Leoline.

Calceolarias will soon be pushing up flower-stems, and as they are amongst the showiest of summer-blooming greenhouse plants, too much attention cannot be given. They suffer very much from a badly-drained soil. They have ceased to be a florist's flower here, and are raised annually from seed.

Of the new Verbenas many fine novelties are introduced this season. Amongst the best six good ones we may name are:—Madam Gonaud, Ocean Pearl, Garibaldi, Delicatissima, Baron Renfrew, Firefly. Mr. Dreer's seedlings, advertised in our last, we have only seen cut specimens of, which were decidedly good. Parties who have seen them growing tell us they are, besides, splendid bedders.

It is time Chrysanthemums are struck, if fine specimens are desired for fall-flowering in pots. The following are six first-rate pompones:—Fleur-ette, Brillante, Cote d'Or, Mignonette, Madam Martin, La Precieuse. Large-flowering kinds:—Virginia Miellez, Remus, Cassandra, Eclipse, Vesuvius, Marshall Duroe.

It is time to start Dahlias. People got into a fashion, a few years ago, of setting out whole roots. These bloom very early in summer, about the time hot weather sets in, and are stunted before the cool weather of fall—the natural time for fine Dahlias. Ground-roots of last year should always be sprouted, and new plants raised from these sprouts as one would do with a sweet potato. A very good plan is to shorten the ends of the tubers so as to get the root within a reasonable sized pot, and, after covering with soil, set the pot in a hotbed or greenhouse. After a few weeks, several sprouts will appear around the stem. Then the whole root should be shaken, and the root divided through the crown, retaining a piece of root with a sprout. Then pot each piece into a separate pot, and set out in the open ground in May. Nurserymen who wish to propagate extensively, take off usually only the sprout, and treat it as a cutting; but for amateurs the above is the best way. Six good old Dahlias we would name:—Amazon, Unanimity, Dr. Gullez, Lady Cathcart, Col. Wyndham, Pre-eminent. Six first-rate:—King of Portugal, Duchess of Wellington, Adrain Carmaival, Prince Albert, Alba floribunda, Mrs. Edwards.

The good gardener will not, of course, forget what plants he will require for bedding purposes, and should any be found short, propagation will yet actively go on. Phlox Drummondii, Mignonette, Acroclinium roseum, Sweet Alyssum, Globe Amaranthus, German Asters, Browallia elata, Candy-tuft, Clarkias, Collinsias, Escholtzias, Erisimum, Fenzlia dianthiflora, Gaillardias, Gilias, Linum grandiflorum, Loazas, Lobelias, Lupines, Maurandias, Mimulus, Nasturtiums, Nemophila, Palafoxia, Phacelia, Salpiglossis, Thunbergias, Silenes, Stocks, and Whitlavia grandiflora are mostly annual flowering plants of considerable beauty, that are advantageously sown early in a greenhouse, to forward early to plant out in spring. They do better in a hotbed where that can be commanded.

## Communications.

### INFLUENCE OF FLOWERS.

BY S. L. B., BROOKDALE FARM, MAINE.

TRAVELLING recently through the northern part of Somerset county, I was obliged to remain for the night at the home of a couple somewhat advanced in life; the wife, however, many years younger than her husband, who having accumulated something of this world's goods, lived in a quiet and humble way, the husband working his small plot of ground and taking care of his pig and cow, and the wife devoting

her time to household pursuits, manufacturing domestic cloths, and tending her flowers.

The yard between their cottage and the public road was somewhat limited, and enclosed with the roughest board fence. This yard was completely filled with flowers, and although not arranged with much regard to correct grouping or display; and so closely set as to make it difficult passing among them, yet their many colored hues and fragrant odor rendered the spot very attractive and made a little paradise of the yard, contrasting wonderfully with the bleak and uninteresting scenery amid which their cottage was situated.

The collection embraced about sixty varieties, chiefly of the more common kinds, and the verbena, dahlia, petunia, hollyhock, geranium, &c., &c., were prominent among the list. It was evident that the flowers received a large share of the good lady's time, and I admired her love and admiration for them. "My husband," said she, "tells me I worship them, but I do not think I do; for, surely they are His flowers, and the work of the kind Creator; why should I not then love and admire them?"

Standing on each side of the walk near the rude gate at the entrance to the yard, were two horse-chestnuts (*Æsculus hippocastanum*), which are very uncommon in the vicinity, and the old gentleman looked upon them as a decided acquisition, not only from their extreme rarity, but because they were such a beautiful ornamental tree, and because he brought them himself from the State of New Hampshire. From this I inferred that the old gentleman had some natural love for trees and the beautiful in nature, and just said to him that I took pleasure in the culture of flowers and trees, and was glad to find his wife a lady of so much refinement and with such a love for the beautiful. "Well," replied the old gentleman, in his old fashioned way of speaking, "flowers be kinder pooty."

So it is the world over, in all countries, under any clime, among all tongues, with the rich and poor, flowers are objects of universal admiration and love. Their cultivation tends to improve health, purify the heart, elevate the affections, and ennoble man's nature. He who has a love for the culture of flowers cannot but be a person of refined feelings, religious nature and a generous life. If the rich man can indulge his fancy in having elegant conservatories and every rare and beautiful tree, plant or flower, so can the poor cottager or small farmer have his flower bed of limited size, and containing only the more common varieties, and the pleasure derived from its study and care, without doubt, will be as great as that which his wealthy neighbor enjoys.

Wealth is not necessary in order to have a taste

for flowers, yet a person of wealth can better show his love for them than one who has not the means for their extensive cultivation. Their influence is not confined to the wealthy class; they give a charm and beauty to even the humblest occupation, and convert the rough and uncultivated nature to one of refinement and gentleness.

### ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(Continued from page 7.)

#### INJURIOUS INSECTS.

WE come now to the consideration of a little insect which has despoiled the Fruit-grower of more of the products of his labor, and has given him more anxiety, perhaps, than all the insects we have heretofore named put together, and has thus far baffled all his skill and ingenuity in the discovery of a certain remedy to counteract its devastations. We allude to

24th. *Rhynchenus (caotrachelus) nenuphar*, Hbst. or "Plum Weevil." Very generally alluded to as the "Curculio." Plate III. fig. 1. Length about one-fifth of an inch; color dark brown or blackish, varied with spots of whitish or ochrey yellow; thorax uneven and rough; the wing covers have several short ridges upon them, forming a sort of a hump, behind which there is a band of ochrey yellow and white. This insect begins to deposit its eggs into fruit as soon as it is set, making a small crescent-shaped incision with its sharp little mandibles on the end of its snout, into which it lays an egg. The larva is a small, whitish, footless grub, very much like a maggot, except that its head is very distinct. The irritation caused by the presence of this grub in the fruit is the cause of its disease, and dropping prematurely from the tree; after which the insect burrows into the earth and completes its transformations there. Observers of this insect by no means agree in all the points of its economy, yet they are tolerably unanimous in condemning it as an arch destroyer of fruit, and especially the Plum crop. For this reason it is almost universally known as the "Plum-weevil," although it is also found in cherries. But it appears that it does not confine itself to these fruits, for, according to some observers and writers, it also attacks nectarines, apricots, apples, peaches and pears, although we must not confound the larva of the Apple-moth (*Tenia pomonella*) with that of the curculio. The former has six feet, whilst the latter is entirely footless. Dr. Harris says he has met with this insect in Massachusetts, as early as the 30th of March, and as late as the 10th of June. I have myself found large numbers of curculios of different species under stones on the sunny side of hills in the first week in March, and I have also found them in the fall under the same circumstances. It is pretty certain that they bring forth two broods in one season, and also that they undergo their transformations in the ground. On examining some plums lying upon the ground, on the first of June, I found that some of the larva of the Curculio had already left the fruit and gone into the ground. From this it would seem that those which are found in the green plum and the ripe plum, as well as those found in ripe cherries, apples, peaches, &c., are of different broods; for, according to the most reliable observations that have been made, it requires about three weeks to complete their transformations after they enter the ground. We dissent from the opinion that the insect under consideration is the cause of the warts or "black-knots" on the plum and cherry trees, although the larva of this, as well as other species of curculio, and also various species of "gall-flies" (*Cynips*), are found in these knots in their green state. In their dry and cracked state, they also form a shelter for curculios and other insects. Enough has been said and written in regard to the habits and peculiar economy of these insects, and yet there seems to be a lack of knowledge among the masses of men concerning them, and no certain remedy against them. All insects are endowed with instincts and capacities, which enable them and which lead them to make suitable provision for the preservation and perpetuating their species; and they will follow the lead of those instincts, unless baffled by supervening contingencies. None are more highly endowed in this respect, perhaps, than the curculio. The prudent female surveys the ground beneath the tree, and if she finds it a hard paved surface, a beaten path, a pond of water, or a pig-stye, or an enclosure for the retention of fowls, she rarely selects such a tree, or such part of it as overhangs such a conditioned surface, upon which to deposit her eggs. Her instincts teach her that her progeny would be trodden to death, or drowned, or destroyed by their enemies, before they could make their way safely into the ground. This characteristic of the curculio is so marked, that almost every observer is able to give examples of it; and this peculiarity, also, might suggest a partial means of preventing the destruction of the fruit crops, although it might not be a permanent cure, because a universal adoption of such a plan, without some means of destroying the insect itself, might

"drive it to the wall," and compel it to deposit its eggs *anywhere* or under *any* circumstances. Still, such a plan might, in time, so far diminish their numbers as to render them powerless for any material evil, or, at least, circumscribe its limits.

25th. *Baridius trinotatus*, Say.—"Potato-weevil." Plate III. Fig. 2. Length, three-twentieths of an inch; body covered with whitish hairs, giving it a grayish appearance; two black dots upon the hinder angle of the thorax, and one upon the scutellum, making three, from which it derives its trivial name. I was acquainted with this insect long before I knew it injured the potato. They lay their eggs in the axils of the leaves of the potato-vine, and the young grub, immediately after exclusion from the egg, burrows into the vine downward towards the roots, undergoing all its transformations there. The perfect insect comes forth in August and September. Having often found these weevils under stones and in crevices of fences, or under bark in fields and woods, I am led to believe that they remain active and survive the winter, depositing their eggs upon the potato the next season. They are said to remain in the pupa state only two weeks. They are becoming very common in Pennsylvania, although not much known in the Eastern States. Eating the heart or pith out of the potato-vine, they cause it to wilt, as if it were scalded, and have been known to be very destructive about Germantown and Philadelphia in 1849. Syringing the plants with water, or, immediately after a shower, sprinkling them freely with air-slacked lime, I think, would be as beneficial in this case, as I know it is in destroying aphids. *a* and *b* are the pupa and larva.

26th. *Rhyncophorus Zimmermani*, Schon. "North American Palm Weevil." Plate III. Fig. 3. Length, including extended snout, from one and a quarter to one and a half inches. Color, black, or dark brown, with black spots on the thorax, and one or more on each wing-cover; thorax smooth, and wing-covers deeply lined lengthwise. This is the largest weevil we have in the United States; a larger species, called the Palm Weevil, (*R. palmarum*), is found in tropical regions and South America and the West Indies. I have only introduced this insect here because of its large size, and in order to impress its *form* upon the mind of the reader. The larva of these palm weevils are large, yellowish, fatty grubs, when matured, over three inches long, and are regarded as a great delicacy among the swarthy epicures of St. Domingo. They burrow into the stock of the Cabbage Palm, and also other palms, from whence they are taken for the table.

27th. *Passalus cornutus*, Fab. "Black Oak Tree Borer." Plate III. Fig. 7. Length, one inch and a half, sometimes less; color, shining black; a deep longitudinal line in the centre of the thorax; a short, blunt horn, bent forward, on the head; wing-covers deeply marked with longitudinal raised lines; legs rather short; larva, a large white grub, thickened towards the anterior end. This insect is often found in great numbers in old oak trees or laying logs. I have found it in White Oak, Black Oak, and Walnut. It appears to be partial to dead trees, but is often found in the heart of living oaks; and if ever it should attack fruit trees, from its large size, it would be capable of doing much injury.

28th. *Philophaga quercina*, Harris. "May Beetle." Plate III. Fig. 6. Length, about one inch; color, brown; legs, long, and slender towards the ends; antennæ, lamellated at the ends, opening like a little fan. Appears in May and June. Very destructive, in the larva state, to the roots of vegetation, and in the mature state destructive to the foliage of trees. But they have many enemies, and are rather an awkward insect, and, therefore, fall an easy prey. Domestic fowls are exceedingly fond of them, and so are crows. They are also eaten by skunks, toads, and moles. They belong to the Melolonthons,—a family which has been very destructive to vegetation in Europe, undermining and eating away the roots of grass and grain, where they are sometimes gathered by bushels and destroyed. Their number in this state is on the increase yearly.

29th. *Pelidnota punctata*, Linn. "Grape-vine Beetle." Plate III. Fig. 5. Length, about one inch; color of the wing-covers, a dull brownish-yellow, with three black spots on each of them; the thorax is darker colored, with two black spots, and bronzed; the legs and the body beneath are also bronzed. The larva of this insect lives in decayed wood; but the perfect insect, when it appears in great numbers, is very destructive to the foliage of the grape-vine. Appears in June, July, and August.

30th. *Macrodactyla subspinosa*, Linn. Plate III. Fig. 4. Length, about seven-tenths of an inch; body, slender, tapering before and behind, and entirely covered with a short ashen-colored down; legs, slender, and of a pale yellow color. The prevalence of this insect on the rose has gained for it the common name of Rose Chaffer or "Rose Bug." It appears in June and July, and destroys indiscriminately all kinds of vegetation when occurring in great numbers, but especially roses. Messrs. Engle and Windolph informed me that this insect had almost totally destroyed their crop of grapes during an absence from home of three or four days. They attacked them in the bloom, which they cut off, leaving nothing but the stems. These insects also attack the cherry, both fruit and foliage; hence they are called "cherry bugs,"—also apple,

pear, plum, and fruit trees and shrubbery in general. Sometimes they are found in great numbers upon the elder, also upon corn, rye, wheat, and vegetables and grasses of the fields. The females deposit their eggs in the ground in July and August, after which they come forth again, and soon die. The grubs are destructive to the roots of vegetation.

The foregoing insects remarked upon, belong to the order *Coleoptera*; and although the number presented is small and rather indiscriminately selected, yet time and opportunity would not allow a larger or a better one on the present occasion. Very little has been said about specific description, because this would have involved an extension of these remarks to twice their present magnitude. Descriptions of *all* of them, and illustrations of some of them, as well as extended notices of their history, may be found in "Say's American Entomology," "Harris' Treatise on Insects Injurious to Vegetation," "Dr. Asa Fitch's Reports of the Insects Injurious and Beneficial to Vegetation in New York," "Jeager's Life of North American Insects," "The Proceedings of the Academy of Natural Sciences of Philadelphia," "The Pennsylvania Farm Journal," "Massachusetts Agricultural Reports," "The New England Farmer," "Moore's Rural New Yorker," "The Country Gentleman," "Domestic Encyclopædia," "The Horticulturist," "The Farmer and Gardener," "The Progressive Farmer," and other scientific and horticultural and agricultural journals and records. Specimens, however, of the insects *themselves* are submitted, because a clearer idea may thus be formed of them than any written description can convey.

Before concluding this branch of the subject, it may not be inappropriate to submit one or two other insects, belonging to the orders *Hymenoptera* and *Lepidoptera*. These insects, although belonging to different orders, yet bear some general resemblance to each other in their *appearance*, and quite as much in their *habits*, both being tree-borers. A large number of leaf-eating insects in their larva state might properly have been inserted here; but the main object of the essay was to point out some of the more common *wood-boring* and fruit-destroying insects. The former may constitute material for a future paper. Circumstances at the present time impose a necessary limit to this paper, and that limit, therefore, must exclude many things which ought to have been introduced, and which would, doubtless, be both interesting and beneficial for the gardener and fruit-grower to know. One of the insects alluded to in these concluding remarks is, perhaps, not much known yet among fruit-growers; the *effects* of the other are well known.

31st. *Tremex colomba*, Linn. "Pidgeon tremex." Plate III. Fig. 13. Length, including ovipositor, about one inch and a half; expansion of the wings, from two inches to two inches and a quarter; head and thorax, rust-colored, varied with black; abdomen or hind body, black, with seven ochre-yellow bands across the back, the first two of which are entire, and the others interrupted; ovipositor and legs, ochre-yellow, with darkish thighs. Bore into and destroys trees. Usually found on elm trees in August and September, where the females deposit their eggs, and in which the young grubs live. They have also been known to bore into and deposit their eggs in pear trees, causing their gradual decay and death. This is one of the wood-eating *Hymenoptera*, but must not be confused with those that bore holes into wood for the purpose of making cells for their young, filling them with the necessary food to sustain them. The female of the species under consideration penetrates the bark of the tree with a saw-like apparatus, and deposits her eggs in the orifice, which hatch out, and then bore, in their larva state, into the solid wood. I once purchased a piece of black cassimere in Philadelphia, which was wrapped around a piece of elm wood in which there had been two of the larva of these Tremexs, and the matured insects cut their way through some fourteen or fifteen layers of cloth, but died before they reached the surface of the piece, making as clean a cut hole as if it had been burned in with a hot iron rod. They are preyed upon by a species of *pimpla*.

32d. *Egeria eriliosa*, Say.—(Male and Female.) "Peach-tree Borer." Plate III. Fig. 8 male 9 female, 10 empty pupa, 11 cocoon, 12 larva. Expansion of the wings, about an inch in the male, and an inch and a half in the female; form slender, and color dark blue; the abdomen of the male having a tuft at the end, and that of the female having a broad orange-colored band around it near the end; all the wings of the male are transparent, with a bar across the anterior pair a little beyond the middle; the anterior, or front wings of the female are steel blue, and the posterior pair, or hind wings, are transparent. The grub is whitish, with a few sparse hairs upon it, and the cocoon and the pupa are light brown, the former spun out of silky fibre and covered on the outside with the cuttings of the peach tree. Peaches have been suffering so much in and covered on the outside with the cuttings of the peach tree. Peaches have been suffering so much in the last few years from other causes, that this borer has not given so much anxiety as formerly. Still it is best to prevent their injuries to the tree, so that when all other things are favorable to a good crop, it may not be prevented by the injuries of this insect. The remedies for its destruction are numerous, and no doubt peach tree growers will be able to suggest something more practical and useful than I can. This insect evolves from the pupa during the month of July, and deposits its eggs in that month and in August. It sometimes appears earlier and later; but generally, if the trees are well looked after during those two months, they are likely to escape. It takes a whole year for the insect to mature. The *Egerians* belong to the order *Lepidoptera*, which includes the butterflies and moths.



## RENEWAL OF OLD CANES IN THE VINERY.

BY WILLIAM BRIGHT, PHILADELPHIA.

It is with much pleasure that I reply to the criticisms and inquiries of Mr. Chitty, in respect to the restoration of old and exhausted vines in the graperly. A fair and candid discussion of my views of grape-culture, on practical or scientific grounds, I freely court. Mr. Chitty is one of the most honest and intelligent opponents of my system that I have yet encountered, and I will meet his objections in a spirit of generous courtesy. To accomplish my present object most effectually, it will not suit me to reply to his remarks in detail. As I do not propose to do what he supposes, I can best explain my views by showing what I really do and do not propose.

First, then, I have not proposed to cut down vines but three or four years established, and planted with a view to working on the spur system. Only where such vines have borne five or six crops, and have become exhausted, have I suggested cutting them down; and this suggestion was made more as an illustration of a principle in vegetable physiology, than as a part of my system. This principle is, that an old cane, fruited constantly the whole length of the rafter, cannot at the same time produce a crop of fruit, and a layer of new wood and new roots adequate to carry off a subsequent crop of fruit with undiminished power. Cutting down an old vine to get a new cane, is a simple and well-known practice. I do not base the originality of my plan of grape-culture upon this; but I base it upon the capacity of the grape-vine to produce a new fruiting cane in one season, and upon the application of this fact to a new and specific system of planting, pruning, and general culture, having several new and peculiar points of practice.

As a practical question in relation to the restoration of old canes in the vinery, I think I should prefer to attempt the renewal of an exhausted cane, not by cutting down, but by *laying down* the whole vine, either in a coil, or by running it back and forth across the border, a few inches under the surface, and bringing up the top of the cane at a well-developed bud. A vigorous cane, not exhausted by constant cropping and lack of foliage, will, after it has been cut down, send up a good fruiting rod in one season. But an old exhausted cane, long-spur-pruned, if cut down, would probably break very feebly, (perhaps not at all,) and in any event might require to be cut back twice before a vine suitable for fruiting could be obtained. But, by the laying-down process, a new and perfect fruiting cane would be produced in one season, with new and abundant roots, near the surface of the border, and it would also

have the aid of the old roots till it got established.

I may here call the attention of Mr. Chitty to the fact, that while he opposes the frequent cutting down of canes as a means of maintaining their vigor, his own statements most powerfully sustain my views of the value of this practice. He says that Mr. Mitchell, an eminent grape-grower at Brighton, England, spur-pruned his vines for sixteen or eighteen years, with the best results. These old canes for many seasons produced the best grapes exhibited at Chiswick and Regent's Park, and ably resisted mildew. But mark the context. Mr. Chitty adds: Mr. Mitchell "used, however, to adopt Mr. Bright's renewal system occasionally, when the crops failed to set good, or the vines became unsightly." Now, I ask, again, why wait till the vine is exhausted and crops fail, before renewal? Why wait till the horse drops down on the road, before you stop to feed and refresh him?

I repeat, I have never proposed the renewal of old canes in the vinery, when planted for spur-pruning, by cutting down, except by way of illustrating the scientific principles involved in the practice; but I do propose a new plan of planting vines, viz: two feet apart in the border; a new method of stopping, pruning, and fruiting; with the constant renewal of the vines every other year (after each fruiting season) by cutting down the entire canes, and growing up new fruiting rods, composed entirely of wood of one year's growth; and all this, in my vanity, I call Bright's single-stem, dwarf, renewal system of grape-culture.

The advocates of spur-pruning in the graperly and of rambling vines in vineyard or trellis culture have opposed my system, because, they say, my vines are too dwarf, and my pruning is too close, and does not give foliage enough. To meet these objections, I have adopted a method of practice which early suggested itself to my mind, but which I have now reduced to an absolute rule, and added it to my system, viz: never to fruit but half the length of my rafter, or half the length of my trellis, no matter what length or height that may be, whether six feet or forty feet, and to let the vines run up the remaining portion of the rafter or trellis while fruiting, thus providing a growing cane and fresh masses of foliage above the fruit, of the same extent as the fruiting cane.

The science of vegetable physiology teaches us that abundance of large, well-developed vine-leaves are necessary to convert crude sap into the elements of vine-wood, vine-roots, and perfect grapes. Now, consider the condition of an old, exhausted, spur-pruned cane, fruited the whole length of the rafter, with small and imperfect leaves, and no great abundance of them, with a tough and dried-up cane,

nearly all heart-wood and a very thin layer of new wood, as contrasted with a fresh one-year-old cane, all new wood, fruited only half its length, and the remaining half devoted to the production of foliage only, with leaves often a foot or more in diameter. Which of these two sorts will possess the larger amount of useful foliage—the greater sap-converting power? Which will produce the larger crop of perfect fruit? This last is the question which the editor of the *Gardener's Monthly* justly wishes to see practically answered. I reply, that I have already done something, in the fruiting way, towards giving satisfactory evidence on this point, and I have abundance of native and foreign vines grown upon the new system, which, although not probably as perfect as we can make them hereafter, now stand ready to give practical answers to this great question the ensuing season. So far as my own opinion is concerned, I have the most perfect confidence in the superiority of this renewal system over spur-pruning in every important point of view; and my knowledge of grape-culture as pursued at the Royal Gardens Frogmore, at the Duke of Norfolk's, Wilmot's, Mitchell's, and other first-class establishments in England, I fancy is as extensive as Mr. Chitty's. I have spent years of practical labor in the vineries at Arundel Castle, and have visited all the places Mr. Chitty names within the past year. I have likewise had upwards of ten years' experience in this country, chiefly in growing grape-vines and grapes, and lately under that severest of all practical tests, the growing of foreign grapes for market. I have built and am now building extensive grape-houses for my own use, all constructed on this plan; nor would I use any other that I have ever seen, with a view to profit.

If this article were not extended to so great a length, I should be glad to add some practical rules for obtaining as large a crop of grapes as any common vine ought to be permitted to bear, from half the length of any vinery rafter, or half the height of any arbor or trellis; but I must forbear, or I shall exhaust the patience of both editor and readers. I will only add that I intend, within a few weeks, to publish a new edition of my work on Grape-Culture, with the addition of some thirty or forty pages of new matter (my latest experience and improvements); and I will then give the rules and directions above referred to.

## RHUBARB.

BY JOHN SAUL, WASHINGTON CITY, D. C.

THE little attention paid in this country to the finer varieties of rhubarb has often surprised me. Two or three large, coarse varieties are grown, to the exclusion of the smaller, but richer, higher-col-

ored, milder sorts. In England fully as much attention is bestowed on the raising of seedlings and the improvement of varieties, as we give to our finer fruits; hence the result—varieties of the greatest excellence. Downing's Colossal, Cahoon's, Myatt's Victoria, and Linnæus are the varieties generally cultivated here. The first (Downing's) is a very pale-stalked variety, gives a syrup of the same light color; when cooked, is deficient in richness; and where the fine qualities of a rhubarb are recognized, would not be cultivated a single day. The second (Cahoon's) is a very coarse affair, but little removed from the Medicinal plant (*Rheum palmatum*). Under the best culture by the side of Victoria, it is later, with quite a flat stalk (petioles), pale color, with more filament and lack of richness. The stalks of Victoria were heavier, longer, and yield much more per plant. Victoria is now well known, and as a large, rich, profitable market rhubarb, it has few superiors. Linnæus, however, in some points, is in advance, having less filament or fibre in the stalks, and richer. Rhubarb may be divided into two classes,—large (originated from *R. palmatum*), to which the above varieties belong, or small, of which an old variety called Buck's may be taken as the type; and to this latter class the richest and most valuable sorts in cultivation belong, varieties having much less of the medicinal plant about them than the others. The following qualities I should consider necessary to a good rhubarb. First, a stalk free from filament, requiring no stripping when preparing for use; second, a bright scarlet color, not only on the exterior of the stalk, but through its substance,—this gives a rich color to its syrup in whatever way it is prepared, which my lady readers can appreciate; third, the syrup should be rich saccharine, and as free as possible from the taste of the Medicinal plant; fourth, the stalks should be nearly round, solid, not flat, and produced abundantly. Now, all these qualities belong to the finer seedlings descendants of Bucks. Earliness I have not set down as one of my qualities; for, as in fruits, the rhubarb may be extended over a considerable season. In addition to Victoria and Linnæus, which I recommend to all wishing large varieties, I would name the following, every one of which are superior:

*Emperor* (Waite's).—In the way of Victoria; larger, richer, and less filament in the stalks; a very desirable variety.

*Hawke's Champagne*.—The stalks are of a deep blood-red, rich, free from filament. Its defect is a want of productiveness and vigor suitable to the garden of the amateur. Type of Bucks.

*McLaen's Early*.—One of the earliest, very productive, stalks of a rich scarlet, nearly round, free

from filament, and exceedingly rich; a very fine early variety. Type of Bucks.

*Mitchell's Prince Albert.*—Has now been some years before the public; in England it is extensively grown, but in this country not so much, size being against it. Market-gardeners, on trial, will here find it quite as profitable as the larger kinds, being one of the very earliest, very productive; cannot only be gathered earlier, but will continue longer than the larger sorts, and the yield per acre will be heavier; stalks deep scarlet, free from filament, round, firm, giving an exceedingly rich syrup. Type of Bucks.

*Mitchell's Grey Eagle.*—This belongs to the large class; not so deep in color as the offspring of Bucks; has a large, thick stalk; free from filament, exceedingly rich and mild; free from the medicinal taste of many larger sorts, and productive. Every person who grows a large rhubarb, should cultivate this; I consider it one of the finest.

*Randell's Early Prolific.*—Intermediate between the classes this will be found; stalks are of good size, well colored, free from fibre, rich flavor, very early and productive.

*Salt's Crimson Perfection.*—This comparatively new variety promises well; as the name implies, the stalks are of a rich crimson, free from filament, round, rich, and mild; very productive and early. Type of Bucks.

*Turner's Scarlet Nonpariel.*—Stalks bright scarlet, free from filament, round, very productive, flavor rich and mild. Type of Bucks.

#### A PROPAGATING BOX.

BY J. C. LUMBAR, CHICAGO, ILLS.

HAVING gathered many valuable hints from your *Monthly*, I send you, in return, a plan of a propagating-box which is in successful operation with one of our nurserymen. The plan of the box in question is six feet long, three feet wide, one foot deep, made of two-inch pine plank, water tight. A small boiler is then inserted through the bottom of the box. The one in question is nine inches in diameter, eleven inches high, and made of galvanized iron. The boiler rests on the top of the flue over the furnace. Two strips one and a half inches high are then nailed on the inside of the box, resting on the bottom; then strips two inches wide placed crosswise, resting on them, leaving spaces between each of about one inch. Over these place some kind of coarse matting; then put in two inches of gravel, and fill up with sand. Fill the boiler with water, so that it will flow all over the bottom of the box, and you will get a nice, moist, steady bottom-heat, in which most kinds of cuttings will grow very readily. The top should be partially covered with glass, but

not close. There is never any cause for watering the cuttings after they are planted, as there will be sufficient moisture arising from the warm water to keep them in good condition. If they should get too dry, it can be supplied from the bottom by putting in enough, so that it will just touch the sand. The box is filled with water by means of a small pipe reaching to the top of the sand. The box rests on strong supports at each end. Of course, the boiler must not sustain any weight. Perhaps (and I have no doubt of it) such a thing might be made on a larger scale to work well. I only send you the actual size of one that I know works well, and which costs a mere trifle, about three dollars. The principle is not new. The application, I know, will be new to some, and if you can put it in a few words, so as not to take up too much of your valuable space, and think it worth your trouble, it may draw a hint from some one else.

The boiler is round, similar to a hat, with a flange at the top, which is nailed to the bottom of the box, the joint made tight with white lead. A hole is cut through the bottom of the box large enough to insert the boiler.

There is no necessity for the box to be more than two inches thick, or four inches high. Inch boards above that nailed on to the outside will answer every purpose.

Of course, such a contrivance will be of no interest to those who propagate on a large scale, and have better means for the purpose. Still a good many thousand cuttings may be struck in a box of that size during a season.

I am no gardener, but an admirer of nature's beauties, and a constant reader of the *Monthly*, in which you ask for hints from all.

[We hope our correspondents will respond to the call for further information, in which we most heartily join. The best and most economical manner of applying bottom-heat is a subject a long way behind many others, though second to none in importance. Since writing the above, and as we go to press, we have another chapter to hand on the same subject for our next issue, and hope for others before that appears, so that all can go together.—ED.]

#### NOTICE OF DENDROBIUM NOBILE.

BY W. GREY, ALBANY, N. Y.

HAVING seen noticed in the *L' Illustration Horticole*, *William's Orchid Manual*, and other European Garden Works, the number of flowers on plants of this charming orchid, at one time, and none of the plants noticed having more than three hundred flowers on at once, and with that number thought to be worthy of notice.

We have here a plant with thirty-four shoots (bulbs), and five hundred and eleven flowers all open to day, 28th December, which, if the notices I refer to are any criterion to judge from, we are far ahead of any thing on record.

If you think a few remarks on our mode of cultivating *Dendrobium nobile* would be worth publishing in the *Monthly*, I will send you a paper on our mode of culture.

[Should be pleased to have the paper proposed.—ED.]

#### THE BLACK CAP, OR DOOLITTLE RASPBERRY.

BY COL. B. HODGE, OF BUFFALO, N. Y.

THIS variety of the Raspberry has of late assumed a prominent position, not only in Western New York, but also in some other parts of our country. Among all the smaller fruits, perhaps, there is nothing more productive, or that can be grown, gathered and marketed with as little labor as this raspberry.

The question is often asked, is this a "new variety, or is it merely the old black cap improved?" This was the inquiry which came up for discussion before the American Pomological Society, in Philadelphia, in September last. The name of the writer having been referred to in that discussion, has had a tendency to call out many inquiries in regard to this matter. I was in hopes that Mr. Doolittle, or Mr. Joslyn, would have laid the whole history of this matter before the public. The facts that have come to my knowledge are simply these. Some seven or eight years ago, more or less, Mr. Joslyn, of Ontario Co., New York, discovered growing in his vicinity, some plants of the American Black Cap Raspberry, bearing fruit of unusually large size. From these he propagated new plants by layering the tips of the branches. They soon attracted the attention of Mr. Doolittle, of the same place; who purchased a few hundred, and commenced their propagation in earnest. Propagating only from the young and vigorous plants, (the layers of the previous autumn,) and following this up from year to year. These plants have uniformly produced fruits of large size and fine flavor—far superior to the common wild variety. Mr. Doolittle, as well as myself, have experimented by propagating from old plants then, four or five years old. The result has uniformly been, that such plants (although they grow vigorous and strong,) produce fruit quite worthless and by far, inferior in size and flavor to the young plants.

The Black Cap Raspberry differs entirely from the Antwerp varieties. It sends up no suckers or sprouts, starting two or three feet from the parent plants; but all the new canes start directly from the base of the old plants. It is only propagated by laying or burying the ends of the canes or branches in the earth;

these readily take root and thus form new plants. It is also freely grown from seed. We have seen growing, in the fields, or by the wayside, plants loaded with large, fine fruit, these, doubtless, were seedlings, and for two or three years produce fine fruit, but after a few years the fruit becomes small and worthless. From the foregoing, I have no doubt but that the original plants discovered by Mr. Joslyn were seedlings; but perhaps not differing materially from hundreds of others growing about the country. But the improvements and great value of these plants over all others consists in the improved and scientific mode of propagating entirely from the young plants the layers of the previous autumn. Layers from plants two or more years old, should never be resorted to.

The writer, in company with others, (who have the whole supervision of the matter, and who receive the lion's share of the profits, which they are justly entitled to, for they do all the work,) have now ten acres of these plants in a bearing state. Perhaps some facts connected with their culture may be of interest to others. Of two thousand plants purchased of Mr. Doolittle in the spring of 1858, one thousand of them were planted on a rather hard soil, sloping to the South-east; the plants come up well, but the late burning rays of an August sun destroyed outright, a third or more of the plants; and the balance were so badly injured that they have since been of little value. The other thousand were planted on a better soil—land lying flat. These done well, and have proved very productive. Our most successful plantations have been on good rich loamy soil, gently sloping to the north. Plants set out in the spring will produce a crop a year from the following summer, or fifteen or sixteen months from the time of planting. The first crop is generally about a quart to the plant, and the second and third year, two or more quarts to the plant; some have put the quantity of fruit at a much higher figure, but I speak from facts connected with our own experience, and this is about an average crop. Only about three crops should be taken from the same plants, as the fruit will soon degenerate in size, and also in flavor. The fruit ripens a week or more earlier on the young plants, than on those that are older. They ripen here about the first of July, and continue about four weeks. The plants should be set in rows six feet apart, and three feet asunder in the row, making about two thousand plants to the acre. When the new canes are some three feet long, cut back to two or two and a half feet, this will induce side branches, and keep the plants from growing too high. The following spring, again shorten all the branches to within a foot or less of the main stems. There will be plenty left for a crop—close pruning makes large

fine fruits. Some stake and tie up each plant, which is rather expensive. We have adopted a different plan, when the new canes are, say three feet or less high, a German woman, with her ball of twine, ties each stool of three or four canes together. This will generally keep them erect, and if not tied, each cane will, in time, lean over in different directions, and at length become almost prostrate. Only three or four canes should be left in each hill.

All plants sending up ten or a dozen canes, quite thornless, and of a sickly appearance, are barren, and will never produce any fruit. The careful cultivator will always destroy all such plants, and never propagate from them.

#### NOTES ON BEDDING PLANTS.

BY CHARLES MILLER.

THE season is at hand when the gardening portion of the public will be busily employed in selecting and propagating plants for out-door decoration. I therefore presume to offer a few remarks, which, perhaps, will not be out of place in your Journal of Monthly intelligence; there is generally some difficulty in selecting plants for effective arrangement in the flower garden, on account of our hot scorching suns in midsummer. We lack those refreshing dews in July and August, so congenial to such plants as Verbenas, Cupheas, Geraniums, Ageratums, &c., with their variegated forms and brilliant colors. Calceolarias of endless variety, from crimson to gorgeous yellow, the latter color especially being very desirable, and the want of such is much felt in our outdoor decorations.

To make up for the deficiency of some of those old favorites of the mother country, I would suggest a few plants that will stand our climate better, and if not quite so effective, will have the merit of being quite as interesting, perhaps more so, to those who wisely make up their minds to do without what they cannot obtain; and, although we have no Kew or Sydenham gardens as models, no "Beaton" to expand and mould our ideas, I trust, Mr. Editor, with your help and a little perseverance and good taste on our part, we shall at least make a fair display. We have a goodly list of plants of tropical and variegated foliage, that are very effective when planted in situations suited to their individual requirements.

First on the list is *Amarantus tricolor*, a charming little plant of the most beautiful crimson, green and yellow foliage, and neat habit, suitable either for edging or for planting *en masse*, exposed to the sun to have it in perfection. *Coleus Blumei* mixed or edged with *Perilla Nankinensis*, will make a fine bed, the latter if used for the edging should be frequently stopped or pegged down, and not allowed to bloom.

*Lobelia speciosa* mixed with variegated *Alyssum*, has a pretty effect for small bed. *Perilla Nankinensis* and *Cineraria maritima*, mixed or planted in contrast, cannot fail to be striking. *Koniga variegata* with *Verbena Elizabeth*, will make a neat pretty bed, and may be improved by having an edging of blue *Lobelia*. *Perilla* mixed with *Neirembergia gracilis*, the latter allowed to grow a little above the former would be handsome. Variegated *Geraniums* with an edging of *Amarantus tricolor* is also a very beautiful arrangement. A mixed bed of *Lantanas* make a splendid show—"stands the sun well." *Begonia Rex* does well planted out (or rather plunge the pots in the ground), in a shady situation, requires light open soil, and liberal manuring in hot weather.

An objection to the "ribbon" style of bedding is the fact, that in our climate it is difficult or rather impossible to combine varieties that bloom perpetually, and at the same time furnish sufficient variety and contrast of colors to be effective. The difficulty I think might be overcome by selecting plants with striking foliage. For this purpose I would suggest the following arrangement:—Front double row, *Amarantus tricolor*; 2nd, Variegated *Alyssum*; 3d, *Perilla Nankinensis*, kept low by topping; 4th, Variegated mint; 5th, *Coleus Blumei*, kept low; 6th, Golden chain or other varieties of variegated *Geraniums*.

A Rustic basket planted with *B. Rex* and *B. parviflora*, with *Ivy* or *Senecio scandens* over the basket would form an object deserving of admiration.

A fine tropical looking foliage bed can be formed by planting as follows:—*Ricinus sanguineus* (as a centre), and then in rotation *Sorghum saccharatum*, (Chinese Sugar Cane), *Canna discolor*, *Canna indica*, and *Warzewiczii*, with an edging of ribbon grass; this bed should be of circular form, and large to be effective. It is not generally known, I believe, that the varieties of *Ricinus*, *Palma Christi* or *Castor Bean* can be taken up in the fall and preserved through the winter, in a rather dry and airy place, free from frost. They should be well preserved when taken up, and occasionally watered. When planted out in the spring they form fine strong trees.

#### STANDARD ROSES.

BY J. C. R., BANGOR, MAINE.

WOULD there be a little spare space among the columns of your worthy *Monthly*, that a gardener and subscriber from this most northern part of the Union might say a few words on the cultivation of flowers among my middle and western brother gardeners.

At the time I am engaged scribbling over these few

sheets at my desk, in the greenhouse, the cold north wind is whistling round the house, stepping out doors at the hour of 2 o'clock in the morning, my mercury stands 32 below 0. I suppose our western friends think that we have no gardens, fruits, flowers or greenhouses in Maine. I can tell them that we have all of these, and good gardeners to take care of them, and they must be gardeners to come in contact with our cold climate in raising fruits and flowers in the winter. The first day of last May I cut a bunch of ripe hothouse Grapes. This was not very bad for Maine, and on the same day I exhibited plants grown from cuttings in July, that measured 36 feet in circumference. Those were *Lantanas* and *Fuchsias*, that stood from 5 to 8 feet high, with three stems to each plant of equal size, loaded with flowers in every degree of expansion. This was not bad for this cold climate. These were exhibited from the greenhouse of Capt. J. B. Coyle, Esq., of Portland, Maine. My object was to come out with a few words about Standard Roses. Now at the time of writing this, there is standing before me one which I think should be noticed, standing 8 feet high, with its stock as green as holly, and its charming head measuring 31 feet in circumference, displaying all the beauty of 62 full blooming dark double large crimson fragrant flowers, and an immense quantity of buds in every degree of expansion. Now I ask what greater beauty could the greenhouse be possessed of? without talking of the beautiful contrast its foliage makes with other plants. This variety is the Giant of the Battles, one I think of our best Roses, taking all its qualities into account, especially on the stock. It surprises me much in visiting many gardens, that this Standard Rose is forgotten, and at one time no lawn or flower garden was complete without it. However, for my love to see a good Rose, I still cultivate them both in the lawn and greenhouse, and shall do so while they continue to display their beauty like the one here mentioned. Perhaps my way of treating them is different to the manner I see described by others, though being so simple. In the cultivation of all classes of Roses in and out doors I feed very high. Some objections are made to the Standards, that of throwing up suckers. This I am not troubled with. Again, that of getting winter-killed, or dying off soon. I have cultivated the same Standard Rose for six or seven years, and it looks better now than it did in the third year of its grafting. I do not mean to say that it will live for ever, but if it even died now, it has long since paid me for my labor. I cultivate all kinds of Roses on the stock—any thing that is handsome. I plant them out as every person does in a rich bed made for the purpose; at the approach of frost I take them all up carefully, root-prune them, and then

bury them all up in sand in a cold cellar, or if that is not convenient I bury them below the reach of frost, out doors in some dry place; when spring comes, plant them out in their former situations, pruning the heads some, and I am never disappointed from seeing them display all the desired beauty in July and August. I treat them the same in the greenhouse as regards their root pruning.

There is one thing apart in the history of Roses I never saw much written on, that is the origin of the Moss Roses, or who first clothed them with nature's simplest weed,—having been asked the question several times. I should like that some of my brother gardeners who are better posted on the Rose than I, would explain it.

#### HEATING ECONOMY.

BY AN OLD PACKER, ROCHESTER, N. Y.

ATTACHED to the end of my kitchen I have a shed, the roof of which is span shaped, covered with hot-bed lights; through this shed I carry a stovepipe from my kitchen chimney, and by pushing a damper into the said chimney, the heat is made to pass through the pipe in the shed, thereby upon all ordinary occasions keeping out frost, and by covering upon extraordinary occasions it does the same. So much for this outer crust, if I may so call it. Under this homely canopy I have a tank made of pine, 2 inches thick, and 28 feet long, and 12 inches deep, with two divisions in its centre; this tank is filled with water, and heated from a common copper wash boiler, placed on the back half of my cookery stove, the use of which my wife has surrendered for my gratification. From one inch flow and return pipes attached to this boiler and carried through the wall of the house into this tank, I can keep up this body of water to nearly 80°—losing but little through the night, although there is seldom any coal put on the fire after ten o'clock. Over these tanks I have six inches of earth, which earth is covered with an inner covering of glass; the atmosphere enclosed by this inner covering is maintained at about 55° by day, losing about 5° through the night.

This power, small as it is, (perhaps too small for any practical purpose), is obtained at no additional cost. Coming as it does from the house fire, and not an average one at that, and still keeping the living room at 70° or 75° if required.

In this shed, (irrespective of the tank apparatus), I can grow a decent Grape in summer.

If a vision of Kew and its splendors should arise in your mind's eye, you must humiliate yourself, and weep over the poverty that should be constrained to construct so humble a place.

Now what six shall I attempt to propagate or grow

in such a shed in winter? or must I abandon it as of too little power.

[Accounts of such little matters we are very glad to receive. The greatest results at the smallest expenditure, is ever a worthy object of horticultural pursuits. We should grow only the Black Hamburg in this case, as it is hardier, and will bear harder treatment than others. It would do well for propagating bedding plants. Almost all soft wooded bedding plants would root well over a tank with such a bottom heat; and we think where there is sale for such stock, nothing better could be propagated in it. If propagation were not an object, such an arrangement would still be very useful as a kind of greenhouse or conservatory.—Ed.]

#### LANDSCAPE GARDENING—GRADING.

BY GEO. E. WOODWARD, NEW YORK.

NO. 3.

THE mania for grading seems to be a prevalent disease with many of those who commence the formation of a country place, and it may be stated as a remarkable fact, that it is the uppermost thought in their minds as being the means of showing both taste and improvement. That a certain amount of grading requires to be done in almost any new place, we do not deny, but we seldom meet with an example where even so simple a matter as the removal of earth, has been a study productive of any very great degree of skill.

There is not in the whole range of Landscape work any process of embellishment that produces so little satisfaction; there is nothing that shows so little for the money expended on it; and there cannot be any imitation of natural surfaces that shall fulfil the same conditions of taste or pleasure. The propensity for levelling has been handed down to us as one of the remaining features of the artificial style of gardening, the right lines of which being thoroughly inconsistent with any warped or natural surfaces, and only appropriate to planes horizontal or inclined. Levelling in such cases was a necessary preparation, and different levels were attained by terraces, or by slight gradients, any change or break in the grade being offensive to the eye—though sometimes used.

The introduction of a straight line as an avenue or walk over the undulating surface of natural grounds, is decidedly bad taste, and entirely out of keeping,—a plane surface being essential to the beauty of a straight line: there being no straight lines in nature, (unless we except rays of light as pointed out by Mr. Repton); it must be evident that the use of a straight line in natural scenery would be out of place.

There are exceptional cases in grading grounds to

which a general rule is not applicable, but those who seek maximum of beauty at the minimum of expense—should have carefully prepared in advance an exhibit, that shall detail the effect produced, and the manner of producing it, as there is no process so false and costly as experimenting for effects in earth-work; it is simply a downright waste of labor and money. There are possible chances of success, and to those who consider change to be improvement, or imagine they exhibit their taste in proportion to the amount they expend,—such operations may afford some pleasure, but for a truthful intention to express the highest degree of beauty in the formation of surfaces, experiments long ago discarded, must cease.

The intelligent removal of earth is matter of skill, and the economical removal of it is a business that requires to be studied, to practice it successfully; there is the same reason why one should be educated to this as to any business, for it is attended with the same conditions of success or failure as marks the progress of any pursuit.

There is just the same application of art in grading grounds that there is in building a house. We do not, either as a principle of economy or taste, collect our building materials, and set men to work to put up a house; take down, alter, remodel and reconstruct, until by a series of expensive experiments, we either get what suits or get fairly disgusted with the whole undertaking; but intelligence in that department of construction dictates the preparation of a studied plan, by which we work out the thoughts of convenience and beauty that suggest themselves. That the architectural plan on paper can be fulfilled by its perfect realization in brick, stone, or any other building material, is a known and admitted fact, but that the arts of design are applicable to any and every form of construction, is to some minds a matter of doubt; to deny them, however, is to deny unquestioned proofs of success, and to make the profession of the Architect and Civil Engineer unreliable and false.

The hundred men who commence to tunnel a mountain may never see the other hundred who work from the opposite end; they may be miles apart, but the fact that they shall meet with absolute exactness, both in line and grade, is as well known when the plan is drawn as when the final blow is struck.

If a few of the prominent parts relative to the removal of earth were properly considered, it might lead to a different view of the subject.

In the first place, the soil is to be removed, and then returned, not only returned, but more must be placed with it, and a long time must elapse before it

acquires the same properties as belonged to it in its natural position.

Secondly, the underlying stratas of earth must either be removed from sight, used in grading a road—filling up a hole, or for some purpose not requiring a finish of soil, or else a calculation must be made for the soil to finish it. It must be evident in all cases, that a system of operations may be devised which shall make a difference, not only in present expense but in future annoyances.

Stating the facts known in Civil Engineering, that earth can be graded to to any plan, and that a plan will show the minimum amount of excavation or filling necessary to develop any form of surface, and that earth in any form can be measured as accurately in its natural position as if the whole were passed through a half-bushel measure, we have the requirements that will enable us to designate the precise amount of cutting or filling in any spot, and knowing the price of moving earth per yard, which is governed by conditions of quality and distance, we shall know the cost, and shall also have the ability to contract the work if deemed desirable.

An estimate of this kind should be made in advance, as well as a plan to work by; and one should know cost as well as effects. The satisfaction resulting from a system of improving where effects are studied in advance, is far greater than from any plans of the ordinary laborer, and no theory or practice of Landscape Gardening or gardeners teaches any system or process of execution by which can be studied beforehand the desired results.

This lack of knowledge on their part, which they willingly ascribe to the inability of genius to convey to unfavored minds the means by which they attain their ends, is a lamentable fact in the history of Landscape Gardening.

#### ROOTING CUTTINGS.

BY DR. J. F. E., WALLACE, PA.

THE writer of those excellent articles for your truly excellent Journal, gave just one item too much. We are told after the cuttings are calloused, to plant them, and give them bottom-heat. Now I tell you, and you may tell all creation, that this is wrong, at least for Cherries, Pears, and Peaches. I ruined every cutting, except a single pear, which struck roots in spite of the treatment, in that way. A box containing 375 slips of the Ray Peach, packed away in moist decomposed saw-dust under the stage of the greenhouse to callous,—I concluded to let it remain where it was a whole month. Day before yesterday, the month being ended, I removed them, and found my cuttings not only calloused most perfectly, but some of them had roots from one to two inches long. Hence I conclude that bottom-heat is

not only unnecessary but injurious, and this lot of cuttings I planted in a box made after the manner of Cornelius' crock, which I keep just where they were calloused. That tank made after the model of yours, is an excellent thing for Grapes, &c., but it will never do for Peaches.

I am now satisfied that all kinds of cuttings may, as you and your correspondents say, be made to strike as readily as Grapes, but they require different temperatures, and different grades of moisture, that a few carefully conducted experiments will discover to us what is proper for the various things we wish to multiply in this way.

To the *Gardener's Monthly* and its accomplished Editor. I wish a long and prosperous course. May they both live long enough to Edenize the earth.

[These little experiments are just what are wanted to make "accomplished" propagators. Our friends' note well illustrates what we have already written in another column.—Ed.]

#### NEW PANSIES.

BY D. BARKER, HARTFORD, CONN.

THE following new imported English and French varieties of pansy are a part of thirty new kinds selected in Europe during the last summer, and will, I believe, be sent out during the ensuing spring. I have had specimen flowers of those named sent me at three different periods since August last, and consider them decided improvements upon those previously imported.

Let me respectfully advise those who are admirers of this beautiful flower, when they inspect the various collections which shall be exhibited at the horticultural exhibitions during the ensuing summer, to make notes upon the merits or demerits of each as they consider desirable for future guidance in forming a collection for their own culture. I have no doubt but this year will outstrip all previous ones in the production of imported varieties of this much-admired flower.

12 PANSIE, *var.*, MADAME MOREAU.—Pure white ground, with a distinct blue-purple eye; effective and beautiful.

23 LINGOT D'OR.—(I do not consider this name appropriate.) Light yellow; upper petals sometimes striped with rich violet-purple; eye a rich dark brown.

29 PRINCE OSCAR.—Bronzy-purple, with rich yellow centre; dark eye; distinct and fine.

8 ROBERT BURNS.—Upper petals violet-purple; centre bronzy-yellow, with large dark cinnamon eye.

14 GARIBALDI.—Rich violet-purple, with golden-yellow centre; eye intensely dark and rich; flower very large, fine outline; extra fine.

PRINCESS OF PRUSSIA.—Creamy white, the lower petals blotched with rich violet-purple, and rich velvety-purple eye; extra fine.

The above descriptions are taken from flowers when in a high state of cultivation in this country, (and not mere copies, as nine-tenths of the descriptions given of new flowers imported from Europe to this country from European catalogues), and for which I am alone responsible.

[In this section the Pansy has almost ceased to be a "florist's" flower, through the difficulty of keeping them through our hot summer suns; and most persons depend, as in the case of the Cineraria and Calceolaria, on the seed of the best prize flowers for their annual stock. It is to be regretted, as no one can imagine the beauty of these selected named kinds. In sunk pits, or places not liable to get very dry, however, they can be readily kept over, and we hope Mr. Barker's notes may attract attention to the subject.—ED.]

#### INTRODUCTION OF LOMBARDY POPLAR. BY W. R. PRINCE, FLUSHING, N. Y.

I notice reference is made to the *Cocculus Carolinus*, in your two last numbers. It has been growing in our grounds since 1819. I also notice the Lombardy Poplar (*Populus fastigiata*), is referred to, as introduced to our country by William Hamilton, but the records of that tree will show that it was introduced thus early by Wm. Prince, my grandfather, and that he had 100,000 growing in his nurseries, which were disseminated far and wide before its propagation was attempted by others. The Ailanthus was first introduced by Wm. Prince, my father, and was sent to him by Mr. Thompson, a nurseryman at Mile End, near London, as the *Sicilian Tanners' Sumach*, and was disseminated for several years under this name, until some importations of Ailanthus from France revealed its true title. The first Ailanthus trees in Pennsylvania, I think, were sent by Wm. Prince to Colonel Robert Carr, Bartram's Garden, under the erroneous name of "*Tanners' Sumach*," and after the discovery of the true name, William Prince repurchased from Colonel Carr all the young trees he could spare of "*Tanners' Sumach*." As a proof that a rose, by any other name, not only smells as sweet, but much sweeter, I may be permitted to recount an amusing fact. For a course of years, this tree was cultivated in Wm. Prince's Nurseries, under the title by which it had been received by him, but the name of "*Sumach*" was so repulsive that the very aspect of the tree seemed *hideous*, and there were so few purchasers that thousands were thrown out, perfectly unsaleable, but after the error in the name was corrected, and "*Chinese Ailanthus*" was substituted for Sumach, a potent charm came over the entire

tree, and every one gazed on it with wonder and admiration, and for many years it was impossible to supply the demands at treble the former prices. It also happened, fortunately, that the male variety was the one originally introduced, and there was consequently, no objection to the tree for the offensive odor which the bloom of the female variety exhales.

It may here, perhaps, be permitted me to depart from the subject for a moment, to say that Wm. Prince was a thorough "American System" man, even before the time of Henry Clay, and that he therefore was desirous of superseding the importation of Sicilian Sumach, as he was afterwards desirous of establishing the silk and vine culture. I will continue my reminiscences in future numbers of your paper.

#### CULTURE OF THE AURICULA. BY "SEVEN OAKS," ORANGE, N. J.

WHILE on a visit to a friend of mine a few days ago, and after examining his collection of plants, I inquired for his Auriculas.

"Auriculas" said he, "why I never think of growing such things." Well, I being of rather an inquisitive turn of mind, asked him the reason why. When he very coolly informed me that they were too *troublesome*; implying in his remark that the care they required during winter and mid-summer, was more than they were really worth. I pitied him or the man who thought more of his *care* than his Auriculas. Well, to the amateur who is familiar with the appearance of the flower, but not with the method of growing them; I should say procure the seed from some reliable Seedsman, and operate as follows:—

Sow the seed about the beginning or middle of March, on a mixture of leaf mould, loam, and a little fine sand; cover very lightly; place the seed pan in a gentle hotbed or front shelf of a greenhouse,—covering the pan or pot with a piece of glass. The soil should be moist, but not wet, previous to sowing, so that little or no water will be required until the seedlings are up. Then set them in a cold frame, and harden them gradually, and when large enough to be handled, prick them off into medium sized pots, with soil of the same description as the seed was sown in, returning them to the cold frame for some two or three weeks longer, according to the weather. I then remove them to some northern aspect, burying the pots to the rims in either sifted coal ashes, sand, or some similar material. Now as our warm rains are injurious to them, they will require a shutter or a few boards over them to protect them from it. Repot singly, about the first week in August, in a compost of decomposed hotbed manure, rotted turf loam and fine sand, returning them to their old position, until about the middle of October, when it

will be necessary to remove them to their winter quarters (frames), giving them air whenever possible without injury to the plants; removing them to the greenhouse about the first week in February; being particular in examining the drainage; afterwards giving them a light surfacing or top dressing of the same compost as that in which they were potted; and it is my humble opinion that before the first of April you will have some flowers which you will say are well worth their *trouble*.

Now friend *Monthly*, we are all creatures of habit, and I imagine that I hear some of your numerous readers say "Seven Oaks" has forgotten to give us a more detailed account of his manner of wintering, but in reply I would say that if the friendship which exists between the *Monthly* and myself happens to continue, perhaps some day or other they may find in a corner of it a few hints on wintering the "Auricula," &c.

[Nothing would please us better than to receive the "details." Florists flowers are above all kinds the class to offer the highest pleasure to the amateur, and many things supposed to be difficult in "this climate" to grow, are only so, because of ignorance as how to suit them to the climate. The writer keeps his Auriculas under glass all summer, with tolerable success.—ED.]

#### OBSERVATIONS ON TASTE, AS APPLIED TO LANDSCAPE GARDENING &C., &C.

BY JOHN GRABLE, GARDEN HILL, KANSAS.

YOUR remarks in the January number of the *Gardener's Monthly*, on Mr. Woodward's article on Landscape Gardening, have induced me to say something also, on the same subject. Taste, as I understand it, is the exercise of the faculty of perception in distinguishing the beauties of natural scenery, as the basis of what is called landscape gardening, which is much talked about and admired, but indefinitely understood, from the fact that each one sets up a standard of his own—all are different, from being modified by surrounding circumstances.

It appears to me that much of what is called landscape gardening is nothing but puerility, when carried out in the limited space of a garden, in the too artificial imitation of nature. Utility should govern taste in this case. If so, there is no use or propriety in making crooked paths where straight ones would answer a better purpose. With some it is deemed in good taste to leave the bark on every rural structure they build. To this I would say, let art appear—let it stick out in the natural, to which it is always relapsing and falling back.

And for this reason, I would rather see a man dressed in cloth, than in the skins of animals, and a house covered with boards and shingles, than with brush and bark, and so of other things. If order is

the *foundation* of taste, disorderly persons, in their wearing apparel, in their houses, in their workshops, in their stores, and on their farms, become vitiated in their tastes by the continued perception of disorder. This adaptability of taste to disorder, is like that of the inebriate for alcoholic liquors, corrupt and unnatural, and no standard at all. Further, to show the adaptability of taste to surrounding circumstances, we will take an ugly man's face, whose rough and repulsive countenance will seem to one as a combination of deformities; while to his children who have grown up under his ugly visage, it will appear without a blemish.

Children, adult ones, never perceive that their parents are not beautiful. This is a fact that will show how tastes may differ—cultivated or not.

Now let us turn our attention to the natural scenery of the globe, which is considered the natural foundation of taste, as applied to Landscape Gardening. We see it diversified with plains and hills, with winding valleys, abrupt mountains, and precipitous gorges, rippling streams, placid lakes, and flowing rivers, to the briny ocean. This diversified scenery in its amplitude, excites in the mind of the cultivated admirer of nature, delightful observations of the sublime and beautiful; but to carry it out in a miniature garden, is simply running it into the ground, in a small artificial scale of puerility, that is *gardenistic*. The trench of mountain ranges; the outline of sloping hills, and winding valleys; the consequent meandering of great rivers through extensive plains to the ocean; has been caused by successive upheavals of the land from the bed of old ocean, to mountain heights—giving great power to running water in washing out valleys and river courses. So the more or less friability of soil and rocks with their upheaval has determined the range and extent of our mountains, winding ridges and sloping hills, with the tortuous valleys and water courses, all according to nature.

Hence it is argued by some *gardenistic* landscape gardeners, that all our roads (except railroads), paths and fences should be any thing but straight—especially in a little bit of a garden, even if the plot should be level. But a great portion of the earth's surface is made of beautiful plains; then here the geometrical form of straight roads and fences, with square fields and gardens, externally and internally, will accord with nature without impropriety, and to my perceptions it is in good taste. But whether level or undulating, rolling or broken, hilly or mountainous, the "Landscaping" should correspond with the natural outlines. As roads winding up and down valleys and traversing ridges. Thus Farms, Parks, and Pleasure-grounds, even gardens embracing hill and dale, can be "landscaped" with utility

and propriety, as it respects good taste—art beautifying nature. I admire and am delighted, yes enchanted, with views of hills above hills, and mountains on mountains, in the distant horizon, where sky and earth seem to meet, in the blended blue.

I am even delighted with less distant scenery, across a lake, to the well defined shore on the opposite side, with the approaching and receding hills bounding the winding shore.

Where I live, Doniphan County, Kansas, I can see every day 50 miles of a circuit of the Missouri valley, 5 miles wide, and the meandering course of the river, with its broad level bottom, covered in many places with cottonwood and sycamore, with its precipitous bluffs on each side, in many places 200 feet high, embracing all sorts of varied scenery delightful to behold.

I am even delighted with changing hill and dale, in close proximity with successive groves of trees, and copses of woods interspersed along hillsides of valleys, with their slopes and terraces.

But I fail to see any thing to admire as beautiful in trying to crowd any, or all of them in a bit of a level garden plat, but deem it pigmy mimicry.

[We are pleased to receive a communication embracing what we regard as excellent ideas of the subject, from so distant a portion of our Editorial "parish."—ED.]

### New and Rare Fruits.

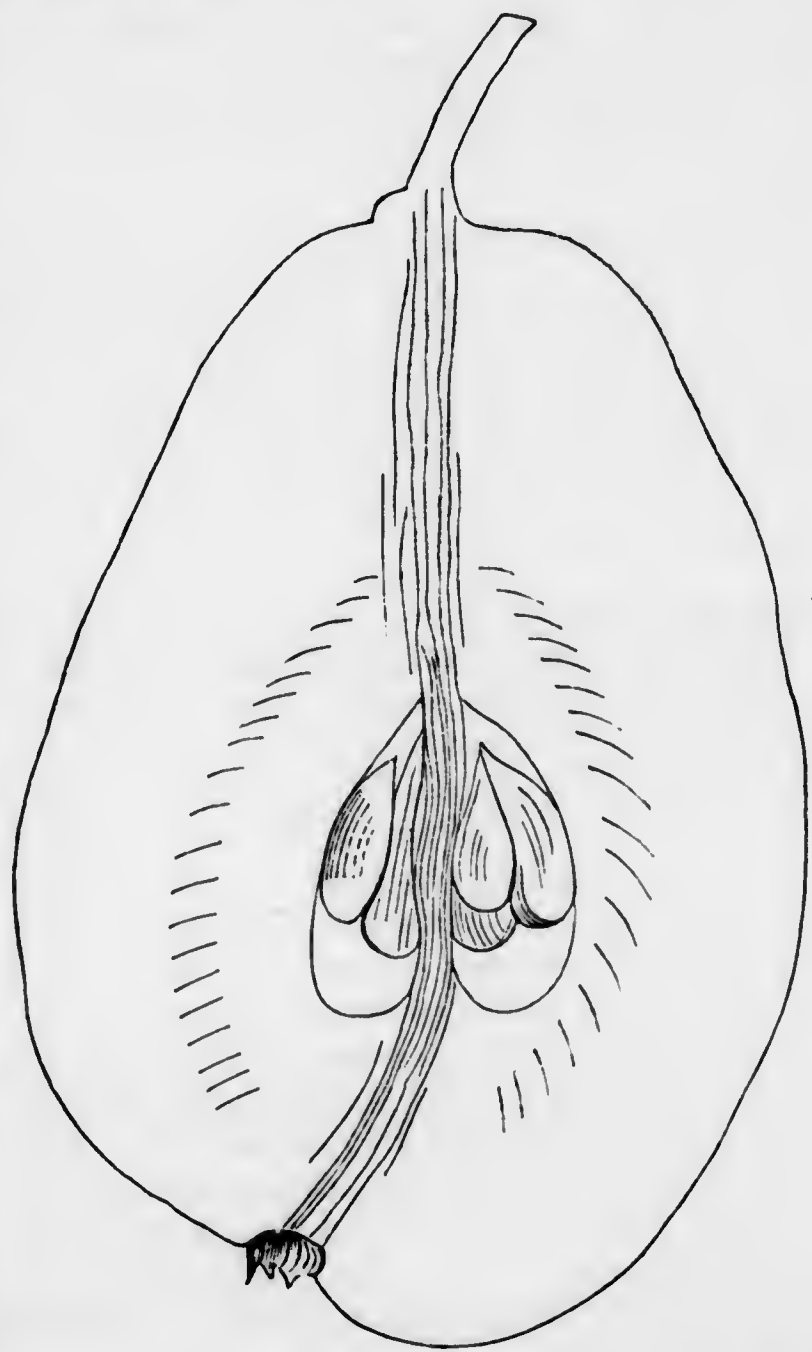
**RUTTER PEAR.**—This most excellent pear is a seedling raised by John Rutter, Esq., of West Chester, Pa., from a seed planted of the *Van Mons Leon le Clerc*. It has few equals, and no superiors, of its season, ripening from the first of 10th to the middle of 11th month, and will keep much longer, so that it may be called a late fall or early winter variety. The size, quality, and season of ripening, when there are but few good pears, will make it desirable to all lovers of good fruit.

Tree vigorous, thorny when young, which it loses as age increases; an early and good bearer, and the fruit sticks well to the tree; fruit a large obovate; skin a little roughish, of a dull lemon-yellow color; at maturity, numerous small russet spots or patches of cinnamon russet; stalk about an inch long, stout, planted in a small abrupt cavity; calyx small, closed, in a rather deep irregular basin; flesh yellowish, juicy, sweet, and melting, with a delicious flavor. One thing very singular about this pear is that I have never met with a specimen that had any seed.—*J. C. Baldwin, in Farmer and Gardener.*

**THE SKUNNYMUNK GRAPE.**—This is the title of a

new grape lately exhibited at Newburgh, N. Y., which is claimed to be equal in size and flavor to the Concord, and much superior to it in earliness of ripening.

**PEAR DU SOLIS.**—At the meeting of the Pomological Society in Philadelphia, in our search amongst the specimens of fruit on exhibition for rare kinds that might possess decided merit, we found the following to be one of the very best, both in appearance and quality. We preserved a specimen till the 4th of October, when we made the annexed drawing and description.



Fruit above medium, long, resembling in shape Louise Bonne de Jersey. Color, greenish-yellow, profusely sprinkled with greenish-brown dots. Calyx, small, in a very shallow basin. Flesh, melting, buttery. Quality, best. One of the best pears we have met with this season.

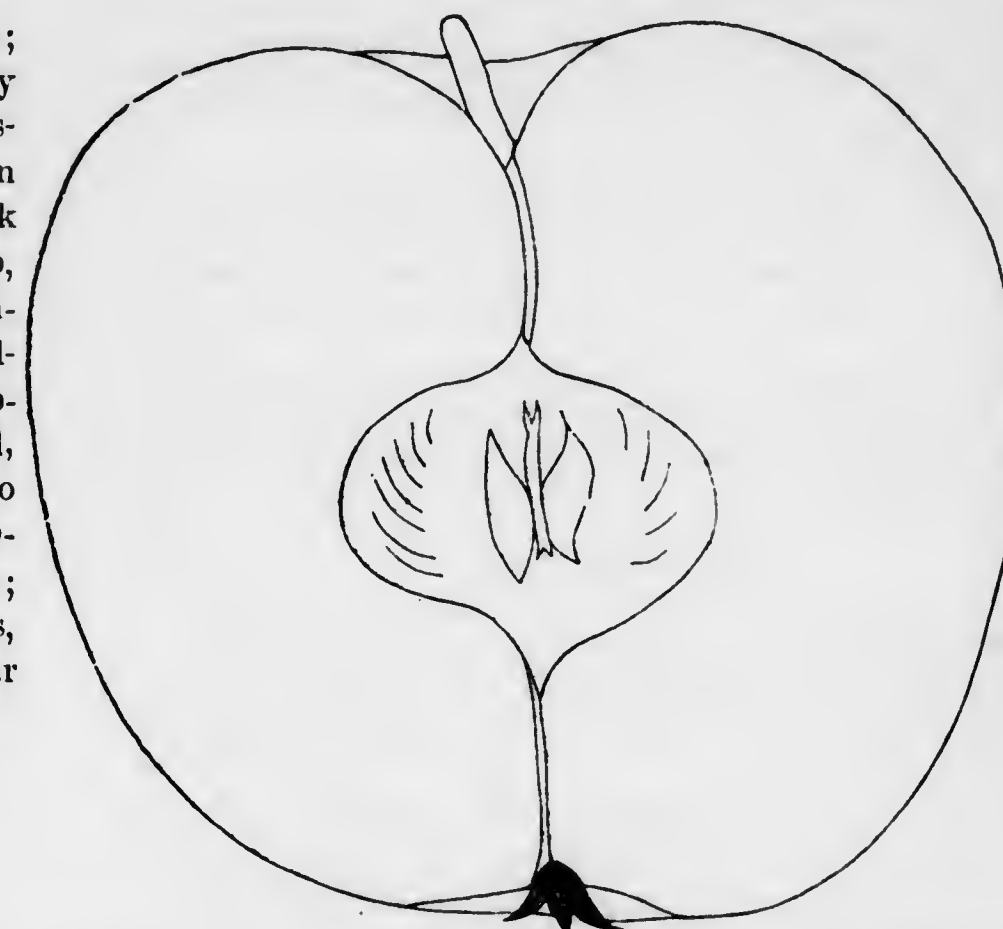
We were indebted to Messrs. Smith & Hanchett, of Syracuse, N. Y., for the specimen from which our cut and description were made. They have now one of the most extensive nurseries in the Union,

and enjoy an excellent reputation for accuracy in their business transactions. They will please accept our thanks for the privilege we valued of laying our hands on whatever suited us in their splendid collection of fruits on exhibition.

**WILLOW APPLE.**—Size, rather large; form, roundish, approaching conic, slightly oblique; color, yellowish, somewhat russeted, with light and dark red stripes on the sunny side, splashed with small dark specks; stem, medium; cavity, rather deep, regular, marbled with grey on yellowish-green ground; calyx, closed; basin, shallow; flesh, yellowish, tender, mild, subacid, good; core, small; seeds, round, dark, plump, and small. December to May. Late keeper; distinct from *Willow-twig* and *Limbertwig*; larger and better; vigorous, stout, upright grower; shoots, long, stout, dark brown; good, regular bearer; valuable.

J. STAYMAN.

Leavenworth City, Kansas.



**A NEW GRAPE.**—Mr. John Cook, of Philadelphia, sends us an account of a large grape exhibited by him at the Agricultural Fair at West Philadelphia, and which, from its immense size, excited some attention.

The plant was found accidentally on a side-walk in Philadelphia by a friend of Mr. Cook. Its habit resembles *Isabella*, but the fruit is as large as *Black Hamburg*, and the bunches weigh from one to one and three-quarters pounds. Some judges have pronounced it *Christie's Isabella*, and others *Union Village*; but Mr. Cook gives some very good reasons for considering that it is a very different grape. If found distinct from all others, it may prove a good addition.

**THE CUNNINGHAM GRAPE.**—George Hussmann a Missouri grape-grower, says of this, in the *Valley Farmer*:

"Although this grape has been cultivated here for a number of years, it has been noticed but little; less, perhaps, than it deserves, as it certainly makes an excellent wine. Bunch, medium, very compact; berry, below medium, purple, with lilac bloom, very juicy, and of a spicy, agreeable flavor, without pulp. Makes a wine of great body, and of a very rich bouquet, resembles good *Madeira*, but of a finer flavor; vine, a rampant grower, not subject to mildew and rot, but variable in productiveness, producing sometimes very heavy crops, sometimes hardly any thing; somewhat tender; ripe 10th of September."

**NEW MODE OF GRAFTING.**—The French are practicing a new method of grafting. It can be performed at any season of the year when sound, mature buds can be had, whether the sap is in a flowing state or not. It is performed by removing a small piece of bark and wood, leaving a smooth and flat surface, to which a similar piece, containing the bud, which is to form the future tree, is fitted, which is sealed over immediately with collodion. This forms a strong, impervious cuticle, which secures a free circulation of sap on the approach of warm weather, and a perfect union of the parts.

**SIMPLE MODE OF PROPAGATING HARDY AZALEAS.**

—In spring, before the leaves burst, M. Jager bends down branches into the peat soil beneath, places on them some stones, and covers the stones with moss, watering copiously afterwards, and again in hot weather occasionally. He protects the stocks with litter through the winter, uncovers the plants in the spring, and in the fall following, the whole surface is matted with roots, when they are taken up and divided. He thinks *Rhododendrons*, and other hard striking plants would do as well.—*Garten Flora.*

## The Gardener's Monthly.

PHILADELPHIA, MARCH 1, 1861.

☞ All Communications for the Editor should be addressed "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

☞ Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

☞ Our Subscription list for Rathron's Entomological Essay, is fast filling up, and as we have only intended publishing a limited number, we would desire all those who may wish to have the work, to send their name and address as early as possible.

## PROPAGATION.

PRACTICAL knowledge is of immense value. It cannot be underrated, though that is often attempted. Gardening is essentially an art, and science is its handmaid. Science may aid gardening, but it can never originate it.

We are led to these remarks because it is a prevailing impression that one cannot be a good gardener unless he is a scientific man. Under the name of science the most absurd propositions are being frequently presented to the practical horticulturist, and because, perchance, such propositions do not accord with his experience, and he is unwilling to adopt them as undisputed facts, he is denounced as unprogressive, and belonging to a past and fossil age.

But we do not undervalue science by any means, on the contrary, we believe that if every practical gardener were to take in hand some one of the kindred sciences, and master it thoroughly, both the gardener and his profession would be immensely benefitted. All we would insist on is, that this should be secondary to those habits of practice and observation that are essential to make a successful practical horticulturist.

It is necessary to present this view strongly, because heavy disappointments are daily occurring to amateurs, in their trial of horticultural experiments; and their failure to succeed where they think they ought to, dampens their ardor, and leads them to look upon horticulture and horticulturists, generally, in a very suspicious light.

We will take, for instance, the subject of propagation; and, would say that no amount of science, reading, or study, will make anyone a successful propagator. Amongst the very best propagators the art has ever known, have been men utterly ignorant of the first principles of vegetable physiology, and, perhaps, amongst the worst, some very

scientific men. The foundation of success in the art must be the operator's personal experience.—After he has learned to succeed a little, the experience of others may lead him to greater achievements. He may improve by study, but seldom begin to learn.

To show on how nice a point successful propagation hangs, we may mention the case of an eminent florist whom we once knew, and who was considered one of the best practical hands at rooting Azaleas, Camellias, New Holland plants, &c., there was in the trade. He was in this business for many years, when it became necessary to remove his establishment to another part of the city. He re-constructed his new propagating house as near as possible like his old one, but it took him several years in the new locality before he could get the same kind of plants to root with anything like the same degree of success that attended him at the old stand.

Last fall we debated in our journal many plans for expediting, and rendering more certain, the callousing of cuttings. We believe few subjects ever attracted more attention than these articles did. To those who had already some success in propagation, what appeared in our journal has proved of immense advantage; but it is a question whether to those not so well posted, more harm than good has not been the result.

Amongst a great number of letters that have reached us, on the subject, some detailing their success, others recounting their losses—one amateur friend writes us that at considerable expense he procured scions of many rare and valuable fruits from all parts of the continent, and put them under the Cornelius and Watson process. They "calloused beautifully," but, subsequently "all rotted."

Poor Mr. Cornelius! we fancy there are no inconsiderable number who imagine his process to lie in his pot, and not in his principles; and that they have only to slip in a cutting and take out a plant, just as they would put a block into a machine, and look to see it come out shoe pegs,—and failing in the result, pass some rather shady compliments, at the author's expense. Most of the errors the uninitiated fall into, arise from their mistaking callousing for striking, two very different processes; even good gardeners often fall into the error. A nursery friend of ours, who loves a joke, and whose affection for flowers and fruits has grown upon him to such an extent, that he has become a model of joviality and good nature, often quotes a story of a "first-rate propagator" he once engaged. Seeing him once repotting Camellia cuttings, he asked, "Mr. D. are they rooted?" "No sir," was the reply, "but they are well calloused." "Come to the office, Mr. D. and get your wages," was the only response, and before night the "first-rate propagator" was on his way to

parts unknown. Callousing is only a part of the process of propagation, and to treat a cutting merely calloused, as a rooted plant, is almost certain death to it. Callousing is but the process of healing the wound, and is rather an evidence that the vital principle is healthy and active, than that roots are coming, and it is quite probable that the very effort made to callous, is, in a certain degree, exhaustive, and demanding far more care from the propagator, from that time until it emits roots, than at any other period of its cutting state. The balance of heat and light, and moisture, both in the atmosphere and about the cuttings, necessary to keep the excited cutting healthy till the roots protrude, has, at this time, to be most carefully studied. All this varies with the kind of plant to be propagated, and the maturity of the wood employed for the purpose; no rule can be given. The amateur must fall back on his own experience, derived from carefully conducted experiments.

The improvements that we have been enabled to lay before our readers in callousing cuttings, has prepared the way for much greater success with propagation than was ever before supposed! Many cuttings rot at once on putting in, from the contact of the wounded cells with water, or temperature, especially if the vital principle in the cutting is already at a low ebb. Galfin first sought to overcome this by applying collodion, which formed a skin over the wound, and, for a time, the success of his experiments caused a great commotion in the horticultural world. And yet, perhaps, he was not the original discoverer, for many an old farmer has protested for many years past, that he could make apples, peaches, &c., root readily by putting the ends in a potato, beeswax, &c., but to get them calloused at once, before putting in, is certainly the best of such modes; but, and we would have our amateur friends particularly remember, it is necessary that the very best conditions for successful cutting growth should be at once applied, after that is effected, or the last failure may be more disheartening than the first.

## LESSONS ON LANDSCAPE-GARDENING.

MR. WOODWARD's articles have stirred up a spirit in our circle that is potent for much good. One correspondent sends us the following suggestions, which, we hope, will be followed up.

If our correspondents will furnish outlines of such an enclosure as is described, with the necessary points, walks, roads, buildings, &c., traced, we will select the one affording the greatest scope for improvements, to engrave. After which we will select the best offered improvements to it, and engrave them also.

J. G., Garden Hill, Kansas.—Please divide a square

acre, it may be more or less, into six divisions, with a dwelling-house on it. 1st. A front yard. 2d. A back yard, both connected with the house. 3rd. A vegetable-garden. 4th. A fruit-garden, the largest. 5th. A stable-yard. 6th. A cow or milking-yard; and all in a square form, on a level inclining to the south. After which, each lot or enclosure must have grass, flowers, shrubs, trees, and out-houses; and the vegetable-garden and fruit-garden must be laid out internally, all in the square form. After we have the five or six divisions planned, we will go to planning the internal use of each lot of the domestic enclosures, I promise to be one in sending you a plan of necessary domestic enclosures, with reasons for the same, which I hope others will also do. I have never seen any regular system for enclosures; so, with your permission, let us have a liberal discussion on the subject to make a move in the right way.

## BEN DAVIS AND NEW YORK PIPPIN APPLES.

AT the Fruit-Growers' Society of Eastern Pennsylvania's meeting the Secretary read a note from Dr. Warder, which, we were pleased to find, confirmed the views we have taken of their identity.

We presume the name of New York Pippin will now be dropped, and *Ben Davis*, as being the one first described in any work of authority, be the one generally adopted.

## Scraps and Queries.

☞ Communications for this department must reach the Editor on or before the 10th of the month.

PROPAGATING, &c.—E. M., Poughkeepsie, N. Y.—In the July number of the *Gardener's Monthly*, you speak of putting grape vine eyes in damp moss for two weeks before planting; now I have a lot of grape cuttings that have been laid away in soil in boxes, in the cellar. The soil is moist, and the cuttings come out of it moist and soft. Now, would you cut them up and put the eyes in damp moss for two weeks before putting them in the soil? as they have been kept so moist, will it not be too much of a good thing to put them in moss,—will they not rot?

Will it do to use building sand, taken from a gravel pit this winter, to propagate them in, or, is common white sand better? How can a callous be formed on verbena cuttings, before planting? What degree of heat should a propagating house be kept at? it is one heated by a brick flue, and to be used for propagating only; should not the bottom heat be kept up, even in days when the sun shines, (and when the sun heat alone would keep the house up,) and the house kept to a right degree of ventilation.—

When the temperature is right, about how often will eyes, in course of propagation, on a propagating table, need watering? is it best to water often and lightly, or only when dry, and then more freely?

What depth of sand should be put on the shells, on a propagating table, to strike eyes in? Is pure sand better than a mixture of sand and soil, to strike eyes in?

[We print these inquiries, more to show our disposition to oblige our correspondents, than in the hope of being able to give any satisfactory answer. They are all questions of *detail*, calling for adaptations to special circumstances, which can only be learned by the operator's individual experience. All we can say is, we would rather cut up our eyes first, and put them in moss afterwards. They may rot if kept in moss too long. Color is of no consequence to sand, for propagating; the deleterious matter it contains, is the evil. White is sometimes worse in this respect than others, sometimes better—experience is the only judge. Cuttings that have the vital principle so active, that they are in condition to root right away, before the wound at the base of the cutting has time to rot, needs no callousing. For propagating most kinds of plants, a bottom heat of 60° does well, which should be maintained without regard to the weather outside; regularity, in this respect, is important.

Watering depends entirely on the structure of the house. If it is one that keeps a naturally humid atmosphere, little water will be required. The only rule we can give, is to water only when the cutting is likely to lose more moisture than it can, in the absence of roots, absorb from the sand. Depth of sand has no effect on the cuttings in *itself*; in connection with *treatment* it might. Shallow sand, by neglect, may get too dry, and a thick layer by carelessness, get sodden and sour. Practice only can decide, in each case, the best depth.]

**SURFACE-MANURING**—*B., Cincinnati, O.*—You are very much mistaken. We have been a constant reader of horticultural papers for many years, and are well assured that the first article in any purely horticultural journal on surface-manuring that excited any attention in this country, was by our correspondent Mr. Bright at page 51 of our first volume. So far from "all sensible horticulturists adopting the practice for many years," we think the majority have not yet "fell into line." Good friend, we are tired of this everlasting cry of "'Tis nothing new." We do not pretend to offer much "new" in the sense in which you and others who never tell us any thing, either "new" or "old," understand it. Probably not a solitary idea now agitating the public mind, but could be hunted up

somewhere in some one of the millions of obscure pages that have poured from the press the last half a century. Even Darwin's curious theory of the origin of species has been justly claimed by a Scotchman, who published precisely the same ideas years ago. But we do claim, that if not "new," at least *novel*, ideas have been showered into our columns; and what with fixed-roof houses, economy of large glass, hoe-forks, propagation, surface-manuring, cheap hot-water tanks, evergreen management, theories of pruning, and thousands of other matters which our indexes do not half record, the *Monthly* presents a record of which it feels proud.

**EFFECTS OF DEW ON ROT AND MILDEW IN THE GRAPE**—*Mr. W. Elder* dissents from our views as attached to Mr. Mullet's article. As we have not space this month for a full discussion of the subject, we give an abstract of Mr. Elder's remarks:

He believes dry air to be the essence of success in grape growing. 8 by 8 feet apart, he thinks best for grapes, so that they may get the benefit of dry air and sunshine. As mildew follows heavy rains after droughts, it shows, he thinks, that it is the damp weather that breeds it. He thinks further, that an overdry atmosphere only injures when some such process as the action of fire occurs about them. He does not believe that the well-known health and exemption from disease of grape vines in trees, arises from partial shade, but, "from there being seldom dews and fogs up there." In short, Mr. Elder has invariably noticed that "mildew and rot always follows a few days of wetness and cloudiness."

We agree with Mr. Elder in regard to the accuracy of the facts he presents; but need scarcely repeat that we draw different conclusions from them.

**PRUNING APPLES IN NORTHERN LATITUDES**—*R. W., Montreal, Canada*, says: "I should like to see an article on the effect of frost on apple trees, after pruning; you advise to prune in winter; as far north as this it would almost kill the trees."

[We can see no reason for any such bad result—though we well know that "circumstances often alter cases." We ask the attention of our Canadian correspondents to the hint.]

**JAPAN PLUM**—*Mrs. J. M., Delaware, Ohio*,—"If you can give me any information about the cultivation of the Japan Plum, please do so through the *Gardener*."

[It is a species of Persimmon, and can be, doubtless, raised in the same way, viz.; sow in a pot, and keep it in a shady place, till it sprouts, then remove to the full light. Either in the greenhouse, or the open air will do equally as well. As the seed is from

Japan, and dry, it will not, perhaps, sprout for a year.]

**LIQUIDAMBER**—*LYSIMACHIA*.—"I have a Liquidamber styraciflua about fifteen feet high, which has not yet showed any sign of flowers, or seed. What do you think is the reason? (1.)

Will *Lysimachia nummularia* make a suitable trailing plant for a vase? (2.)

[1. It is too young and too vigorous; it will come right, soon.

2. Excellent. But do not let it get in your garden, where it will become a nuisance.]

**JACKSON APPLE**—*Correction*.—In our last, the types read of the "herb," instead of the *flesh* of the apple. Such errors occasionally happen in the best conducted magazines, where the authors do not correct their own proof, and are usually left to the good sense of the reader to correct. We prefer, however, to direct attention to them.

**LEMON TREES**—*S. A. M., Lancaster, Ohio*.—"I have a lemon tree that blooms freely, but does not fruit, can you give me any direction about it. (1.) Also, relation to the culture of the Achimenes, when planted, and at what price." (1.)

[1. Your plant is probably a seedling that has not been grafted. Like apples and other trees, they must be grafted and budded from bearing trees, to induce early fruitfulness.

3. It would take too long a paragraph in this column, to give their whole treatment. There are two excellent chapters on the subject, at page 104, and page 106, of our last volume. Most of the principal florists keep them. Price varies with kinds, and sellers; usually, good kinds are sold 12 kinds for two or three dollars.

**OLEANDERS**—*E. H. C., Shepherdstown, Pa.*—The best mode of propagating the Oleander; also, if they can be grafted or budded successfully with other varieties, and at what time? (1.)

I have an Oleander (*Oleander splendens*) which is eight feet high and uniformly well branched from the root, the whole forming a trunk of over four inches diameter. The box in which it now stands is rotten. The inside measurement of said box is seventeen inches square. It has always done well in this. Now, in constructing a new one, how much larger should it be? (2.)

[1. Well-ripened wood of last year taken in April, the leaves reduced and cut into six inch lengths, and set out in a partially shaded situation in the garden, root as readily as currant bushes. We do not think

you can do much with budding or grafting, though good propagators increase very rare kinds that way.

2. A few inches (say two) larger would be sufficient.

**GREENHOUSE ARRANGEMENTS**—*W. W. W., Oberlin, O.*, asks:

1. If I should put a tin or copper boiler into the top of my furnace, and a wooden tank such as you have described for heating by water, would the amount of heat required by the greenhouse plants be sufficient for my bed of cuttings? or must the water boil most of the time? Most of the-time now I only need to build a fire in the evening.

2. Do large rose-cuttings succeed as well as smaller twigs?

3. Can I strike cuttings of the Japonica in water, as the Oleander? or how can I multiply them?

4. How are Azaleas produced?

5. My Japonica buds do not open. Will frequent moistening forward them?

[1. Tin would not answer. It is not durable enough. The tank would not well heat the greenhouse above. The flues should be led along one side of the house in addition. The water must never "boil" or reach 100° at the return-point of the tank. If the tank is large in proportion to the size of the connecting boiler, no fear of its boiling. Many parties complain of too much heat in these tanks. The remedy is to make them hold more water.

2. Medium-sized do best.

3. As well as the Oleander. The half-ripened wood strikes readily in a bottom-heat of 60° to 70°.

4. Just as the last.

5. The growth has been suddenly checked in some way. It is difficult to direct a remedy without knowing what checked them.

Some of our readers, we have no doubt, smile at the simplicity of some of the queries we receive; but it is precisely what hundreds of amateurs and novices feel the want of, and we are therefore glad that they ask the information which we feel it a pleasure to give.

**HOBBS' EARLY PEACH**—*O. T. Hobbs, Randolph, Pa.* writes:—"The new early peach about which inquiry has been made of you, originated at the American Garden of Experiments, and bore its first fruits the past season. It is a seedling of Fay's Early Anne. The fruit is not quite as large, but very fleshy, with extremely small pit. Superior in quality, and ripening from twenty to thirty days earlier than our standard early peaches. The tree is perfect. It may save inquiry to say that no trees have been propagated."



**DISEASE IN APPLE TREES.**—"Newton," *Mt. Hope, Va.*—In my garden I have some very valuable apple trees; I am losing some every year, some on account of the bark drying up on the south side of the tree, and falling off a little at a time, until it finally decays and dies. Others seem to die from some kind of a disease in the roots. The small roots have lumps on them like warts on a man's hand, and the soil about the roots is of a whitish cast, something like mushroom spawn, in fact, my whole garden seems to be inclined to this whitish stuff after it is dug up, particularly where it has not been stirred up for a long time.

Please tell me what is the cause of the above, and the best mode to get rid of those two evils. (1.)

I send you a leaf of a small aromatic plant, as I wish to know the name of it; has a beautiful smell, and is nice in soups, &c. (2.)

I wish to know what remedy you will give me for preventing mildew in roses; it is very injurious to mine, and seems to be spreading throughout my whole greenhouse. (3.)

[1. The lump-like warts on the roots of your apple trees, are caused by the larva of some species of insect, and the bark is probably injured by the same insect in one of its stages. Specimens would be necessary to say precisely what insect. The spawny substance is a form of fungi, which feeds on the roots rendered diseased by the action of the insects. Digging out the diseased roots and tumors, replacing with pure fresh soil, cleaning the bark, pruning a little to induce a vigorous growth, and attending to producing healthy action generally, is the best advice we can offer.

2. We do not know the leaf. Send us a flower shoot, just before the time the seeds mature.

3. Syringing with clear lime water, in which sulphur has also been mixed, and exposing the plants to a good, warm sun afterwards, is the best remedy. A weak sappy, unhealthy growth, cannot bear a sudden change to dry air and sunshine; the best preventive is therefore, robust health.]

**INGA PULCHERRIMA.**—*S. T. T., Minneola, L. I.*—This plant does not usually flower well, till it becomes four or five years old. The best treatment is to grow it freely and well, for two or three years, and then suffer it to remain in its pot, pretty well filled with roots, so that its rampant growth is gradually checked. If your Banana has been in a high temperature, and five years old, it ought to soon flower. Our correspondent further says, he has had some success with hot water for mealy bug and red spider, though not complete. He should make allowances for cooling, when applied through a syringe, and learn by experiment how great a heat the plant will bear.

**SUGGESTIONS FOR HORTICULTURISTS.**—*A. N. Y.* correspondent remarks: "I have another subject or two on my mind, that I will mention.

Is all the present horticultural practice in accordance with true scientific principles? and are not many of our practices doing, prospectively, great injury to the future constitution, growth, and perfection of our fruits and plants?

The first question is brought fresh to my mind from the fact, that in the discussion of the subject of the "Influence of the sun and moon upon vegetable growth," in the meeting of our "Rural Art Association," this month, the many theories of the moons's influence which are so popular among us, and that have been handed down from generation to generation, and which, *many of us know from close observation and practice to be true, (?)* are by scientific men, shown to be mere fallacies, and untrue in fact, such as putting seeds in the ground while the moon is on its increase, and not in its wane. The effect of the quartering of the moon at a particular time, as influencing the weather during that particular quarter; the souring of milk if placed where the moon shines upon it. The shrinking of meats, if killed at a particular stage of the moon, &c., &c. Is it not time that these follies were banished from our practice, or, at least, that our horticultural and gardening journals should discountenance them?

As to the other subject, the mode of propagating in its influence upon plants, I will attend only to the grape. We know that there are men who, with some of our popular varieties, are making fortunes by the rapid multiplication and sale of vines at extravagant prices.

To make the most of the supply of woods they have at their command, they use each bud, and force their growth under glass by steam, and other artificial heats, to a marvellous extent; then taking the buds from this forced and immature growth, they are put through the same process from year to year. Is not the tendency of this mode of propagation to enervate and weaken the strength of this plant? A like practice in the animal kingdom would be condemned; why not in the vegetable? I merely allude to these subjects, because I feel that if our practice is correct, we ought to be able to show men of science that *they* are wrong, and *we* are right. Otherwise, we should change our practice so as to harmonize with truth."

**NAMES OF PLANTS.**—*Mrs. S., Raleigh, N. C.*—The long leaf is *Cuphea eminens*; the shorter, *Habrothamnus elegans*. The brown tips show the leaves to have been injured for want of water. Give them more pot room,—they are strong growers. *Veronica Andersoni* should have the same treatment.

**THE PERFECTED TOMATO.**—"I wish to make an inquiry in regard to the "Perfected Tomato;" last spring I procured some seed of J. M. Thorburn. I planted them carefully, and had good success in raising plants, and there can be no doubt that the plants were from the seed so obtained; but strange to say, they produced two distinct kinds of tomato, both different from any that I had ever raised before. Some of the plants produced a very large, smooth, bright red tomato, and others, a tomato identical in color to the "Fejee," but smoother, rounder, thicker, and more fleshy, with fewer seeds than the "Fejee;" both very fine, and so nearly equal in quality that I could not decide which was the best, but preferred the Fejee colored, because of its more perfect shape.

*Query*—Which of these two is the genuine "Perfected Tomato." *F. S. J., Libertyville, Md.*

[We have not seen this variety. Mr. Norris, of Windsor, Ohio, in some notes of new vegetables handed us, thus describes it:

"The Perfected Tomato we deem as a valuable acquisition to the tomato family. It far excels the "Fejee," or any other variety we have grown.—They ripen early, and continue in bearing until the frost kills the vines in the fall. Fruit large, smooth, and the seed cavities very small, and but few seeds, meat solid, and of the finest flavor."

We are not acquainted with its history. If raised from what is called the "Fejee" variety, it is quite likely to inherit a tendency to return to it occasionally.]

**PROPAGATING GRAPE CUTTINGS.**—*C. H. C., Petersburg, Va.*—Remarks appended to other inquiries, and articles in other columns, will, we think, explain all you seek to know. *E. C. H., Rushville, Indiana,* and other correspondents also.

**VILMORIN'S NEW UPRIGHT TOMATO.**—*F. S., Easton, Pa.*—This new kind, said to need no stakes, will probably be offered for sale by most of our seed importers this spring. We doubt, however, whether it will prove more than a curiosity.

**FERTILIZING STRAWBERRIES.**—*S. G., Kenosha, Wis.*—For some time past, I have been cultivating strawberries. For markets I have tried several kinds, but none have done so well as the "Hudson," but, as it is a Pistillate variety, it will not do well, unless mixed with a staminate. I have used the "early scarlet" as a fertilizer, but it is a *very poor bearer* with me; would not "Wilson's Albany," "Hooker," or *any other staminate variety* that I find to be productive, do as well for a fertilizer as "early scarlet?" an answer through the "Gardener's Monthly" will

much oblige one of your subscribers.

[Few kinds can beat the Albany as a fertilizer. We once saw two large beds of Albany and Hovey, side by side. Hovey was rendered so enormously productive, that in this respect it was little inferior to the Albany, and the owner, who was a strong "Albany" man, came near hesitating about discarding Hovey, as he said it was his purpose to do.]

**FORCING PEACHES FOR PROFIT.**—*A. C., Boston, Mass.*—In what respect does a green-house, built on the ridge and furrow principle, differ from the ordinary style? (1.)

Can you put me in the way of subscribing for the *Botanical Magazines* mentioned in your journal? (2.)

Can peaches and other fruit be cultivated under glass with profit? (3.)

Do you know of any work which you can recommend, that treats upon the cultivation of fruit under the glass? (4.)

Will you give me the name of the author of an article in the last *Monthly*—title, "A new theory of fruit forcing," by a Massachusetts gardener? I wish to call upon him. (5.)

[1. An engraving only would clearly explain. A quantity of span roofs set side by side, so as to form one roof, making alternate "ridges and furrows," is the best brief description we can give. The principal is useful in making large or wide structures.

2. In all large cities there are "book importers," who get them when ordered by responsible parties.

3. Undoubtedly; though we know no one who has made a business of it.

4. River's Orchard House, published by Saxton, Barker & Co., New York.

5. It is against our rules; one of the reasons why many writers withhold their names, is to prevent parties corresponding with, or calling on them, which often proves inconvenient and troublesome.

**GRAPE TREATISE.**—*J. A. B., Bridgeport, Conn.*—Chorlton's Grape Grower's Guide enjoys the widest reputation for a guide in the matters you inquire about. You will find the recommendations given in it perfectly reliable, for "producing grapes for the table," as you wish.

**APPLES IDENTICAL.**—The publisher hands us the following extract from a business letter of Messrs. Carey, Peter, & Carey, Louisville, Ky.

"But little new in horticulture with us; but we think we have ascertained, to a certainty, that the Nickajack apple of the South, and the Carolina with us, are identical; also, the New York Pippin and Ben Davis."

**EARLY TOMATOES.**—*R. F., Sandwich, Mass.*—The large early smooth red is the best for earliness, and there is nothing like a hot bed for forwarding them early. It is best to put them in three inch pots, where only a few are desired, and very early. They suffer no check then, in transplanting.

**LANDSCAPE GARDENING.**—We have a number of excellent articles on Landscape Gardening on hand, which shall appear from time to time, according as space offers that we can afford for the subject.

**WINTERING VERBENAS.**—*W. W. Wright, Oberlin O.*, says:—I have found a grand method of wintering Verbenas, &c., viz., by extending the eaves of my greenhouse down to the ground and putting in a return flue, to be used when needed, and planting my plants in the ground. They will not be need to be watered all winter.

## Books, Catalogues, &c.

**TRANSACTIONS OF THE MASSACHUSETTS HORTICULTURAL SOCIETY FOR 1860.** We owe to the polite attention of Mr. Eben Wright. It is the most valuable of this class of documents that we have received this season, and, like some other matter on our table, we hope to revert to it again.

**AMERICAN POMOLOGICAL SOCIETY.** Transactions for 1860. By favor of President Wilder, an early copy was forwarded us, which the mail failed to deliver, and we are further indebted to the Treasurer, Thomas P. James, Esq., for a copy as we go to press. For correctness of matter and beauty of execution, it is far in advance of any former publication, and does credit to the Society's reporter, Mr. Vick, under whose superintendence it has been got up.

### GARDEN ANNUALS AND DIRECTORIES.

Few men deserve better support from the public than those who not only offer articles to sell, but go to a heavy expense to get up works to direct the purchaser how to grow and raise them, for gratuitous circulation. It is the true interest of the trade. No one is so liable to buy again as one who has been successful in former purchases.

We have already noticed some of these manuals, and now have also on our table:

**PASCHALL MORRIS' Garden Manual,** Philadelphia. With directions for vegetable growing.

**DREER'S Garden Calendar for 1861,** Philadelphia. Flowers and Vegetables.

### DESCRIPTIVE CATALOGUES.

**A. R. WHITNEY,** Franklin Grove, Illinois. Fruit and Ornamental Trees. 30 pages octavo.

**GOULD, BECKWITH & Co.,** Rochester, N. Y.—Fruit and Ornamental. 32 pages. Illustrated.

**JOHN PERKINS,** Moorestown, N. J. Fruit and Ornamentals. 34 pages.

**JAMES PENTLAND,** Baltimore, Md. Selected Roses. 31 pages.

**C. REAGLES & SON,** Schenectady, N. Y. Fruits, &c. 34 pages.

**H. W. WILSON,** Washington, Pa. Fruits, &c. 16 pages.

**PETER HENDERSON,** Jersey City. Roses, Dahlias, &c. 20 pages.

**ANDREW BRIDGEMAN,** New York. Gladiolus, &c. 8 pages.

**J. M. THORBURN & Co.,** New York. Gladiolus. Sheet Catalogue.

**PARSONS & Co.,** Flushing, N. Y. Description of *Stuartia Pentagrynia*, a rare shrub. Beautifully illustrated.

**J. McLAEN,** Roadstown, N. J. Fruits, &c.

**JAMES EDGERTON,** Barnesville, O.

**H. COLLINS,** Auburn, N. Y.

**L. TUDOR,** Richmond, Va.

**JOSHUA PIERCE,** Washington, D. C. Small Fruits.

**SMITH & HANCHETT,** Syracuse, New York. Descriptive Catalogue of Fruit and Ornamental Trees, Greenhouse Plants, Vines, &c.

**J. A. BRUCE,** Hamilton, C. W. The only Canadian catalogue we have received this year, and have pleasure in recommending it as one of the most complete issued on the Continent. It is a large octavo of 50 pages. It embraces both seed and plants.

**THE RURAL MINNESOTIAN.** The eighth number is now before us. It is a weekly agricultural journal, published by Hyde, Williams & Co., at Wasioja. The second new journal of this class that has come to our table within the past week. Minnesota agriculture must be most decidedly "looking up."

**THE HIGHER LAW,** published weekly by Herbert Reed, of Madison, Wisconsin, is one of the many new literary, agricultural, horticultural, and scientific journals that have made their appearance this season. It is something in the style of the *Rural New Yorker*, *Southern Homestead*, &c., and is replete with interest.

**HINTS ON THE CULTURE OF THE EXOTIC GRAPE.** We have received from Mr. B. Donahoe, of Philadelphia, a clever production in rhyme, under the above head, which we are sorry would occupy more space than we could afford. We should be pleased to have Mr. D.'s excellent experience on this and other subjects in solid prose; it suits our space

better, and "he is the man that would die" to good advantage. Mr. B. says:

"First let the bed on which they (the roots) lie  
Be always mellow, rich and dry;  
If growth you seek in frosty weather  
Make roots and stems work both together."

Of temperature, he says:

"Commence your work with fifty-eight,  
And then per week increase your heat  
Until it rise to ninety-five,  
And thus your vines are sure to thrive."

Of ventilation:

"Some ventilation they require,  
But bottom air they ne'er desire."

**REPORT OF THE INAUGURATION OF THE BOTANICAL SOCIETY OF CANADA,** established at Montreal on December 7th, is highly satisfactory. We believe it owes its origin to the exertions of Dr. Lawton.

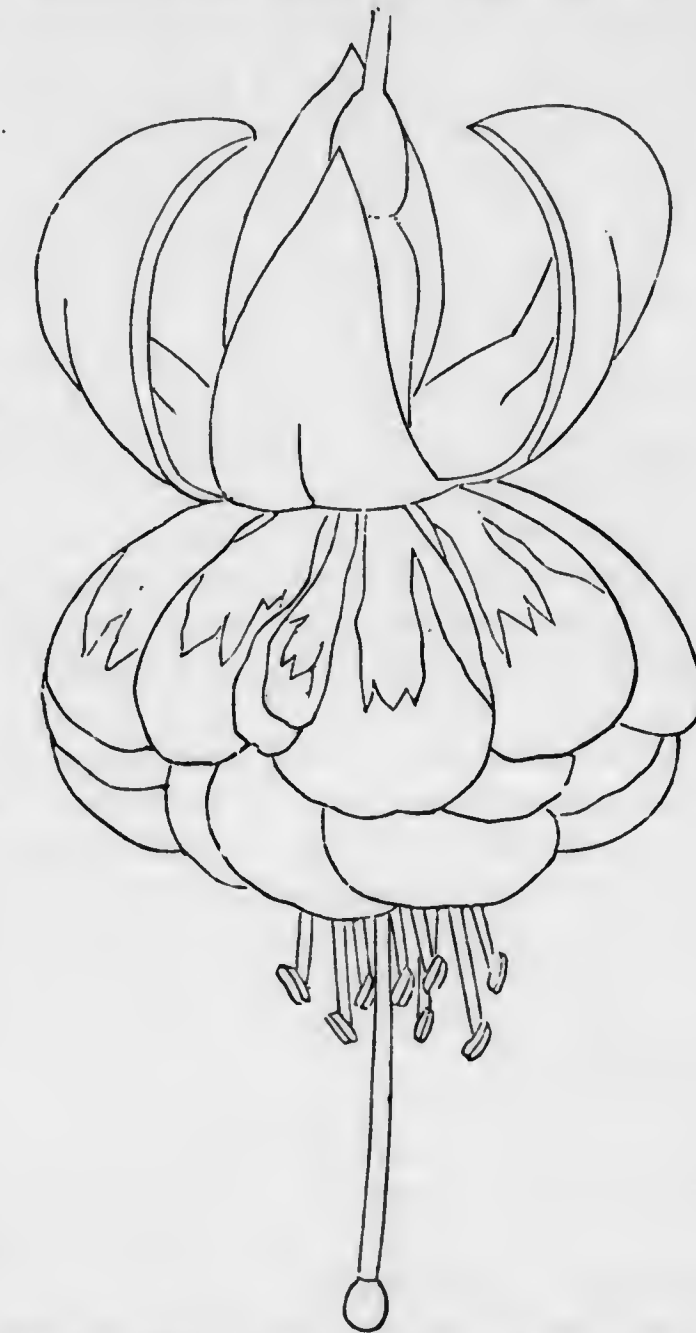
In his address he gave a sketch of the past and present state of Botanical Science in Canada, and the objects the Society had in view. He said:

"Botany is at a low ebb in Canada, at a lower ebb than in most civilized or half civilized countries on the face of the earth. At the close of the eighteenth century only five dissertations on botanical subjects had been published by the whole medical graduates of the great continent of America. Since then the indefatigable labors of such men as Michaux, Torrey, Harvey, Curtis, Boott, Engelmann, Tuckermann, Sullivant, Lesquereux, and especially of one whose name and fame rise above all the rest, Asa Gray, have brought our knowledge of the botany of the United States on a level with that of the best botanized countries of Europe. It is proposed that our Society shall have for its object the advancement of Botanical Science in all its departments—Structural, Physiological, Systematic and Geographical; and the application of Botany to the useful and ornamental arts of life. The means by which this object may be accomplished are various, and will come before us for discussion from time to time. In the meantime, it is proposed that there shall be monthly evening meetings in Kingston during the winter for the reading of papers, receiving botanical intelligence, examining specimens, and discussing matters of scientific interest in relation to the science; also that there shall be field meetings during the summer in distant localities in Canada, as well as in the other British Provinces of North America, and occasionally also in the adjoining States, whereby our members may have an opportunity of investigating the botany of districts that have been imperfectly examined."

The Society commences its existence with about one hundred members and cannot but have a fostering influence on the successful prosecution of the study. Communications should be addressed to Prof. Lawton, Kingston, Canada.

## New or Rare Plants.

**FUCHSIA MAMMOTH.**—This extraordinary double Fuchsia was raised by Mr. George Smith, Tollington Nursery Road, Islington, who has for many



years been one of the most successful raisers of this class of plants. Our figure will give the best idea of the size and shape of the flower, the tube and sepals of which are crimson, and the corolla violet-purple, with a vermilion stripe half-way down each petal. It is certainly a very fine flower.—*Cottage Gardener.*

**SOME OF THE BEST NEW ROSES.**—N. America, salmon fawn and cream, with fine habit. T. Duc Magenta, a splendid flower, large, double, and of exquisite form; color, delicate pale flesh, tinted with fawn. B. Victor Emmanuel, deep plum. H. P. Bunant, deep brilliant carmine rose, beautifully tinted with violet. H. P. Le Royal Epoux, brilliant rose, changing to lilac rose; flowers large and well formed. H. P. Louis XIV., a gem amongst gems; the color of this variety, which is intense fiery crimson, with a blackish crimson centre, is rich and gorgeous in the extreme. H. P. Madame Boll, a flower of unusually large size, very full and of exquisite

form; color delicate rosy peach. H. P. Madame Charles Crapalet, rosy scarlet; petals large, smooth, and of fine quality. H. P. Madame Louise Cerique, deep brilliant crimson. H. P. Madame Pauline Vilot, brilliant deep rose. H. P. Mademoiselle Eugenie Verdier, outer petals pearly white, centre delicate pale flesh. H. P. Senateur Vaisse; a good synonyme for this superb variety would be "General Jacqueminot surpassed;" the color is intense glowing scarlet. H. P. Triomphe de Lyons, a truly splendid flower; color rich crimson purple, with fiery crimson and purple. H. P. Victor Verdier, a noble flower in the way of Jules Margottin; outer petals deep rose, centre brilliant rose.—*Florist*.

**NEW AMERICAN TREES.**—A paper was recently read before the Philadelphia Academy of Natural Sciences, giving the following account of some new trees, with descriptions by Mr. S. B. Buckley. We may observe that Le Conte has already named another species of *Carya*, *C. Texana*, and we believe the Academy have, since the publication of the paper, decided to change the name to *C. Buckleyana*.

*Esculus arguta*.—Fruit covered with prickles.—Stamens erect, or slightly curved, much longer than the pale yellow corolla. Calyx campanulate, divisions obtuse, pedicels short, whole panicle subpubescent. Flowers dense. Leaflets 7, glabrous, ovate-lanceolate, acute at both ends, sharply and unequally serrate. Shrub 3-5 feet high, with a smooth bark. Flowers in March. Panicles 4-6 inches long. Leaflets 2-4 inches long.

Hills in the vicinity of Larissa, Texas.

*Halesia reiculata*.—Leaves broad-ovate, pubescent on the midribs, scabrous, obscurely dentate, teeth, small, acute, under surface of leaves pale, much reticulated. Fruit 4-winged, two lateral wings double in width to the others. Style long, mucronate. Leaves 4-5 inches long and 2-3½ inches broad. Fruit smooth, 1-1½ inches long, and 6-7 lines broad. Pedicels 5-7 lines long. Small trees, branches smooth, bark of trunk light gray, furrowed.

Banks of streams tributary to the Red River, above Nachitoches, Louisiana.

*Fraxinus Nuttallii*.—Leaflets 5-7, lanceolate, acute at both ends, irregularly toothed, upper surface smooth, under surface pale and subpubescent along the midribs, short-stalked, petioles long, glabrous, fruit ovate-lanceolate, three-winged, acute at both ends, branches smooth, bark of trunk gray, and furrowed. Fruit about 2 inches long, by 5 lines broad. Leaflets 3-4 inches long by 1 inch broad, sometimes unequal at base.

In swamps, Wilcox County, Alabama. Small trees about 6 inches in diameter, and 20-25 feet high. As Nuttall had not material for a complete description, none can tell what is meant by his *Fraxinus*

triptera; but as possibly he may have intended the tree now described, I call it Nuttall's Ash.

*Carya Texana*.—Leaflets 7-9, broad-ovate, or ovate-lanceolate, sharply serrate, smooth on both sides, paler beneath, acute at apex, subobtuse or acute at base. Staminate and pistillate catkins subpubescent. Fruit globular, slightly four-angled. Shell thin, separating to the base. Trees three to four feet in diameter, and forty to fifty feet high. Bark of trunk very thick, deeply and irregularly furrowed, not scaly. Leaflets 6-8 inches long, and 2-3 inches broad.

Dry soil. Common in Upper Louisiana, and in Texas extending as far west as Atacosa County. "Thick bark, hickory."

*Quercus Shumardii*.—Leaves oblong, or obovate in outline, smooth, deeply sinuate-pinnatifid, sinuses broad, convergent, 3-5 on each side, lobes many-toothed, teeth sharply and setaceous acute. Acorn globular, or ovoid-oblong, subacute, cup shallow, slightly turgid, scales acute. A large tree with shining deep green leaves, those on the upper portion of the tree being much and deeply lobed. The lobes are generally deeper near the petiole than towards the apex of the leaf. Acorn resembles *Q. rubra*, but is more acute, 1-1¼ inch long, and 6 lines to 1 inch broad. Limbs, trunk and branches much like the water-oak, *Q. aquatica*. Wood yellowish-white, fine-grained, and esteemed for rails, boards, and the frame-work of buildings. I have measured specimens which were six feet in diameter, with an estimated height of 70-89 feet. Its leaves retain their greenness long after the first frosts, when those of the frost-oak, black-jack and scarlet oak are dead.

It occurs in Upper Louisiana, Eastern and Middle Texas. Shumard's Oak. In honor of Dr. B. F. Shumard, State Geologist of Texas.

*Quercus Texana*.—Leaves ovate-oblong in outline, smooth, both sides deeply sinuate-pinnatifid, with broad, divergent sinuses, 3-5 on each side, lobes 1-3 toothed, teeth acute setaceous. Nut ovoid, oblong, acute, cup hemispherical, slightly turgid, scales acute, closely appressed. Tree 3-5 feet in diameter, and 60-70 feet high, branches smooth, bark of trunk of a dark slate color, slightly furrowed, very like *Q. phellos* and *Q. aquatica*, with which it is often associated. Lower leaves of this tree with lobes often truncate, while the upper leaves have deep, broad, divergent sinuses, and the upper lobes prolonged somewhat like those of *Q. falcata*. Like the water and willow-oak, its leaves are green during the first of winter. Acorn about 1 inch long, and ½-¾ inch broad. Leaves 4-8 inches long by 3-5 wide. A beautiful tree, with dense, deep green foliage, Wood close-grained, white, or of a light red color,

and used for similar purposes as the Shumard Oak.

*Quercus Durandii*.—Leaves obovate, entire, or slightly three-lobed at apex, with rudiments of one or more lobes at the margins, lobes very obtuse, When mature, smooth on both sides. Acorn round, or ovoid rotund. Cup very shallow, scales acute, closely appressed. Leaves 3-4 inches long, 1-5 inches wide. Acorns ½-¾ inch long, about ½ inch wide, scarcely one-eighth of an inch being included in the cup. Tree 2-3 feet in diameter, and 20-40 feet high, bark of trunk and branches light gray, scaly, like the white oak, (*Q. alba*). The leaves are mostly entire, varying from obovate to oblong-ovate. Wood white, close-grained, and very tough. It is often worked into splints for baskets to hold the picked cotton. Used for farming utensils, and sought after to make screws for cotton gins. Called "Basket Oak," and "Bastard White Oak."

Wilcox County, Alabama, Upper Louisiana, and Middle and Southern Texas. Durand's Oak. In honor of E. Durand, of Philadelphia.

*Quercus annulata*.—Leaves broad-ovate, entire or irregularly and sparingly lobed, sinuses shallow, divergent lobes very obtuse, upper surface smooth and bright green, under surface pale, smooth, or subpubescent, petioles short. Acorn oblong-ovoid, with a depressed ring near the apex. Style cylindrical, long, truncate, cup shallow, one-third the length of the acorn. Acorn 5-9 lines long, and 3-4 lines broad. Leaves 2-4 inches long, mostly lobed. Bark of trunk and branches light gray, scaly. Small tree or shrub, bearing a great abundance of acorns.

Common on the rocky limestone hills in the vicinity of Texas.

**GUZMANNIA TRICOLOR** is a new plant of the Pine-apple family, from the West India Islands. Of no great merit.

**CHAMÆROPS FORTUNEI**.—This palm is now well known as "Mr. Fortune's Chusan Palm," and has attracted considerable attention on account of its comparative hardness. It is, indeed, the most hardy of all these princes of the vegetable kingdom that is as yet known to us, and the only one that has been proved to stand almost unprotected throughout the last ten winters in the latitude of London. In the Isle of Wight, under the shelter of the royal residence of Osborne, it has attained a height of ten feet in the open air, six feet being the height of the stem below the foliage, and its diameter fourteen inches at one foot from the ground. It has blossomed for the last three years, with no protection during the winter.\* Our plants at Kew were introduced by Mr. Fortune, in 1849, and have attained

\* *Chamærops humilis* is also flourishing in the open air at Osborne, but requires a little protection in the severest weather.

eight feet in height; the finest are moved into a conservatory during the winter, but others receive no other protection than a matting in the severest winter months.—*Bot. Mag.*

**SOLANUM RUNCINATUS** (*Runciate-leaved Solanum*).—It is a native of Chili, and was raised at Kew, from seeds sent from Coquimbo. It is a really ornamental species, and well deserving of cultivation in a greenhouse, continuing a long time in flower during the summer months. The corollas are of a bright purple color, with five blood-red stary points radiating from the base of the lobes, while the large anthers are yellow, from between which the green clavate stigma is protruded.—*Bot. Mag.*

## Domestic Intelligence.

**NATIVE GRAPES NEAR BOSTON**, by Mr. Davenport, in the *Boston Cultivator*. Mr. D.'s remarks on Rebecca confirms the views expressed in our last, that shade is of more importance to the grape-grower than is usually supposed.

*The Delaware* ripened with me this season from the 10th to the 15th of September. Vines two years out have this year made shoots twelve to fifteen feet in length, of strong, short-jointed wood. It is the most productive grape I propagate, and keeps long after being gathered.

*Blood's Black Seedling*.—A very hardy variety, never mildews, a free grower, of dark color, covered with a thick bloom, good size, flesh sweet and moderately juicy. It ripened with me this season August 25th to September 1st. Keeps well after being gathered.

*Logan*.—Ripened September 10th. An early grape.

*Hartford Prolific*.—Ripened with me this season September 12th. The dropping of this grape, sometimes complained of, may be obviated by judicious pruning and proper cultivation.

*Marion*.—Makes a dark-colored, rich, Port-flavored wine. Ripened September 1st.

*Rebecca*.—I do not class this with the other varieties spoken of, as to hardness, for in most situations it should be covered in the winter. I find my vines of the Rebecca, where they are shaded some part of the day, are much more vigorous and productive in their habits than others not shaded. Ripened September 15th, and will keep a long time after being gathered.

*The Diana* begins to ripen a few scattering berries the middle of September, which are sweet as soon as colored; keeps improving till the middle of October, if allowed to hang so late.

*Concord*.—Some of my vines ripened their fruit this season September 25th, but that of others more exposed was injured by the frost of September 30th.

WELLINGTONIA, OR SEQUOIA GIGANTEA; THE BIG TREE, OR WASHINGTON TREE OF CALIFORNIA.—We have not seen any thing that gives so good an idea of the immense size of these trees as the accom-



panying sketches from a French magazine. The one at the top of the page is ninety-five feet in circumference, and was, before the wretches—*arboricides* in the first degree—cut it down, three hundred feet high. The lower one shows an old decaying trunk, blown over many years ago, amongst the group in Calaveras County, near "Murphytown," through which parties ride on horseback.



THE RED SPIDER.—The *Michigan Farmer* publishes the following recipe, discovered by Dr. A. Bush, of Detroit:—Twelve ounces common soft-soap, three ounces (by measure) turpentine or camphine; mix well together. This is for six gallons of water, which must be stirred well together, and applied with a common garden syringe, or the same proportion for any quantity.

## Foreign Intelligence.

GRAFTING THE WISTERIA.—The Wisteria can be propagated by grafting by cleft the same as for the grafting of fruit trees. This method offers the advantage of having several varieties on one stock.—Best choose *frutescens* as stock, as it is a very vigorous grower.—*Revue Horticole*.

NEW ENGLISH RHUBARB.—Baldry's Scarlet Defiance was awarded a First Prize, May 2nd, 1860, by the Pomological Society of London, when eighteen varieties were exhibited; a portion of each kind was examined, baked, and also a portion examined green. The Society report that it is unquestionably a First-class Variety, very stout in habit, medium in length; pulp deliquescent, high colored, and richly sub-acid. Excellent for market as well as private growers.

GRAFTING WAX.—If many stocks are to be grafted, take 27 oz. of common yellow rosin, melt it gradually so as not to drive off the turpentine. When reduced to the consistence of a syrup, add 10 oz. of alcohol, shake them thoroughly together, and pour the mixture at once into a well stopped bottle. When the graft is inserted and tied in its place with a strand of matting in the usual way, cover the surface of the whole with this varnish with a small painter's brush. Such varnish may be used in any weather, and is neither affected by heat, cold, or wet.

THE AILANTHUS SILK WORM.—At a recent exhibition in London, Mr. Standish brought over some specimen of the new "Bombyx," which is just now making such a noise in France, as it feeds on the *Ailanthus glandulosa*, a much hardier and easier grown tree than the Mulberry; while the worm itself is more robust than the common silkworm, breeds faster, and spins a large quantity of silk. As the *Ailanthus* flourishes well in poor soil, large quantities of it will be planted in France, and it is hoped will become a valuable article in the economy of the silk trade.

## Horticultural Societies.

### THE FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

The Annual Meeting of the Society was held at Reading, and was universally considered one of the most interesting and valuable the Society has held. Our limits forbid us to give more than a faint abstract of the most interesting portions, made up from the notes of our own reporter. The official transactions of the Society can only do full justice to the session. The President, Dr. Eshleman, delivered the Annual Address. It was directed principally to suggestions for the more perfect working order of the Society. Punctuality and promptness in the discharge of their

duties by County and General Committees were shown to be essential to the prosperity of the body, and in this connection the labors of the Philadelphia County Committee come in for a just share of praise. Alluding to the progress in the art of propagation by cuttings, he suggested, as well worthy of the Society's notice, the effect these and kindred matters might have on the longevity of trees. He regretted the oversight which led to no report from Pennsylvania to the National Pomological Society at its last session; recommended caution in the Society's recommendation of doubtful varieties; and in allusion to the partial failure of the grape in the district the past year, recommended a greater reliance on the culture of the small fruits. He spoke of the importance of suiting the variety to the varying kinds of soil; and characterized many of the new candidates for public favor as likely to prove no better than the Massachusetts White. Yet he would encourage the continued raising of seedlings in every legitimate way. The Delaware and Bland were probably but accidental seedlings.—Care in the selection of breeders and hybridization might produce a race as large and as luscious as the Black Hamburg. The rest of the day was occupied in the routine business of the Society; and as the amount of business before the body was very heavy, the full file of reports of the various committees were referred to the Committee on Publication for preparation for their appearance in the transactions.

Mr. Harrison, however, at the special request of the meeting gave an extempore address on organic and inorganic manures. He characterized general culture as a system of robbing without restoring, and pointed out the necessity of a fair supply of potash, soda and other minerals' existence in soils to render vegetable growth healthy. He gave various analyses of soils and vegetable organisms, pointing out their mineral and organic constituents and their several relations to soils and manures. He regretted that chemical analysis was necessarily imperfect, and that, in consequence of discrepancies in the results of different tables, less confidence was reposed in the matter than the subject really deserved. He also read the analysis of three of the best English and two American fertilizers, and pointed out their great deficiency in the most vital inorganic elements.

Nevertheless, he had great confidence in the general results. He then showed the great waste of labor attendant on the employment of stable-manure in which near three-fourths of the matter was mere water. Eight per cent. of a ton alone consisted of the necessary inorganic matter. Plants required more organic matter when growing, and more inorganic matter when maturing. Systems of manuring should be based on this fact. The wants of the plant, as shown by the analysis of its elements, should be studied, and its wants systematically or specially supplied. The absence of this produced defective sap, and he believed all diseases of trees had their origin in this source.

Organic matter in the shape of stable-manure he valued very little. If the mechanical condition of the soil was rendered perfect, he thought all the organic matter necessary would be absorbed from the atmosphere. Draining and subsoiling effected this. The atmosphere contained an inexhaustible supply of ammonia in the best condition for the use of plants, and if the condition of the soil enabled water to pass rapidly through it, air followed the water, and, of course, ammonia with it. He made repeated references to orchards within his knowledge to support his views. Orchards well cultivated with stable-manure, rapidly and surely dying out,—others on the mineral-manure principle, or in sod without stimulating cultivation, and only top-dressings of ashes or similar matters, exhibiting long years of healthy and productive usefulness. Amongst others, he alluded to the pear-orchard of Mr. Terry, of Hartford, which for the three past years had been laid down in sod, and only surface-manured, and the trees were marvels of beauty, models of form, and pictures of health.

To show that it was essential that all the special requirements should be present, he alluded to the fact that the French vintners manured specially different when the grape was required for table or for wine, stable or highly stimulating manure rendering the grape almost worthless for wine.

He alluded further to Smith's Lois Weedon culture, where, by draining, subsoiling, and alternate year fallowing, enough organic matter was obtained from the atmosphere, and the natural solution of mineral matter in the soil, to produce, without other manure, thirty-six bushels of wheat to the half-acre, and which soil, before he commenced his system on it only produced fifteen. This soil is naturally rich in mineral plant food.

He alluded to peach and plum trees, and gave his opinion, founded on careful observation, that black knot and many other diseases arise from the bad condition of the soil. He had known hot water poured at the roots of peach trees have some benefit, but did not explain its action.

We have given but a pitiful abstract of this interesting essay, which was listened to with marked attention.

THE ADVANTAGES AND DISADVANTAGES OF PRUNING were then discussed.

Mr. Millhauer liked to have his trees trimmed high enough to plough under. Advocated trimming with an axe; objected to the saw. In a subsequent part of the discussion, however, he admitted that "his Rambo's and others had given out," and the Pennocks were the only ones that bore fruit any longer.

A. W. Corson cut out only all the useless wood for the first season, so as to give shape to the tree, but would prune very little after.

David Miller, of Chester County, was the Hercules of the evening for no pruning. He lets all kinds of fruit trees branch close to the ground, appearing like pyramids set on the surface. They are set closely together, so that they protect each other from sun and storms, and are enriched by their own fallen leaves. Only cuts out suckers. His orchards are ten years planted, and apples produce about fourteen bushels per tree. By his system, has no fear of branches breaking by their own weight, or being blown over by the wind.

A. W. Harrison would never prune if he could have the management of his tree from infancy. Would disbud such shoots with finger and thumb, as appeared where not wanted. Even in the raspberry, he only let such suckers grow as he wanted for fruit next year.

F. B. Cook remarked that systems of pruning depended on locality and climate. With him the Catawba Grape always rotted in proportion to the severity of the pruning it received.

W. Saunders viewed pruning in any case as a negative advantage. It was sound theory to remove the bud instead of the branch. Has made perfect specimens of pears without any use of knife. Whether pruning should be performed in summer or winter, depended on the object. If wood is wanted, prune in winter; if fruit, prune in summer. Fruit-buds are formed in fall,—pinching at that season, and producing new buds then, we therefore add to the bearing system of the tree. The subject was almost inexhaustible.

Mr. Baldwin, Dr. Eshleman and others gave their views, corroborative of what others had narrated. The last-named gentleman, in agreeing with Alan W. Corson's plan of only pruning during the first two or three years of the plant's existence, added that he did not cut close into the trunk the first year after transplanting, but left a snag a few inches long to bear a few leaves, which snags were, however, cut away next season.

#### CULTIVATION AND DISEASES OF THE APPLE.

David Miller, of Chester County, repeated his experience in low trimming. His soil was limestone. All his kinds did well, except Newtown Pippin, which bore but shyly.

Mr. Harrison, alluding to the last observation, remarked that all the most popular fruits gave out first. He thought this an evidence that high and stimulative culture had much to do with the fact, just as a pet child takes disease easier than more neglected ones.

Mr. Miller, referring to the wearing out of fruits, stated, that in his district a variety of pear, called locally the Arpine, (we understood,) thirty years ago used to produce so abundantly, that they were sent to Philadelphia by the wagon-load. These trees, and trees grafted from them, now bear nothing but knotty, scrubby fruit.

Mr. Heines remarked that soil exhausted of the required elements, rendered the trees constitutionally diseased, and grafting from such trees fixed the habit to a certain degree.

Mr. Baldwin, referring to the exhaustive theory, remarked, that in some orchards where Newtown Pippins were diseased, he had seen Baldwins thrive to perfection.

Mr. Saunders, referring to the scab on apples, spoke of it as a fungus; and gave, as the result of extensive observation, that sheltered orchards were not near as liable to disease as exposed ones.

Dr. Eshleman remarked that it was only of modern orchards that failures were reported; and Mr. Saunders replied that agricultural improvements had influenced the climate, and with its winds and the amount of atmospheric moisture had changed.

Mr. S. Miller, of Lebanon, had seen the best crops in exposed localities, and very bad ones in well protected spots. His remedy was clean orchards and rich soil.

Dr. Kessler never crops his orchard; uses only the harrow to keep the surface clean. Has fine crops.

Mr. Grider knew an orchard that was never cropped or had any manure applied. He had seen apples in that orchard so abundant as to cover the ground under the trees in the autumn several inches thick. Another party bought the orchard, ploughed it up, and cultivated it, and has had no crop since.

Mr. Millhauer advocated ploughing, heavy pruning, and top-dressing, but his orchards did badly now. One time to give a neighbor a few apples meant a "sackful," but he had quite a different meaning for the term now. The Pennock only did tolerably well, Rainbo and others did not. The situation was exposed.

Mr. Harrison remarked that if in the same soil Pennocks did well when others did not, he thought it could not be soil or exposure alone, but an inherent weakness of the variety giving out, communicated, perhaps, by being propagated from a previously weakened stock. Attention to the general laws of health, as in treating a patient for consumption, was the only remedy.

Mr. Baldwin agreed with Mr. Saunders, that the clearing away of forests had rendered the climate more changeable, which might account for more diseases than formerly.

#### BEST MODES OF CULTIVATION TO PROMOTE FRUITFULNESS IN TREES.

S. Miller would manure and cultivate when young, put in sod

when older, and keep a circle clear around each tree by scraping.

A. W. Harrison instanced two old Virgalieu pear trees in Connecticut, standing on either side a garden fence, one in "culture," one in sod,—the first now dead and gone,—the last bearing yet.

Mr. David Miller planted his trees shallow,—in fact, on the surface,—and seeded down at once with wheat. He mulched the following season with a compost of stable-manure, soapy water, hog-pen scrapings, coal-ashes, etc. In two years they had made a fine growth. It was then ploughed up and put down in corn, and not cropped, we understood, since. His peaches had been a great success. One year 170 trees produced enough fruit, at seventy-five cents per basket, to realize \$315. His whole system he summed up as follows:—Deep soil; plant shallow; branch the trees low, even to the surface of the ground, and apply a slight top-dressing of manure every year.

Mr. Saunders remarked that the topic under discussion was simply how to promote fruitfulness, and called attention to the fact that the intention was to inquire into modes of dwarfing, root-pruning, bending down of branches, summer pinching, etc.

#### TRENCHING, DRAINING, AND SUBSOILING.

Mr. Millhauer had seen good results follow draining in clay soils.

Mr. Harrison alluded to Mapes' grounds, to Mr. Reid's nursery, and Ellwanger & Barry's specimen orchard, illustrative of the practical benefits that had been obtained from underdraining. Trenching and subsoiling are not so beneficial as underdraining. It was an error to suppose that only wet soil needed draining.—People were misled by the term. It was a bad one. The driest soils were rendered moist in summer by underdraining. At Mapes' farm water was delivered from the drains during the longest drouth. Aeration was a more characteristic term than draining.—Deep drains were best. Fifty feet apart and five feet deep were better than twenty-five feet apart and but four feet deep. Where there were no outlets, drains could be run into wells. He had noticed at Rochester that the benefits of draining were in exact proportion to the depth and frequency of the drains.

Mr. S. Miller, of Lebanon, had drained into wells successfully. His experience of draining so far had been so beneficial, that if he had the capital to command for the purpose, he would under-drain even his hillsides, satisfied that in time it would prove the best investment he could make. There were so many advantages,—frost, for instance, from the air in well-drained soils, never penetrated deeply.

Mr. Baldwin stated that he had seen fine grapes on the prairies where no drains were used.

Mr. S. Miller replied, that when soil was filled with vegetable matter, as in prairie soil, it partook, in a measure, of the nature of our underdrained soil. A soil naturally porous may be said to be naturally drained.

Mr. Grider remarked that such Western implements as the Michigan Plough and other subsoiling implements showed that they, too, were alive to the importance of draining.

Mr. Lukens Pierce and A. W. Corson also testified to the advantages of the practice.

Mr. D. Miller did not believe much in underdraining, and it was, besides, expensive. On the contrary, the most productive trees he had invariably found by the side of springs, streams, and mill-dams.

Mr. Grider called attention to the fact that Mr. M. had lost sight of the real effect of draining. Underdraining made ground moist in summer—not dry.

Mr. Saunders explained this more fully, and said Mr. D. Miller's observations confirmed the advantages of draining. He underdrained a tract of clay land five years ago to the extent of 30,000 feet of tile. The drains were only two and a half feet deep. The ground was worthless before, producing nothing. No manure has since been applied; but last season it produced, for the first time, a superior crop of grass. In heavy clay soils his drains seemed imperative the first year. It took a season or two for the air to decompose the minerals in the soil, and for the water to find regular channels to the drains.

Mr. Millhauer had also noticed that fruit trees have done well alongside of spring courses led around hills; but always much best on the highest or hilly side.

Messrs. Grider, Harrison, and S. Miller gave further observations as to the good effects of the principle.

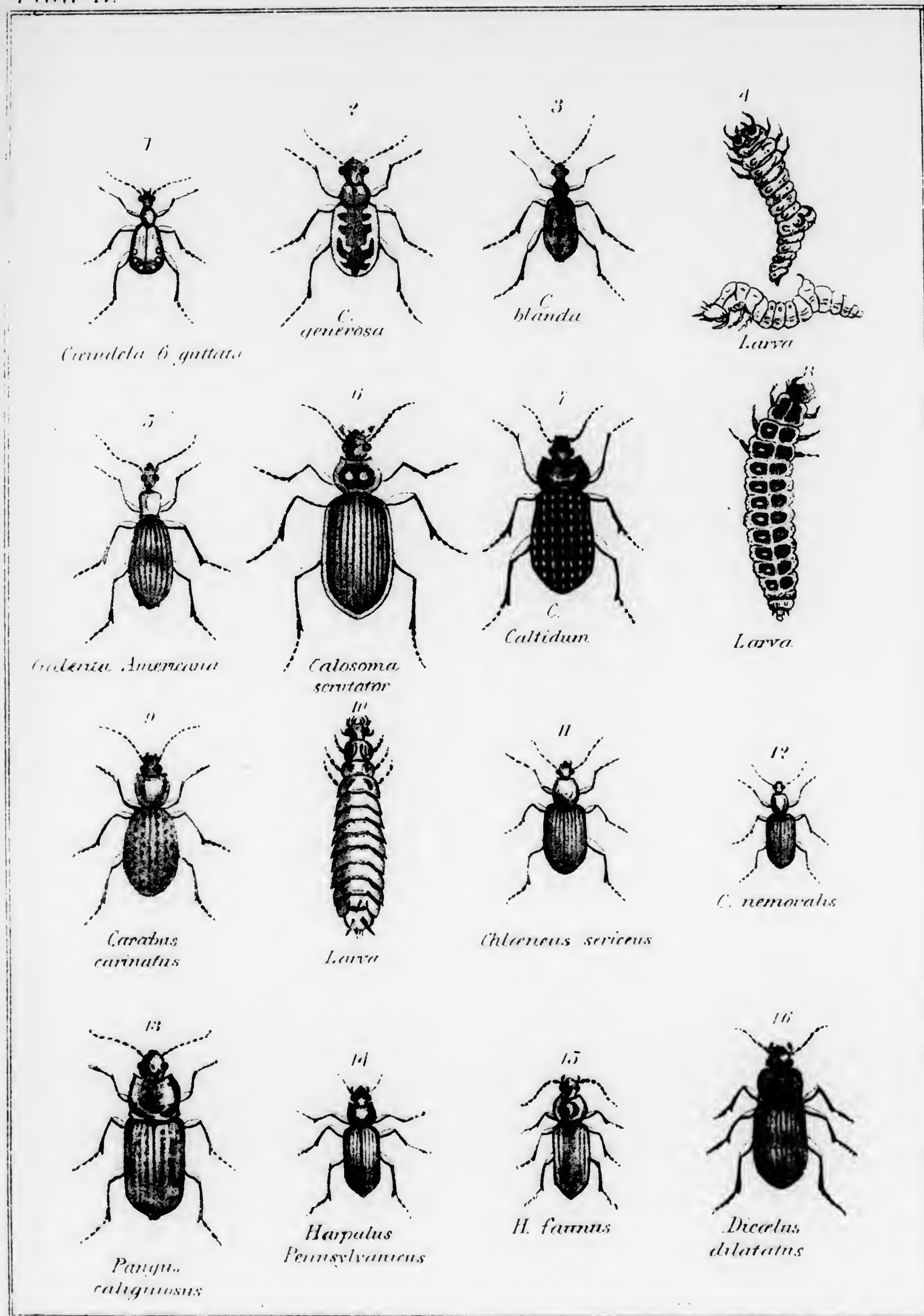
Dr. Eshleman explained further the aerating moisture depositing, and spring earth-warming principles of the practice, and had such good results from its employment, that grapes would grow five or six feet the first season in such ground, and has had Delawares to make a year's growth of sixteen feet, and Diana thirty-eight feet in the same way.

Mr. Saunders knew a market-gardener in whose underdrained ground vegetables were produced two weeks earlier than in that of his neighbors.

Mr. Heines thought that might be a disadvantage to fruit trees especially peaches, in bringing forth their buds too early.

Mr. S. Miller thought weakness from deficient draining rendered peach buds more susceptible to injury from severe cold.

The conclusion of our notes of this interesting meeting we shall give in our next.



Roseenth. 1846. Philad.

# THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

APRIL, 1861.

VOL. III.—NO 4.

## Hints for April.



### FLOWER-GARDEN AND PLEASURE-GROUND.

TRANSPLANTING is the uppermost idea at this season,—deciduous trees at the North, and evergreen at points more South. If the roots of the deciduous trees or shrubs appear dry, puddle them before planting. This is done by making a hole in a clayey or stiff piece of ground, filling it with water, mixing in a little cow-dung or other decayed manure, and stirring up together into a thin mortar, into which plunge the roots, so as to coat them with the mixture. If the tops appear shrivelled, prune in the branches severely, the more in proportion to the danger of losing the tree. It is well to prune all trees a little at transplanting. Plant only when the soil is dry and the weather calm. Pack soil well in between the forks of the roots with a stick or the fingers, and tramp in hard and firm. If the soil is as dry as it should be, tramping well acts like a roller, and crushes the soil into fine particles, which does not dry up like soil tramped when wet, which thereby becomes consolidated, rather than disintegrated.

Suiting soil to trees is an important element in success. Where quick growth is desired, it "pays" well to improve the soil. A tree that will grow but one foot in a poor and thin soil, will often grow five in a deep and rich one. Subsoiling and manuring, and then choosing young, thrifty, and vigorous trees, is the way to get "big trees" in a very little time. We measured a tree, a few days ago, which was a seed five years since, that had been thus treated, and found it 25 feet high, 1 foot 8 inches in girth 3 feet from the ground.

All trees do better in a deep, rich soil; but for dry places, some will not do at all well. Amongst ever-

greens, as a rule, most of the pines will do well in dryer soils than others, the spruces in intermediate places, and the firs in more damp and sheltered spots. The firs will not, any of them, do in dry soils. The Balsam Fir, particularly, is a miserable object in a dry and exposed place, while in moist and sheltered spots it is one of the most happy looking evergreens we have.

Many evergreen shrubs supposed to be difficult of culture, are easily grown in a deep and cool soil. Rhododendrons, Kalmias, &c., do well where these conditions of growth are attended to. The former is supposed to do best in the shade; but it does better in the full sun in a good and proper soil, than in the shade in a dry spot. The fact that they grow amongst rocks on hillsides gives rise to the idea that they like a dry soil; but our experience in their native localities proves that the coolest spots on a hot summer's day is where these plants are found.

In all large gardens a small piece should be set apart for a nursery, where the commoner things can be grown, both as a matter of interest to watch cutting growth, and to supply occasional wants and deficiencies about the premises. The only fear in such practices is that the disinclination to throw away or destroy what may not be wanted leads the owner gradually to view what should be his pets as objects of commercial interest; and when that feeling arises, half the pleasure of pure horticulture departs. Cuttings of most kinds of flowering shrubs root well if taken off just before they begin to shoot, and inserted full two-thirds of their length in a border of rich, light soil, prepared in a partially shaded place for them.

Almost all kinds of hardy ornamental trees will graft on kindred species, so that when any kind proves objectionable, others more favored may be grafted on them, and a change thus be effected without much labor and time. Several kinds may also be grafted on one tree, and thus interesting combinations be made on the same plant. In the latter case the weakest growing kinds should be placed near the top of the tree, and stronger kinds lower down, so as to make the growth ultimately equal. Hardy Perpetual Roses are often budded on the Manetti

stock, which renders the bloom much stronger and finer, and, many say, the plants more hardy and durable; but suckers from them are very frequent, and if not taken off, they ultimately destroy the rose grafted on them. Roses should be examined now, and any such suckers that may have before escaped notice be taken off. Some are not able to distinguish Manetti Rose suckers from the "good" roses; and others will be in doubt whether their roses were budded or not, especially as some rose-growers grow their roses by grafting scions on pieces of roots, and sell them as "roses on their own roots." But even these at times produce suckers, and the safest plan for those who are not well acquainted with the stock is to take off all suckers that spring from their roses at or near the surface of the ground.

Roses like new and fresh soil, and the ever-blooming kinds, such as Tea, China, Bourbon, and Noisette, may be removed every other year to other parts of the flower-garden without much injury to their flowering the same season. They must be pruned severely, however.

April is the month when every one visits his neighboring florist's greenhouse in search of new or choice bedding plants. A great many new introductions of last year are now getting cheap, and will be fully tested on their merits this season. For instance, the new Chinese Dianthus, *Silene rubella alba*, *Pyrethrums*, *Cuphea Danielsiana*, Double *Zinnia*, *Gazania splendens*, &c. It is singular how long it takes a plant to become new and popular. To the father of the writer of this, the horticultural world is probably indebted for the preservation of the *Gazania splendens*, or *uniflora* as a variety was called in his time; and nearly twenty years ago the writer called attention to its merits as a bedding plant in one of the gardening periodicals of the day. But that was in a moister and cooler climate, and our experience then with it does not warrant us in believing it "will do well in hot, sunny places."

Climbing vines are great objects of interest in a flower-garden. Very pretty conceits may be formed out of them in connection with baskets, mounds, pillars, trellises, arbors, &c. The following are some good ones that can be raised from seeds sown now: *Calampelis scaber*, *Loasa aurantiaca*, *Lophospermum erubescens*, *Nasturtiums*, *Thunbergias*, *Tropæolums*, *Morning Glories* (*Ipomæas*), and *Fumaria* or *corydalis*. Kinds that are best set out as plants, some popular ones are *Solanum jasminoides*, *Maurandia*, three kinds, red, white, and blue, *Pasison Flowers*, *Ipomæa Learii*, *I. ficifolia*, *Cobea scandens*, *Senecio scandens*, *Mauvette glabra*, and *Physianthus albens*.

In choosing plants from a florist for bedding, select such as are dwarf and stocky and have been, if possible, a little hardened by exposure to the air.

Hanging vases for arbors, piazzas, and rooms have become an "institution," and demand recognition in this regular column. A list of six good kinds of plants for the purpose, that can be obtained anywhere, is: *Tradescantia zebrina*, *Linaria cymbalaria* (Kenilworth Ivy), *Lysimachia nummularia* (Moneywort), *Saxifraga tomentosa*, *Sibthorpia Europæ*, *Selaginella* (any of the trailing species), *Vinca major variegata*.

We would repeat what we have before advised, that the amateur should pay more attention to the cultivation of florist's flowers, as a source of refining amusement. The Carnation, Auricula, Pansy, Polyanthus, Phlox, &c., afford those who have no greenhouse a chance to enjoy this gratification cheaply, as they require but the protection of frames in winter. *Gladiolus* have been much improved the few past years, and "everybody" grows them, as they seem much at home in our climate. Now is the time to set them out. The same applies to *Tuberoses*. Box-edging may now be cut, tender annuals sown, and the whole place speedily put in order to receive summer company.

#### VEGETABLE GARDEN.

In dry soils and very southern localities, gardening has already commenced in this department; but very little can be done generally till now, for, in spite of all that has been said of the advantages of underdraining for so many years past, not one garden in a hundred is so improved, though it is a well-ascertained fact that such ground can be worked much earlier in spring. It is a great mistake to crop ground till it is so dry that it will not compress when trodden upon. Ground worked when wet is the first to dry out when dry weather sets in. Peas, potatoes, early cabbage, spinach, salsify, lettuce, radishes, and onions require the first attention among seeds; and for permanent root crops, asparagus, rhubarb, sea-kale, horse-radish, parsley, and herbs such as thyme, sage, &c. After this come beans, late cabbage, carrots, parsnips, beets, leeks, &c.; and towards the end of the month or beginning of May, tomatoes, egg-plants, peppers, celery for early crops, cucumbers, melons, and the more tender varieties.

Every one makes it an object to have vegetables as early as possible; and through our last two volumes many hints have been given to bring crops forward. We saw in an agricultural paper somewhere, recently, the recommendation to scoop out

turnips, and fill with rich soil, and set an egg-plant, tomato, or other desired plant, one in each turnip, keeping them in the hotbed till time to set out, when the turnip and all was planted. The idea struck us as any thing but a bad one.

## Communications.

### THE NEW ROSES.

BY JOHN SAUL, WASHINGTON CITY, D. C.

As there is no other flower so popular or universally grown as the rose, neither is there one in which a greater improvement has been effected by florists. They have recently given us classes of Autumnals which rival or exceed in beauty their namesakes of June. Among those are the beautiful class of Perpetual Moss, fully equalling, or surpassing, that class of summer. Again are the beautiful Hybrid Perpetuals, exceeding in brilliancy of coloring the *Gallicas* or *Damasks*, and rivalling in fragrance the *Provence*. Other classes may be cited with claims equally great.

The number of seedlings sent out annually of those various classes is considerable. They are principally raised by French florists; though of late some of our own have sent out several good flowers. Cultivating considerably all the newer sorts, I thought some remarks made from flowering plants in my collection might be interesting to your readers. We will begin with the finest class of all.

#### HYBRID PERPETUAL.

No others stand so high in Europe or this country. Perfectly hardy, for the most part vigorous growers, with finely-formed flowers of every hue—deliciously fragrant. Among these, *Ambroise Verschaffelt* is a fine purplish rose, dark lilac edges, large, double, and of good habit, vigorous, free grower, beautiful. *Anna Alexieff* is a luxuriant grower and free bloomer, color a clear rose, and fine form. *Anna de Diesbach* has been figured in "Paul's Rose Annual for 1859-'60," and highly commended; with me it fully maintains its high character; flowers are very large, of a fine, clear rose color. *Adroisce de Lyon* is a most robust grower, producing large bold flowers, very double, crimson and slate color. *Armide* has flowers of a rosy salmon, very distinct and fine, vigorous habit. *Beaute de Royhem*, a rose occasionally edged and striped with white and carmine, growth moderate. *Bouquet de Marie*—we have here a color wanted in this class—a pure white; the flowers individually are small, but produced in clusters like a *Noisette* very double and pretty, a vigorous grower. *Comtesse de Chabillant*

—this exquisite rose is figured in "Paul's Rose Annual" for the present season; we only occasionally get so fine a flower, one that is destined to be as popular as *Geant des Batailles*, *La Reine*, *Souvenir de la Malmaison*, *Devoniensis*, &c.; flowers are a beautiful rosy pink, finely cupped, large and double, very sweet and good. *Delamothe* has flowers of a shaded rose, large and double, of vigorous growth. *Eugene Alary* gives flowers of violet rose, beautifully cupped, large and double, a vigorous grower, beautiful. *Eveque de Nimes*—this flower is now pretty well known, but I cannot pass it by without a notice—one so gorgeous, flowers in form like a rosette, large, double, of a brilliant purplish crimson, glowing, superb. *Empereur de Maroc* approaches, or quite equals, the old *Tuscany Rose* in color, rich velvety maroon, of fine form; this will prove one of our standard flowers. *Imperatrice Eugenie*, an exquisite gem, habit rather dwarf, white, sometimes tinted with rose, double, distinct and beautiful. *L'Abbe Feytel* is a robust grower, giving large double, fragrant flowers of brilliant rose. *Louis d'Antriche* has deep violet flowers, very large and double, a vigorous grower, fine. *Louise Magnan*, a white, tinged with flesh, large, full flower, habit very vigorous. *Madame Bruni* has a most vigorous habit, a free bloomer, color a delicate peach, large and double, *Provence-scented*. *Madame de St. Genet* is a robust grower, flowers a bright crimson, shaded with violet, large and double, a superb rose. *Madame Varin*—an exquisitely-formed flower of a delicate pink color, large and double, a vigorous grower. *Mademoiselle Auguste* promises to be a standard flower, color a bright glossy pink, large and double, fine shape, vigorous grower, magnificent. *Mademoiselle Boyer* is a vigorous grower, flowers glossy pink, cupped, finely-shaped, large and full. *Mademoiselle Haiman*—in this variety we have a new and lovely color, brilliant cerise, not very double, finely cupped. *Mignard* is a bright crimson rose, light edges, fine shape, vigorous grower, a very beautiful rose. *Oderic Vital*, a very robust-growing variety, flowers are very large, double, of a silvery rose. *Queen of Denmark* has been figured in the "Rose Annual" for 1859-'60; color lilac flesh, transparent, very large and double, finely shaped, a magnificent flower. *Triomphe d'Avranches* is a beautiful brilliant crimson, very large and double, a superb rose. *Virginal*, superlatively beautiful, pure white, large and double, of excellent shape, growth moderate, very distinct.

#### BOURBON PERPETUALS.

This class, less numerous than the former, has given some pretty flowers. *Lord Elgin* is a vigorous grower, of fine habit, flowers blackish-purple

and crimson, a very beautiful and distinct new flower. Lord Palmerston has flowers cherry red, full, fine form, profuse bloomer, a distinct and exquisite rose. Madame Comtesse, flowers flesh-color, large and full, vigorous grower, beautiful. Thomas Rivers has fully come up to its reputation the past season, bright rose, with deep centre, large and double, a vigorous grower and free bloomer.

#### BOURBON ROSES.

In this class we have a few good novelties, though of late years it has not increased in numbers as the Hybrid Perpetuals. Comtesse de Barbantanne is of dwarf habit, flowers flesh-color, large, full and finely shaped, a very beautiful flower. Dr. Berthet is a brilliant cherry red, large and double, of fine form and vigorous growth. General Blanchard—the habit of growth is moderate, flowers transparent rose, good shape, double, a pretty flower. L'Avenir proves a vigorous grower and free flower, a brilliant rose, large, full, and of good form. Madame Marechal, flowers a clear flesh, white edges, double, moderate growth, very good. Monsieur Jard may be classed among the vigorous growers, color a cherry red, large and double, very beautiful. Octave Fontaine, white, tinted with flesh-color, fine form, growth moderate, a very beautiful flower. Omer Pacha is of moderate growth, color brilliant crimson, large and full, a superb rose. Souvenir de l'Exposition—the growth of this is moderate, color dark crimson, dazzling, large and double, one of the finest deep roses in this class.

#### NOISETTE ROSES.

Novelties here are few. Favilla, a vigorous grower, with flowers of a purplish-crimson, large and double, is distinct and good. Jane Hardy, like Isabella Gray, but flowers said to expand better, which has proved to be the case with me, rich yellow, large and very double, growth vigorous, foliage beautiful, a superb rose. Mademoiselle Aristide, a variety of much promise, a luxuriant grower and free flowerer; color a pale yellow, centre salmon, large and double.

#### TEA-SCENTED.

We have here many good new sorts. Archimede, a rosy fawn, dark centre, large and full, growth moderate. Gerard Desbois is a vigorous grower, flowers bright red, large and double, very showy, a fine new flower. Homer, flowers rose, centre salmon and flesh, variable, large, full, globular, growth very vigorous, a superb rose. Madame Damazin, a fine vigorous grower, color a salmon-flesh, large, full and of fine form, beautiful. Madame William—this flower I have bloomed the past two summers, and it has fully maintained its character as one of the finest new yellow roses; Paul described it as

nearly intermediate between Elize Sauvage and Devoniensis, which it appears to be, large, full, and of fine form. President—this fine new Tea has been figured by Paul in his "Annual" for 1859-'60, and more recently by Moore in the *Floral Magazine*; color rose, shaded with salmon, large, full and of fine form, growth very vigorous, superb. Socrates, deep rose, centre apricot, large and double, a vigorous grower, fine.

#### THE CINERARIA.

BY W. KEATING, BAYOU SARA, LA.

It is not always that we see this nice and useful flower grown or bloomed as it can and ought to be with but little expense and trouble if it is done in season and properly. In a climate like our's, (indeed, in any,) the chief success depends on the first efforts; that is, get the plants well established ere winter. I sow my seed the latter end of August in pans half-filled with broken pot-sherds, using a compost of equal parts of peat, leaf-mould, and sand, well broken, mixed, and sifted. I put the coarse siftings over the pot-sherds; fill with the fine; press the whole nicely with the bottom of a flower-pot; sow the seed; cover lightly, and then water with a fine rose-pot. A close frame, set on coal-ashes and facing the north is, by far, the best position to place them in at this warm season; for in this way the direct rays of the sun do not strike the glass. And by sprinkling and shade, the atmosphere is kept moist and humid,—two essential points to get the seed to germinate quickly.

When they begin to appear, air must be admitted; but harsh currents must, at all stages of their growth, be avoided. And when they are sufficiently large to handle, they require pricking into pans or pots as directed for the seed; returned to their former quarters, and kept close for two or three days. This rule it is quite necessary to adhere to each time the plants are repotted. By the time they cover the surface of the pans, shift into small pots, and be careful to get them up with soil attached to their roots. As soon as they have filled their pots with roots, shift into larger, and continue to do so until they are in a convenient size, say eight or nine-inch pots. The soil now used ought to be two parts of loam, one of leaf-mould, and one of well-rotted cow-manure, with a liberal supply of sand. This to be rough and well mixed with pots well drained will insure success under any circumstances, climate, &c. It will be found necessary to go over the plants often, and remove decayed leaves, &c.; and as they progress in growth, more room must be given. No plant, perhaps, is more impatient of heat—artificial heat—than the cineraria; consequently I find a cold

frame well protected. As the skill of the grower may devise, the best place for them till coming into flower, when, of course, they will be removed to the stove-house or conservatory, there to repay with their beauty all the interest bestowed on them. Some prefer pinching the flower-stems, but I do not; for by leaving them, they produce better and more robust blooms. And again, if pinched, they are too liable to become straggling or uneven, and much of their beauty is diminished. If they are wanted for exhibitions, care must be bestowed on forming the plants and making even the heads of bloom. This is done by pressing the young shoots down, or by tying a string under the rim of the pot, and laying a few small sticks across, fasten them to the string, and then tie as they advance, keeping them both dwarf and even. I need hardly remark that good named varieties must be grown for the latter purpose; and when done blooming, cut down and planted out on a shady border in a rich sandy soil. Attend to them with water, and in August or September take the young root-shoots and pot singly into small pots, and follow the directions given.

I promised success under all circumstances. I did so for two reasons. The first is, I never saw a failure, and I lived with a man for three years who took the first prize at one of the first Metropolitan Exhibitions in Europe for a number of years. The other reason is, when I came here to the South as gardener last fall, Mrs. Fort, who is passionately fond of flowers, told me it was difficult, if not impossible, to grow them in this warm climate; but now she evinces the greatest pleasure and some surprise in daily viewing their health and strength.

If it would interest any of the readers of your valuable journal, I will be but too pleased to inform them of my future mishaps or success with the cineraria. [Please do.—Ed.]

#### A CHEAP HOT-WATER PROPAGATING-TANK.

BY M.

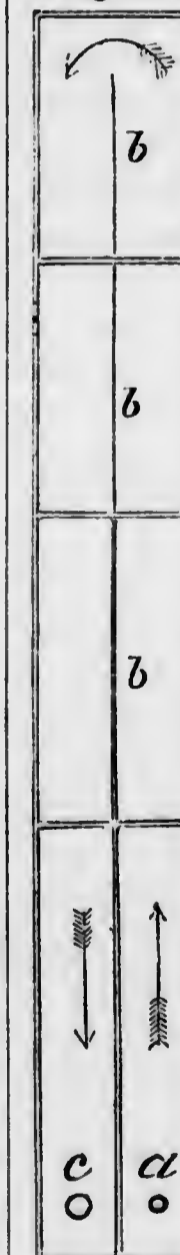
THE principle of heating by hot water flowing through open tanks was first invented by Mr. Rendle, a nurseryman at Plymouth, England, about twenty years ago. For a time it attracted great attention. The simplicity of its principle and the economy with which it distributed heat, together with the moisture combined with it, seemed to foreshadow its universal application to all purposes where bottom-heat was required. Like many more good principles, however, it was found, in time, to be expensive, through the difficulty of preventing leakage, unless tanks very costly in the first

outlay were employed, and consequently the system has fallen into disrepute.

Believing that the principle was capable of a cheaper application, the following tank was constructed three seasons ago, as an experiment; but it proved so efficient, that it has been suffered to remain as at first put up, without any alteration, modification, or repairs. In fact, matters, which from their supposed weakness indicated but a temporary use for the structure, proved its strong points, and the acme of its perfection.

The tank is built on strong trussels, in and at the place where it is to stand. It is formed of one-inch white pine boards, with their side edges planed quite true by a good workman, and not tongued or grooved. Tonguing and grooving is an evil. The end edges are cut quite square. The end edges are, in a manner, tongued and grooved; but hoop-iron is used for the tongue, and a groove is made in each of the two meeting edges of the boards by a saw, and the iron forming the tongue driven tightly into the groove thus made. The iron corrodes a little in the wood, and a water-tight joint is effected.

Fig. 2. Across the top of the tank, every four



or five feet apart, hoop-iron is stretched and carried down the sides of the tank (which are six inches deep), and is fastened to the edges of the bottom boards of the tank. This prevents any spreading out by weight of water in, or pots or soil on the top of the tank. As a covering to the tank, weather-boarding is used. Slate was thought of; but on a careful balancing of advantages and disadvantages, profit and loss decided on wood. Leaking was the only point feared from a tank so cheaply constructed. To guard against this, the tank was filled with water, and a hot fire, on a sunny day, made in the house. The water in the tank kept the joints closed, while the external heat caused the joints on the outside to open near an eighth of an inch, into this caulking (pitch and tow) was firmly plugged, the operation occupying one man two hours, and it has kept perfectly tight to this day.

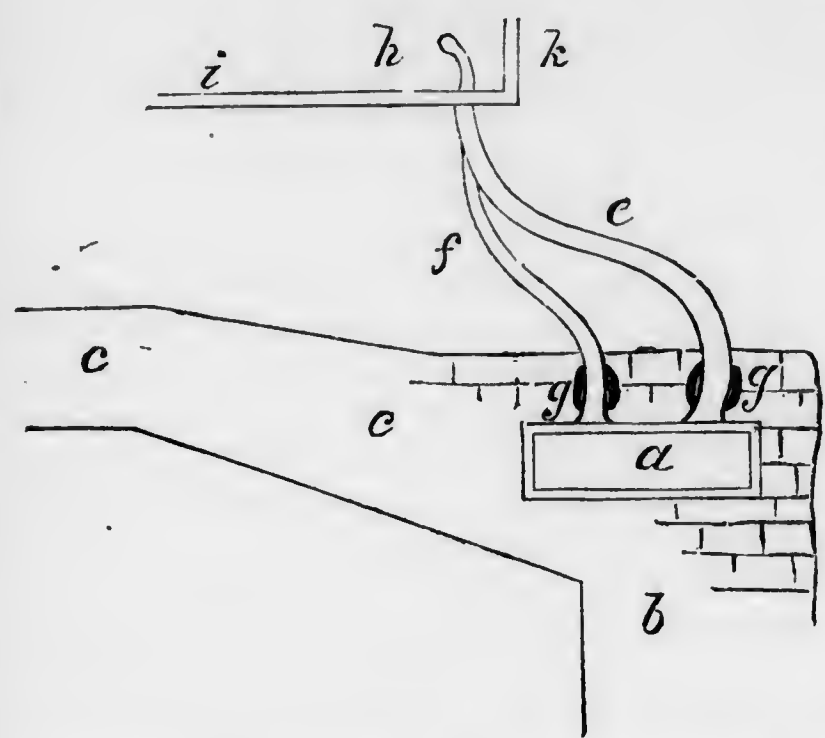
Fig. 2 is a "ground-plan" of the tank, the arrows showing the circulation of the water, which enters the tank at *a*, passes round the division-board *b* to the return-pipe *c*.

The circulation is effected by the connection of a small boiler and lead-pipes with the tank (Fig. 1). *a* is the cast-iron square boiler, bought in a second-



hand iron store. It holds about two or three quarts of water, is about fifteen inches square, and forms the head of the furnace below (*b*), of which *c* is the flue. *e* is the return-pipe, placed near the end at the

Fig. 1.



furnace-door, which is the coldest part of the boiler. *f* is the flow-pipe, at the warmest end of the boiler. The pipes are of lead, soldered on to the cast-iron nipples of the boiler at *g*, the whole of which is imbedded in the brick and mortar work of the furnace, the flue of which (*c*) runs along in the house under the tank.

It was supposed that the circulation would be aided by making the return-pipe (*e*) larger than the flow (*f*), and by carrying the flow two inches above the bottom of the tank, where it curves a little (*h*); *i* being the bottom, and *k* the end of the tank, which, as represented in Fig. 2, is thirty feet long by three wide. Leather washers are put around the pipes at their connection with the tank, white-lead put under them, and nailed closely down with tacks to prevent leakage there. With but two inches of water in the tank, and a moderate fire, the temperature of the water at the flow-pipes is 120°, at the return 90°, having lost 30° in its circuit of sixty feet. When there is necessity of a very strong fire on cold nights, three or more inches of water is put in the tank, which keeps it from getting too hot.

The whole of this structure, including tank, pipes, and boiler, (furnace and flue had been built before,) labor and materials was under twenty-five dollars, and is deemed as durable and substantial as if one hundred dollars had been spent on it. "Nothing new" is claimed for the principles, as "the critics" may be informed in advance; but for substantiality and cheapness, it cannot be, perhaps, surpassed. Hundreds have been since built on the same model

by many enterprising nurserymen and amateurs in different parts of our country, to the great satisfaction of the writer of this chapter, who feels more pride in the substantial advancement of the interests of horticulture and horticulturists, than anxiety for any particular credit his humble labors may be worth.

Since writing the above, an article in the *Country Gentleman*, by Mr. J. Salter, of Rochester, details a very expensive affair erected by that gentleman, the inside lined with lead, &c., and which contains the astonishing announcement that the system of heating houses by shallow hot-water tanks, instead of pipes, originated with him! But the description of misapplied power the article furnishes, shows that Mr. Salter was not really acquainted with the history of tank-heating, and that in the originality of his idea he is, *honestly* mistaken.

#### LANDSCAPE-GARDENING.

BY THOMAS MCCLUNIE, WESTERLY, N. Y.

It has been asked, *Is landscape-gardening an art or a trade?* I should say it is as much one as the other. Mechanical arts are trades. The fine arts are more scientific, and call forth a greater exercise of mind, refinement, and natural good taste. Landscape-gardening may be defined as a science, practical in its developments. It embraces good taste in arrangement, combined with scientific and practical gardening, applied to beautify the landscape.

Simple gardening, or gardening without landscape prefixed, is also a science, practical in its developments. It embraces botany and a knowledge of the various kinds of care each plant requires. Chemistry also aids it.

Landscape-gardening, like good taste, is a gift, and every lover of the fine arts is supposed to possess the gift of good taste. The height of good taste is the love of nature. But it is necessary first to familiarize ourselves with nature's forms, before we can form a model of taste.

It is the pursuit of every good gardener to know the real character of the plants he is dealing with. It is the gardener's business to assist nature and provide for the wants of the plant, that it may develop itself in healthy beauty. So, on these grounds, we would claim that it takes a gardener to be a *landscape-gardener*.

I would not count a man not a landscape-gardener because he was not born and brought up in a garden; but he should be a practical gardener. It is the study of a lifetime to be a proficient in all the branches of gardening, and too much time cannot be afforded to mere extraneous branches.

I would not blame the Frenchman, German, or New Yorker with the faults Mr. Woodward proposes. But too much of any thing is a hindrance, —not more so to gardening, in particular, than to any thing else.

I never meant to say that because a man may be a proficient in any other business, that he is unfitted for the duties of a landscape-gardener; but he is unqualified to beautify the landscape to an exalted degree of perfection, unless he is or has been a practical gardener.

As illustrative of these views, I would further remark: First. Landscape-gardening is *gardening*.—The MAKING BEAUTIFUL by the scientific and practical application of planting, digging, levelling, mounding, dressing, building, or removing unsightly objects. Also manuring, draining, and general improvement of the soil, that grass, trees and flowers, vegetables and fruit may grow to perfection when planted. And it is of the utmost importance that the designer should be able to direct the work, or to do it. If he is not, his qualifications to design are of the most limited nature. He may see the castle or garden in the air, but he cannot command the material to make it permanent. He may think he can go to the nursery and get what trees suit him, and so on; but the trees will not remain as he plants them. The big tree, costing five dollars, will be outstripped in three or four years by the little one at its side that you paid twenty-five cents for; and that handsome little evergreen that he planted on the walk, will probably have to be cut down or trimmed out of shape in two years, because its branches will extend twenty feet in diameter in a very little while. Paint remains where the painter puts it, but your trees run away and spoil the picture.

And so a gardener must know the proportions that his trees will attain. He has this foreknowledge to govern his taste in creation of landscape scenery.

A farmer, to have healthy stock, must know how to feed them. Chickens and horses do not feed alike; neither do plants, and a gardener knows their necessities. Science is often lost without a knowledge of minute practical details. Even Barnum has been humbugged by the lack of it. While on his farm at Bridgeport he read in the *New York Herald*, that to steep potatoes in copperas-water for a given time, would prevent the rot. It is said he did so, and planted them; so they did neither rot nor grow. And an inexperienced hand in tree-planting, when attempting grace and ease in design, may produce the reverse by injudicious combination.

A doctor sent an order to an apothecary for two

articles, to be applied separately to a patient; but as "separately" was not mentioned in the order, (the doctor thought it unnecessary, supposing the apothecary should know,) the apothecary put up the articles in one bottle. The doctor coming in, inquired, "What have you done? Don't you know that these combined make a deadly poison?" The apothecary laughingly applied the bottle to his mouth, and said, "Haven't I drank them repeatedly?" then fell backwards and died.

So in gardening,—things well enough by themselves work badly together. An injudicious application of fertilizers will kill a tree or plant, and an injudicious combination of trees, &c., will kill all harmony.

Landscape-gardening is not absurdly inaccessible. If you are a good gardener, you only want to add the gift of good taste, and improve the combination. Mark what has been done in the art, and excel it if you can.

Many a good horticulturist and florist are not skilled nor have the taste to lay out grounds; but from the gardeners we would select or make the *landscape-gardeners*, as a captain would select a mate from experienced navigators.

All the absurdity concerning architects, surveyors, civil engineers, draughtsmen, and painters becoming landscape-gardeners, is that they should, all at once, become possessed of those acquirements that take professional men a lifetime to learn!

I never read Mr. Copeland's work on the subject, but am pleased to think my views agree with his.

#### NOTES ON THE LAWN GRASS SUBSTITUTE—SPERGULA PILIFERA.

BY B. C. TOWNSEND, ESQ., BAY RIDGE, LONG ISLAND, AND H. W. SARGENT, ESQ., WODENETHE, N. Y.

The following is an extract of a note from Mr. Townsend, received too late for our last number. We enclosed it to Mr. Sargent in the interim, and have been favored with further particulars from him, and the two letters together will be read with great interest by the whole public who have been watching for the earliest reliable information on the subject.

With regard to Mr. Townsend's observation on the sand of Long Island we may remark, that the English themselves have conceded its unfitness for such soils, and recommend for this, instead, the *Spergula procumbens*, which, they say, does well in sandy places. The following are Mr. Townsend's observations:

"The *Spergula* is greatly eulogized in England, and, although there is even there some little hesita-

tion to entirely endorse its use in some quarters, yet the bulk of the testimony seems to be in favor of introducing it in all gardens where high finish is required, and for lawns even of considerable size, as it saves the great labor with the scythe, and only needs rolling say once a week. I am somewhat discouraged in my own trials of it; but as I live in a decidedly sandy district and did not prepare soil especially for it, it may be that the trial is not a fair one, and if it answers in localities where a loamy soil abounds, and answers well or stands the intense heat of summer, I should, on learning that it thus succeeded, feel inclined to prepare soil especially adapted to its culture. On my return from England in July last, where I had seen it doing finely with the heavy rains they had there, I was much pleased to see my plot (which was planted early from young plants pricked from pots from seed sown early, and, by-the-bye, the seed germinates very readily) looking of a fine healthy green, and completely covering the soil, although single plants were pricked in at about two inches apart. It thus spreads and covers the surface close and evenly. But in the months of August and September, what with the intense heat and want of rain, it began to die out in great brown patches, looking altogether in a very wretched condition, showing it to be, in a sandy soil, although well and deeply trenched, quite unsuitable. The fall rains seemed to revive it, and from the bare spots the roots began to start again and throw a new growth thinly, but it never recovered a decent appearance. It is now covered with snow, and what its condition may be next spring remains to be seen; but unless I am encouraged by trials in other quarters or soils which may seem better adapted to its culture, I shall abandon the attempt to grow it.

"For those who know the labor connected with the proper keeping of a lawn in this country, even with the patent mowers, this grass promised a great relief, and in my district much interest is felt in the matter. If, therefore, you can, from other experience, encourage us to persevere, I should be glad to know it. If not, perhaps the experience here narrated may save much unnecessary labor of the same kind; for there are, doubtless, many like myself either in a quandary or possessing information which we all want."

Under date of February 25, Mr. Townsend writes:

"Since I wrote last, the snow has disappeared, and my plot of it looks wretched, indeed. I feel almost certain that it will not succeed on sandy soils. The sun in the height of the season will destroy it."

Mr. Sargent writes:

"I cannot really say any thing definite about the

Spergula. It certainly has not gone on progressively improving, and yet it has not failed sufficiently to warrant its rejection without further trial. I should say, in a few words, that it certainly seems to do better in the winter than in the summer; or rather to stand the winter better than the summer. Even this remark should be qualified, because it has not been tried (by me, at least,) in an open winter. Under snow, and even under transparent ice, it comes out beautifully green and fresh, and continues to hold its color perfectly well uncovered since the snow has disappeared, though every lawn that surrounds it is quite brown.

"I think I could venture to say, from two winters' experience, that I do not fear the cold. But I am not so sure about the heat. The experience of your correspondent from Bay Ridge is similar to mine. In July and August it certainly does get spotty and die back in brown patches, which would destroy its value for a lawn; and yet I do not know that it looks worse than many young lawns do in severe droughts.

"I have observed that when the sods get thick (some of mine are from two to three inches thick) and form a deep, dense mat, like a piece of green velvet three or four times doubled, that the sun does not affect them, but they preserve their color and elasticity through the hottest weather, but patches of it, only one-quarter to one-half an inch thick, scorch and wither irregularly.

"I cannot, therefore, help hoping that when the sods get well established, thick and tough, that the heavy, dense, closely-packed mat they form, aided by the deeply-descending roots, may make it valuable in the same way as an old sod resists drought when a newly-laid-down lawn will not.

"I shall certainly act upon this impression for another year before I abandon it; for I am not without belief that we may be able to establish it in this country, though it will require longer time and more perseverance than in the moister climate of England."

TORREYA GRANDIS is, in its native habitat, a noble tree, rising to the height of 100 feet, and perfectly hardy; so much so, as to have stood the last winter out of doors at Hamburgh.

C. D. GOODRICH'S SEEDLING POTATOES.—In the *Prairie Farmer* of Dec. 6, Oliver Taylor, of Loudon, Virginia, who has thoroughly tested Mr. Goodrich's seedling potatoes, among which are the "Early Peruvian," says it has not its equal in all the characteristics of a good potato, also the "Garnet Chili" and "New Kidney," which have many good qualities.

## ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(Continued from Page 71.)

## INJURIOUS INSECTS.

As to the remedies to be employed for the destruction of insects, much remains for development; and therefore I would suggest to gardeners and fruit-growers, that they avail themselves of all the means that may come to their knowledge, unless they have reason to believe that the remedy would be worse than the disease, and would involve the injury of their vegetables and trees to a greater extent than if the insects were not disturbed. Many of the remedies employed, however, for preventing the curculio from attacking fruit, can do no harm, if they do no good; at the same time they betray a great ignorance of the capabilities of the insect. Smearing the trunks of the trees with a band of tar or other sticky substance, or tying raw cotton around them to prevent the insect from walking up the tree to get at the fruit, seems to be a very simple contrivance to baffle such an enemy as the curculio is. It must be borne in mind that this insect is provided with an ample pair of wings, which lie folded up under its rough wing-covers, and that, when occasion requires, it can also make ample use of them. Spreading a sheet under the tree and jarring it, morning and evening,—when the insect mimics death and will drop into the sheet, and should be immediately burned, for he does not long continue thus to "act the possum,"—seems to be the most practical remedy. There are some insects, however, that may be prevented from ascending trees by the employment of gum, or tar, or some other sticky substance, either smeared on the bark or on a rim of leather or paper placed around the trunk of the trees. There are a number of destructive caterpillars, the female parents of which are destitute of wings; and as some of these undergo their transformations in the ground, when they come out they cannot ascend into the tree to deposit their eggs, for their progress up its trunk will be interrupted by the contrivance alluded to. But there must be frequent renewals of this smearing, and it must be of such consistency as not soon to harden, in order to have the intended effect.

At the proper season the flowers of the *Ailanthus* should be collected and dried and kept for such occasions as they may be needed. A decoction of these flowers, or of tobacco, or of soap and salt, or of lime-water, is often useful for the expulsion of aphides, rose-bugs, cucumber-beetles, and other insects, if assiduously applied and at the proper time. With these remarks, I conclude this part of the subject, and call the attention of the Society to the consideration of a few species of insects that are our most efficient auxiliaries in reducing the population of those insects that are hurtful to vegetation.

## BENEFICIAL INSECTS.

In this concluding part of my remarks I propose to introduce a few of the insects beneficial to man, or not his enemies, in order to contrast them with those described as noxious or hurtful.

1st. *Cicindela sexguttata*, Fab. "Green Tiger Beetle." Plate IV. fig. 1. Length, half an inch; color, a bright green, sometimes a blueish green; three small white spots on each wing-cover, one at the end and the other two on the outer margin, the upper one of which is about midway between the base and apex of the wing-cover; in some specimens one or more of these white spots are wanting, and in others they entirely disappear; legs and antennæ, long and slender, and of the same green color; eyes and mandibles, prominent. In its habit it is predaceous, and lives on other insects, of which it destroys immense numbers, both in its larva and perfect state. The larva of this insect burrows in the ground, where it traps insect prey. In the perfect state it is found above ground along beaten paths in warm days, on the constant lookout for other insects. This species is not so common as some others, but wider diffused.

1½. *Cicindela generosa*, Dej. "New York Tiger Beetle." Plate IV. fig. 2. Length, from five-eighths to three-quarters of an inch; color, dark bronze; a wide margin of white around the outer edges of the wing-covers, with three white marks running across them from the margin towards the middle, one of which is longest, very nearly reaching to the suture, and is bent, at nearly a right angle, backwards, and terminates in a round or recurved end; the antennæ and the legs are a dark green metallic color, and not so long and slender as in the immediately foregoing species. This is the largest species of *Cicindela* in the United States of which I have specimens, and perhaps the very largest. It is more frequently found in New York State, and in Northern Pennsylvania than in the southern districts of the State. Our common species, *C. vulgaris*, Say, resembles this species very much, only it is not quite so large. As their habits are all very similar, therefore, for all practical purposes, a figure of one is as good as that of another, for they cannot fail to impress the form of the insect upon the minds of those who once see them.

2nd. *Cicindela blanda*, Dej. "Missouri Tiger Beetle." Plate IV. fig. 3. Length, three-eighths of an inch; color, light brown, slightly metallic; outer margin of the wing-covers dull white, with two bent streaks of white running in from the margin towards the centre; underneath, a shiny metallic deep green; legs and antennæ, long and very delicate. Fig. 4 is the larva of a *Cicindela*, showing the general form, in order that they may be recognized by the amateur when they are seen. They are a yellowish or dusky grub, with powerful jaws, and a hump upon the back of the eighth segment, with a pair of hooks or spines bent forward upon it. It is by means of this instrument that this grub throws the earth up out of its burrow, which is a perpendicular hole, in which it secretes itself and watches for its prey. This species is very abundant in Missouri and other Western States; found also in Pennsylvania and elsewhere. The same in habits as the foregoing. In 1853 there were fifty-eight species of these insects catalogued and described under the genus *Cicindela*, as inhabiting the United States. The three species here exhibited will be sufficient to form an idea of what the insect is. They must, however, not be confounded by the superficial with the genus *Donacea*, to which they have some resemblance, and which are plant-feeders.

3rd. *Galerita Americana*, Fab. "Large Bombardier." Plate IV. fig. 5. Length, about seven-eighths of an inch; color of the thorax, a light or reddish brown; the head and under body, black; the wing-covers, black, with a blueish velvety tinge; antennæ, a darker brown than the thorax, especially the intermediate joints; legs and antennæ, long and formed for running. In the absence of a common name for this beetle, I have called it the "large bombardier," to distinguish it from the true bombardiers, which are smaller in size and belong to the genus *Brachynus*. When surprised, the true bombardiers are capable of making a gaseous explosion, whence their common name. They are all predaceous in their habits, and are, therefore, insect friends to us. There are four or five species of *Galerita* and over thirty species of *Brachynus* known to entomologists in the United States, and about fifty species belonging to genera intermediate between them. Partial to low, moist grounds.

4th. *Calosoma scrutator*, Fab. "Green Calosoma." Plate IV. fig. 6. Length, from an inch and a quarter to an inch and a half; wing-covers, a bright green color, finely lined lengthwise and with a narrow bright coppery margin; legs, steel blue; underneath streaked crosswise with green and brassy or coppery bands; head, dark metallic green or bronze; legs, long and amply fitted for running. This is a most beautiful and useful insect, and is widely diffused, although not so abundant as some other species. A smaller species, very similar to this one (*C. Willcoxii* Lec.), is very abundant in Maryland, and perhaps, also, in other Southern States. I have often found this insect, and also another species of nearly the same size, but of a uniform black color, with a narrow blue margin (*C. externum*, Say), mashed flat upon the ground; no doubt intentionally trodden upon by persons who mistakenly supposed it to be an insect enemy, for the insect is too active for this to occur so often accidentally.

5th. *Calosoma calidum*, Fab. or "Golden-spotted Calosoma." Plate IV. fig. 7. Length, about one inch; color, black above and beneath; three rows of bright brassy or coppery spots upon each wing-cover; thorax, short; legs, long and formed for running; antennæ, moderately long and slender. This is the most common species of this genus we have out of the thirteen native ones that constitute it. These insects are general favorites among European gardeners, by whom all their merits are thoroughly known. These are the insects to which allusion has been made as having been colonized in gardens to protect vegetation from the destructive insects which attack it both above and under ground; and I have introduced them here in order to familiarize with their appearance those who may feel an interest in them.

Fig. 8 is the larva of the genus *Calosoma*. They are usually a yellowish or dirty-white grub with six legs; the head and thorax or first segment black, sometimes glossy black, and a black scale or shield on each segment, larger or smaller, according to the species. These scales do not quite cover the back, the naked flesh of the segments, surmounted by little concretions or warts, extending beyond. They live in the ground, and destroy the worms and grubs of other insects. They are said, also, to come above ground, and even to ascend trees, in company with the mature insect, in quest of the various caterpillars that infest them. I have found them under logs of wood and in stone-piles, but not very common. Like all darkling or ground-beetles, neither the larvæ nor the mature insects are often seen, except when surprised under a cover, and when they come abroad they quickly secrete themselves at the least approach of danger.

6th. *Carabus carinatus*, Dej., or "Keel Carabus." Plate IV. fig. 9. Length, from seven-eighths to one inch; color, dull black; wing-covers, finely lined with three rows of longish raised marks of unequal lengths on each, like telegraphic writing; antennæ, about half the length of the insect, and legs long and formed for running. Fig. 10, the larva of the genus *Carabus*. Length, one inch, more or less, according

to the species; color, dull or shining black; the segments lapping each other on the back like scales; legs, antennæ and palpi, prominent; the terminal segment bicaudate, or ending with two lobes or points. We have some fifteen or twenty species of these insects in the United States, that have been already described, and on the Continent of Europe the number of species is more than three times that number. They also belong to the Carnivorous Beetles, and, from the fact of their being generally hid during the day under stones or in dark places, they have received the common name of "Darkling Beetles."

7th. Plate IV. fig. 11. *Chlæneus sericeus*, Forster. "Green Musk Beetle." Length, about five-eighths of an inch; color, a rich, lustrous dark green above, and dark brown below; legs, pale yellowish, or very light brown; antennæ, yellow at the base, and brown intermediately and at the ends. These insects are tolerably abundant in low grounds and meadows, and are very pretty, but scamper off with the greatest alacrity when surprised.

8th. *Chlæneus nemoralis*, Say, or "Musk Beetle." Plate IV. fig. 12. Length, about half an inch; color of the thorax, green; the color of the wing-covers is a changeable velvety brown; legs and antennæ, a light brown. Forty or fifty species of these are known to naturalists. They have a strong, pungent, and musky smell. They are seldom found abroad during daylight, but they, nevertheless, do good service under ground, or during the night, when they go abroad in search of prey.

9th. *Harpalus Pennsylvanicus*, DeG. *Harpalus faunus*, Say. Plate IV. figs. 14 and 15. Length, about half an inch; the color of fig. 14 is black, and that of fig. 15 a light brown; legs and antennæ, a dirty white or whitish-brown; wing-covers, finely lined lengthwise. These are two examples of one of our most common "Ground Beetle," and are widely distributed throughout the country. There are about fifty species of the genus *Harpalus*, but there are at least four hundred species of allied genera between it and *Chlæneus*. A few of these are suspected of feeding on vegetation, as well as on animal food. I think, on the whole, we may regard them as our friends, until we can convict them of some overt act of infidelity.

10th. *Pangus caliginosus*, Fab. "Black Earth Beetle." Plate IV. fig. 13. Length, about one inch; color, uniformly dull or shining black; wing-covers, marked longitudinally with numerous raised lines. This is a very common insect, found in nearly all localities and nearly all seasons of the year. It is only excelled in numbers by figs. 14 and 15. Sometimes found crossing a path, but generally hid among grass or stones, or under wood or fences.

11th. *Dicælus dilatatus*, Say. "Dilated Earth Beetle." Plate IV. fig. 16. Length, three-quarters of an inch; color, shining black; body, thickened; wing-covers, with deep longitudinal raised lines; thorax, indented behind, and united evenly with the base of the wing-covers. About thirty species of these insects are known to inhabit the United States. They are common as far north as the State of Maine and as far south as Alabama, to my knowledge, having received them from both those States, as well as intermediate localities.

#### GRAPES IN THE MOUNTAINS OF NEW YORK.

BY WILLIAM A. WOODWARD, MORTONVILLE, N. Y.

MR. EDITOR:—I am a subscriber to the *Monthly*, and, as in a recent number you request each subscriber to consider himself a correspondent, *Ecce procurator!* Surrounded by mountains in latitude 41° 30' min. north, where the thermometer ranged, on the 13th of January, 1861, in different localities, at 20°, 24°, 29½°, 33° and 36° below zero, I propose to indite an article on Grapes.

The wild varieties, including the barren and fruitful, are very numerous, some of them producing fine fruit and making delicious wine. On my farm, four hundred feet above the Hudson, they come up spontaneously. I have destroyed many hundred vines, and there are large numbers remaining. I am happy to say, too, that I have a fine vineyard of the cultivated varieties, which appear to be doing well in the open air. Vineyards are quite numerous about here, containing from one to twelve and fourteen acres. Until last season, they have paid large profits. The season of 1860 was a peculiar one in the highlands of the Hudson. The weather was unusually wet from the 20th of July till the close of the season; consequently, grapes hitherto free from rot, suffered much. Diana, Catawba, Concord, and To-Kalon were nearly destroyed by it. My Catawbas ripened on the 6th, and Isabellas on the 11th of October, much later than usual, and reversing the order of ripening. My last picking of Isabellas was on the 25th of October. A neighbor finished picking November 12th. Large quantities did not ripen at all. Many had their "teeth set on edge," and for the same reason that affected "our fathers." Some were discouraged, (though, I think, without sufficient cause,) having rooted up their vines or sold them at nominal prices to more confident cultivators. They forgot that "one swallow makes no summer." Heretofore this fruit

has liberally compensated the cultivator for the New York market, having access every evening by barge and steamboat, which deliver the fruit picked in the afternoon in the city for sale the following morning. The distance is sixty miles. It does not appear that our severe winters destroy the native varieties, nor the descendants of pure native species. Those of foreign origin, or of more southern latitudes, require to be covered, and are yet to be tested. I am making yearly observations upon those I cultivate, and propose, at some future time, to give the public the benefit of my experience.

While on this head, let me suggest to Fruit and Vine-growers' Societies and to individual grape-growers, a mode of collecting a vast amount of the best kind of information for the benefit of each other, consisting of facts. These are what we need at the present time. Keep records, dates, and record facts, publish them and gather enough from others who do likewise to compensate for the trouble each one takes. Open an account—that is the mercantile phrase—with your own vines, record each year the growth, cultivation, the date of flowering, fruiting, ripening of fruit and wood of each variety, the weather, attendant circumstances, and every other fact that may strike the cultivator as interesting or worthy of note. It is not enough to state that a new variety ripens, as is the hackneyed phrase, five or fifteen days "earlier than the Isabella," which really means nothing at all. Find out what day they each ripen, and make it known. Let the public judge of the facts. Note the latitude, temperature, exposure, and especially the greatest degree of cold to which they are exposed in the open air. Note, also, the flavor and color of the fruit, size and shape of the leaf, general thriftiness and vigor of growth, as suggested by Mr. Ravenal, whose example is worthy of imitation. Much good will come of it.

Let the Fruit-Growers' Societies appoint intelligent and honorable men to classify all American varieties as soon as may be, and especially condemn all unworthy of cultivation. On my table lay a large number of catalogues, describing an infinitude of American grapes. One dealer offers many hundred varieties, a considerable number of which, I venture to say, never had an existence, while others were obsolete and worthless long ago. It is time to put an end to humbug in grape-growing. There is plenty that is good and worthy of all praise.

This country has taken a lead in this business for many years, and is celebrated for its fruit and for its pure, delicious wines, the several vintners having demands beyond their ability to supply. Orange County wine is as well known in many localities as Burgundy, and is more certain to be pure.

#### STUARTIA PENTAGYNIA.

BY THE EDITOR.

FREQUENTLY, when seeing the fine specimen of *Stuartia Virginica* (*S. malachodendron* of some authors) in full bloom at Bartram, we have heartily wished that this and its noble companion *S. pentagynia*, the only two American species could be got into cultivation, and we have frequently urged Messrs. Parsons, who possess the finest plant of the latter in the country, to go into its propagation, and are pleased to find from our advertising columns that they have done so.

Though much valued in Europe, it is yet scarcely known here, though a shrub of much beauty. It is found in the mountains of Tennessee and Virginia. Many have often looked with admiration on the fine specimen standing in the grounds of Parsons & Co., at Flushing, from which our drawing (fig. 1) is taken. Its branches commence about a foot from the ground, and form a round, compact tree, or shrub, ten feet in height, and about ten feet in diameter.

In August, when but few plants, comparatively, are in bloom, this bush or tree is uniformly loaded with large white flowers,  $2\frac{1}{2}$  inches or more in diameter, saucer-shaped, with purple centre, and the edges of the petals crimped. A drawing of the blossom, reduced in size, is shown at fig. 2. It has a general resemblance to the flower of the Magnolia, beside which we know of no hardy tree or shrub whose flowers can compare with it in beauty.

When once known, it will be considered as indispensable as the Magnolia in every garden, where a few good things only are wanted. It will grow in any good soil, is perfectly hardy, and is suitable for any locality. In its native localities it reaches a height of fifteen feet. It is propagated by layers and offsets, and will, doubtless, soon be found in all extensive nurseries. Ranking in size between the trees and dwarf shrubs, the appropriate place of the *Stuartia* in the landscape will be somewhat near the dwelling, or among the main avenues and walks of the lawn. Its well-proportioned head, fine foliage, and beautiful bloom should secure it a prominent position. The other variety, *Stuartia Virginica*, does not bloom as freely as this, and, though quite hardy at Bartram, is somewhat tenderer than the one under notice.

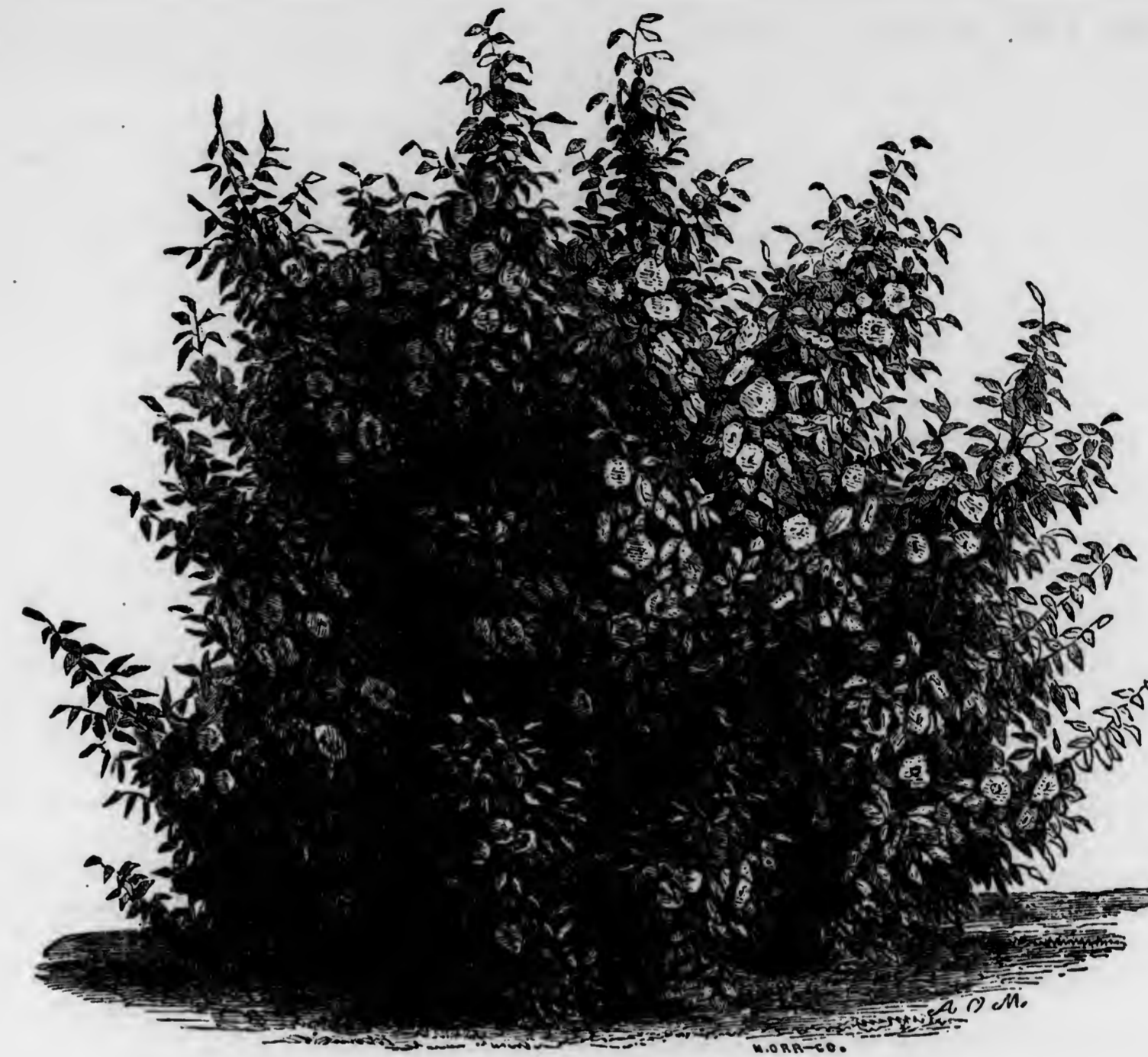


Fig. 1.—STUARTIA PENTAGYNIA.

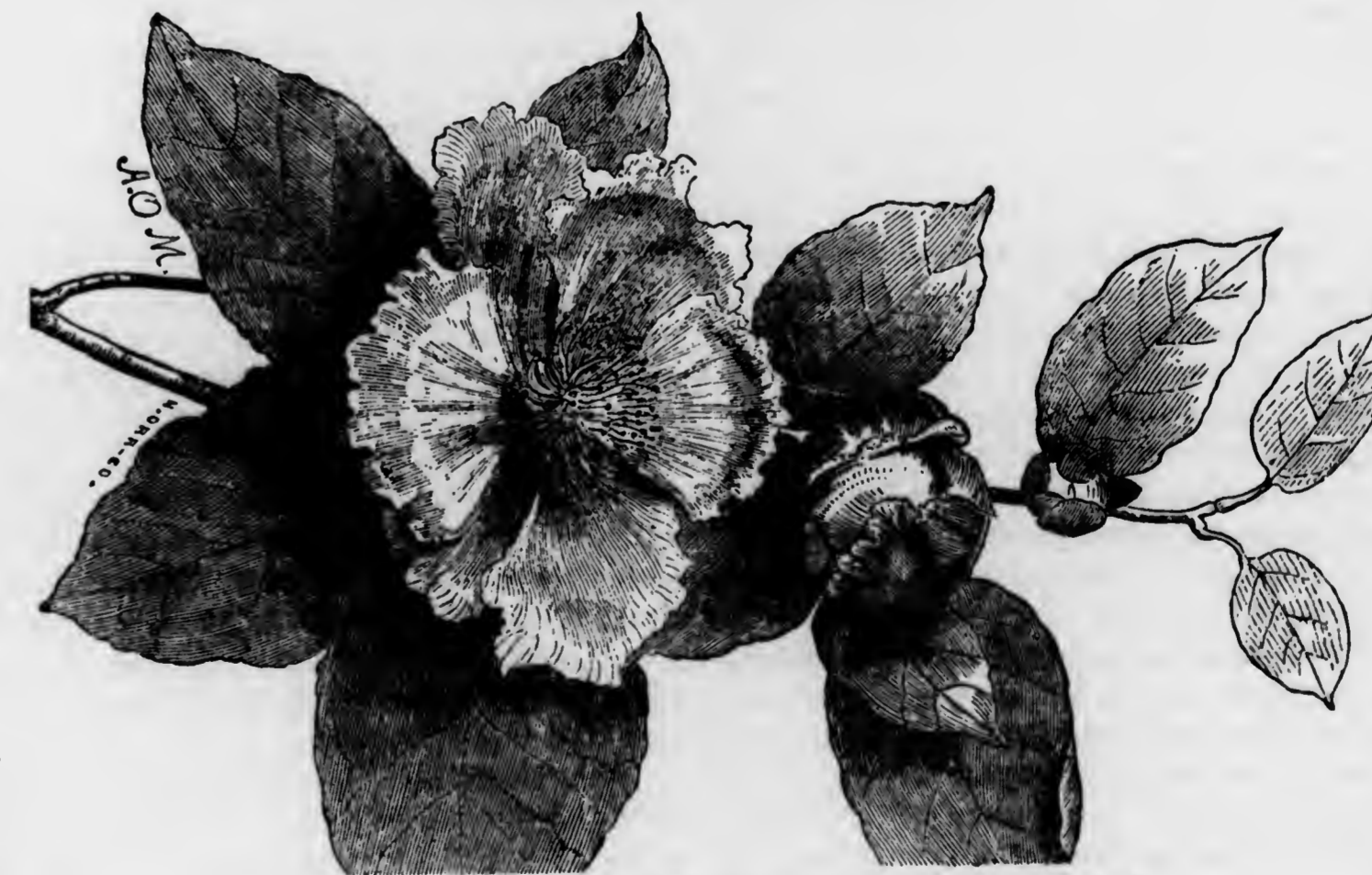


Fig. 2.—FLOWER OF THE STUARTIA, REDUCED IN SIZE.

**THE DEW QUESTION AGAIN.**

BY E. A. RIEHL, BOONVILLE, MO.

Mr. MULLET (See February No.) thinks that the absence of fog and dew is not the cause of the success attained in growing the grape on Kelly's Island, but attributes it *all* "to the mode of pruning, allowing the vines more wood and leaf, giving the plants more space, the preparation and drainage of the soil." Now I shall not deny that these things have a share in contributing to the success, attained on Kelly's Island, but I do deny the position which the writer takes that the absence of fog and dew makes no difference one way or another; but that leaving more wood and leaf will remedy the rot and mildew.

Mr. Mullet says "a large number of vineyards around Cincinnati are comparatively as free from fogs on account of their high elevation as Kelly's Island, and yet they are subject to mildew." But I would ask, does the elevation of those vineyards prevent the dew? which I think is a great deal more injurious than fog. I think not.

He considers "that the distance of planting; the method of pruning; the preparation and drainage of the soil the real cause of the success attained on Kelly's Island." I can show the gentleman vines here in Missouri, that are planted nine feet each way, some on a wire trellis ten feet high, and others on stakes, and get no summer pruning, yet they rot as badly as those planted closer, and are summer pruned.

Mr. Mullet says "for a want of sufficient leaves to evaporate the excess of sap, the tender cells of the young berries become ruptured, thus producing the mildew, which is entirely avoided on Kelly's Island by the especial allowance of more wood and leaf."

Now if the excess of sap in the vine produces rupture in the young berry and thus causes mildew, Why is it that sulphur prevents the mildew, and even cures it after it has made some progress? But the mildew is not confined to the berry, but attacks the vine also; is that "ruptured" also? But let us look into this rupture theory a little closer, I have always been of the opinion that the sap which the roots supplied to the plant had to be prepared by the leaves before it could be fit for the formation of wood or fruit, but from what Mr. Mullet says I must be wrong, and the sap goes into the fruit without ever having gone through any preparation by the leaves; if that is so pray tell us what are the leaves for?

And if this rupture is avoided on Kelly's Island by leaving more wood and leaf, why is it that in other places the grapes do rot although they are not summer pruned and many not at all, I have seen that the case in hundreds of instances, and I could cite some that I saw not ten miles from Editor's

office, they were mostly Isabellas, and although they had no summer pruning whatever, they did not ripen a berry.

Mr. Mullet says that the mildew scarcely ever attacks vines until after the fourth year, (fourth crop I suppose.) That may be the case in Ohio, but it is not so here for I have never found any difference between old and young vines, and I very well remember some Catawbas that fruited in the nursery before they were taken out of the beds where they had been grown from cuttings, had received no pruning but did not ripen a sound berry.

Mr. Mullet goes on and says "that he had proof sufficient to convince him of the truth of his theory in 1858. He visited a vineyard of about six acres, the crop of which had been entirely destroyed by mildew, with the exception of a few vines that had run up some cherry trees, these had a fair crop; and one row which had all the roots cut off on one side of the row, for the purpose of making a drain for a cellar and that row had a full crop of well matured grapes. The owner had root-pruned that row, hence the success." Now I think that those vines that had run up the cherry trees were protected from the dew by the foliage of the trees, and owed their preservation as much to that, as to the fact of their not having been pruned, and the row along the drain no doubt owed its success as much to the thorough drainage thus afforded as to the root-pruning, which gets more credit than I think it is entitled to.

Now I do not advance the position that close pruning is beneficial, on the contrary I agree with Mr. Mullet when he says the vine should receive less summer and winter pruning than it is generally subjected to, and be allowed more space; but I cannot go so far as to say that it is a sovereign remedy for rot and mildew, and that dew has no influence in producing the disease, for if such were the case then a vine not pruned but left to itself would not be affected, but such is not the case.

And now, Mr. Editor, as you ask for additional observations confirmatory or otherwise of the views you express in your note to the article referred to, allow me to say that my observations do not confirm all that you say, for instance you say that "an over-dry or suddenly-dried atmosphere is the most common cause of mildew and rot in grapes, causing a greater evaporation than the plant can healthily supply," now this may all be very fine in theory but it is not supported by the facts, for it is a well known fact that it is in dry seasons that we have good crops, and in wet seasons the grapes invariably mildew and rot and no crop is obtained. I would also remind you that vines grown in a cold grapery

are protected from the direct rays of the sun in daytime, and from the dew at night.

It is my opinion that mildew and rot are caused by insufficient drainage and the too great and sudden changes of temperature in daytime, the sun shines on the vines in an open field with nothing to break the force of the rays, the thermometer often rising over 100 deg. in the shade, and at night the dew falls on the leaves and chills them, thus producing disease. We should remember that the wild vine is protected from these extremes by the foliage of the forest trees, which break the hot rays of the sun in daytime, and at night they protect the vine from dew, while the more civilized and feeble vines stand in open fields, entirely without this protection Nature supplies them in their native state.

I should like to say more, but this article is already too long therefore I shall close for the present.

[Very interesting observations. If other correspondents would send us notes of their experience; we have no doubt a few links wanting in the chain of evidence might be supplied, and much that now seems conflicting be reconciled and joined together. —ED.]

**HORTICULTURE IN EASTERN NEW YORK.**

BY W. TOMPKINS, GERMANTOWN, NEW YORK.

As it is desirable to compare notes as to the success of various fruits in different parts of our great country, I send you a few rough notes about the crops of last season, (1860,) hoping that it will be interesting to some or your readers. From the 10th of May to the middle of August we had but little rain, nothing but light showers, and they were few and far between; and I think that during that period there was nothing that might be called a copious rain, and the want of it was so great as seriously to affect the crop of corn, hay, and oats. From the 20th of August to the first of December we had a copious rain,—almost every week, indeed, we found it almost impossible to dig the potatoes, and they nearly all rotted in consequence. We expected that the grapes would all rot or fail to ripen before hard frost, but was agreeably disappointed, as the sequel will show. We had a number of hot days in June, July, and August, but the average temperature was lower than usual in this section. The popular theory of fruit-growers hereabouts has been that a very dry season is unfavorable to the production and healthful development of fruit; such a season would cause it to grow poorly, rusty, and the most of it to drop prematurely. Now this theory appears to be decidedly wrong, as the result has, I think, satisfactorily proven. A more abundant crop of Apples, Cherries, Pears, Grapes, Plums, Currants, Gooseberries and Straw-

berries, never was grown in Eastern New York. Even those varieties of the Apple and Pear, which in former years were seldom seen in perfection, were this season produced in all their pristine beauty and excellence. Such magnificent specimens of the Early Harvest, Newtown Pippin, Swaar, Sweet Harvest, and other sorts, it seldom has been my good fortune to grow or eat. Did the dry weather cause the fruit to drop? No; never since my earliest recollection have I seen apple trees so heavily laden. Indeed, many trees were literally crushed with the weight of the fruit, which, notwithstanding, grew of full size and flavor. From some unknown cause, insects injurious to fruit, were less numerous and troublesome last season than any before, which probably accounts for the fruit growing so large, fine, and not dropping prematurely. Some persons attribute this to the untimely frost of the 10th of June, 1859, others to the 17 years locust, (cicada,) which were very numerous in this part of the state. Indeed, I heard some old fruit-growers predict previous to the coming of the locust, that after they come we should have a series of fruitful seasons, which it is to be hoped may prove true. But some one will say that the fall rain is what caused the Apples to grow so large and fine, and that in the fore part of the season they could better do without rain than they could in the latter. Now this theory seems very plausible, and I myself, should be disposed to credit it were it not a fact to me well known, that the early apples were uncommonly large, excellent, and their skin as smooth as polished wax, partly hidden with bloom, and apples were all ripe and gone before the rainy season began. This I think is pretty conclusive evidence that the apple can perfect itself and attain full size even in a dry season, providing that other things are auspicious. It is a fact well known, that cherries are larger and of superior quality in a dry season than they are in a wet season.

Notwithstanding the immense quantity of apples shipped to the New York market, from this and other places daily, from the middle of July to the first of December, they almost invariably, when put up in good order, sold for remunerating prices. The early apples especially, sold quickly, and the most of them at a high price.

No early apple that we have in this section is so reliable and profitable as the Red Astrachan; the tree is very hardy, a vigorous upright grower, and the foliage of a deep rich green, surpassing that of all other varieties of the apple. It comes into bearing early, and it is not uncommon to get well developed specimens the first year that the trees are planted. It is a moderate bearer, but when well treated will bear annually, and the fruit always grows fair and

of good size. When fully ripe it is one of the most beautiful and tempting apples in America. The color is a brilliant deep crimson, with a thick bloom like a well ripened plum, and is always sure to attract the attention of visitors sooner than any other apple in the orchard. This variety has the peculiar habit of ripening its fruit in succession, and good ripe apples can be got from the tree during a period of from four to six weeks after the first ripe ones are picked; and in order to have them of uniform ripeness to send to market, the trees should be overlooked, and the ripest taken therefrom every three or four days. This seems to be a good deal of trouble, yet it will surely pay, as the writer can assure the reader from experience, having sent a great many to market last season, which were sold for as much per peach basket as other good apples brought per barrel. Although this apple has been highly recommended and disseminated during the last fifteen years, by our most eminent Pomologists, yet it is not plenty in market, and in many sections of the country almost unknown.

It appears to have originated in Sweden, and to have been introduced into England in 1816, and from there to America. It certainly is the greatest acquisition we yet have received from Europe in the apple department. Can you, Mr. Editor, inform me if it is as highly esteemed and as excellent in Europe as it is in this country? [It is in Germany, less so in other parts.—Ed.]

In my next communication I will send you some notes about the Grape Crop of 1860.

#### PROGRESS OF HORTICULTURE IN EGYPT.

BY J. M. SMITH, GREENVILLE, ILL.

MR. EDITOR, I have for some time intended giving you a short historical sketch of the progress of Horticulture in Southern Illinois,—familarly called "Egypt," particularly the pomological department, but being aware of its occupying considerable space, and also of my prolixity in writing, I have heretofore refrained from so doing. Nevertheless, the subject is a good one, and whether it will admit of publication or not, I will endeavor to give some facts thereupon.

About the year 1683,—I believe that the very date, settlements were made by the French, at Kaskaskia, Prairie du Rocher, and Cahokia, near the east bank of the Mississippi river, in the present counties of Randolph and St. Clair, and about the same time a settlement was formed by the same kind of people at Vincennes Indiana, and extending into Illinois. At all these places the French planted seeds of various plants, particularly of Pears and Peaches; and even at this writing there are some pear trees at some of the above named places, which are at least one

hundred years old; and there may be some among them which were planted soon after the first settlement. One tree in particular, in this State, near Vincennes, I was informed, some ten years ago, was over one hundred years old, and had borne in one season near one hundred and fifty bushels of pears, of "fair" quality. I do not vouch for the correctness of this statement, but my informer is a man of veracity. There is another pear tree of enormous size, and full as great age, at Cahokia; and the pears of which it bears a very large crop, are of pretty fair quality. I saw, myself, at Prairie du Rocher, one year ago, some cherry trees, (common Morello,) which were so old that the descendants of the French settlers knew nothing of the time of their being planted. They were very old, and very large for the kind of trees.

About the year 1790, some Americans settled between the French villages of Cahokia and Kaskaskia, in what is now Monroe county, and were probably the first who introduced the apples into the Territory, (then a part of the State of Virginia.) Most of the orchards planted at that date, were seedlings; but one gentleman—a Gen. Whiteside, I think, grafted a number of seedling apple trees with the best varieties he could obtain, and from those trees some very good apples have been somewhat disseminated through the west; and some of these same old trees I am informed are yet standing, or at least were a few years since.

Peach trees from the seed have been in cultivation, or I should perhaps say, have been allowed to plant themselves in fence corners, &c., and produce peaches, from the earliest settlement; and some superior varieties have been derived from those chance seedlings. Our climate, and especially the region bordering upon the eastern shore of the Mississippi river, appears so well adapted to the growth of the peach, that many really good varieties appear almost to reproduce themselves from seed; and until very lately—say twenty years, this constituted about the only method of propagating varieties.

The first Nursery for the growth and sale of fruit trees, as far as I have been able to ascertain, was commenced in this county, (Bond,) in the year 1818, by my father, John Smith. He planted seeds in the fall of that year, and I believe brought some apple seedlings and scions from Kentucky, which he grafted that winter. He obtained the stock for his nursery of one George Heikes, an emigrant from Pennsylvania to Kentucky; and the varieties of apples grown and planted for many years were some twenty of the older Pennsylvania apples. Among these stand prominent the Pennock—here called "Big Romanite," Rambo, Newtown Pippin, Prior's Red, Old Winter Pearmain, (called here "Hoops,")

Pennsylvania Red Streak, Rawles' Janet, Romanite Milam, Limber Twig, &c., &c. Of Pears, the old Winter Bell, and the "Philadelphia Butter" Pear; the latter probably the Virgalieu, were the varieties mostly propagated; but the blight caused probably by our strong virgin soil, stopped the propagation of pears many years ago. But by the way, pears are now being planted with success, upon the very ground (not the soil) where formerly they failed.

Of Cherries, the common Morello, and the Kentish, or English Pie Cherry, as it is called here, have been planted upon nearly every farm in this part of the State, from its earliest settlement, and flourish without attention. In fact, most of our inhabitants consider the cultivation of cherries and peaches entirely unnecessary.

Since the year 1818, nurseries have sprung up in nearly every county in Southern Illinois, and great advancements have been made, especially within the last twenty-five years. Orchards, the trees of which were propagated by my father, are scattered all over the State; and some of them now about forty years old, still bear heavy crops of fine fruit. This county for a long time boasted the largest orchard in the State. That within which I first "breathed the breath of life," contained about fifteen hundred apple trees, besides other fruits, at one time near two thousands bearing fruit trees. But that orchard is now in a state of decay—having passed into the hands of a stock grower. There is one yet in this county, owned by M. S. Wait, Esq., containing about eighteen hundred apple trees in vigorous bearing. Many other large orchards are scattered through the country producing large crops of superior fruit.

Apples constitute a considerable portion of the revenue of Southern Illinois. Many thousand bushels find a market through the medium of our great nation's main artery, the Mississippi, and for the last few years bringing on an average at least fifty cents per bushel. At least fifty thousand bushels have been sold the past season, in this county alone, at from forty to seventy-five cents per bushel, and nowhere are better apples produced than in "Egypt."

Peaches have received a great deal of attention during the last few years. Not so much dependance is placed upon seedling fruit as formerly. Nurseries devoted to the propagation of the peach upon a large scale, have recently been established, and many thousand trees are annually planted. Peaches seldom fail here entirely; and now that we can have "fresh peaches all the year round," hundreds are planting fine budded varieties, who formerly would not let a self-planted tree remain in the fence corner.

Pears are being planted somewhat extensively,

and particularly in the villages. Here you will find no garden of any pretensions without the Dwarf Pear Trees—producing fine specimens of that prince of fruits.

Grape-growing is now becoming very popular in many parts of the State. At Highland, twenty miles from this place, the Swiss have been very successful in the cultivation of the grape. The Catawba and Norton's Virginia, are the varieties mostly planted. Many acres of vineyards are now producing the "blood of Bacchus" around that village in great abundance. At many other points, more or less, grape-vines have been planted, and are doing well.

Even since the introduction of good fruit within the State, the ball has continued to roll, and we eagerly look forward to the time when "Egypt" shall be as noted for its fruit as for its corn.

As my article has grown longer than I intended, I reserve the continuation for another time, promising, if the present is received, to furnish the *Monthly* with some matter of more value than the present.

#### ROSE PRUNING.

BY CHARLES MILLER.

THE season is now approaching when this important operation should be performed,—I therefore submit a few general remarks on the subject in question. It is presumed that the practical ideas here presented will be of such assistance to the amateur rose grower, as to prevent the all but fatal operations generally performed under the above title. I will not trespass on your space to particularize the treatment necessary for the several families. Their growth, to which I refer, will be readily comprehended by the terms, strong or short growing. Roses are generally planted when young, and during the first season the knife should be sparingly used, but after all chance of frost is past, the branches should be cut back to four or five eyes, having previously cut all growth that interferes with the shape of the plants, which should be that of a basin or expanded inverted umbrella, which insures a free circulation of air between the branches, and as a matter of course, the consequent certainty of bloom.

During the following autumn, any shoots which started in the centre of the plants or cross branches, may be renewed; but the shortening of the main shoots should be left till spring, being especially careful to prune to an outer bud.

Erect-growing kinds, such as Queen Victoria, Mrs. Elliott, Geant des Battailles, and the like, may be much improved in shape by tying the branches in a more outward direction when young. In prun-

ing the majority of the Hybrid Perpetuals, four or five eyes should only be left; but such as Louis Bonaparte, Pius IX., &c., half the length of the shoots, only should be cut away—any thing like severe pruning, on such subjects, being more productive of abundant wood and scanty bloom. Moss, Provence, and Bourbons, can scarcely be pruned to hard. The Persian Yellow and Austrian Briars, too slight, as these varieties bloom on wood one year old. Summer pruning is often desirable, and frequently saves much trouble; this may be effected to some extent by cutting the blooms for ornament, or when decaying with long footstalks. The Hybrid Perpetuals will, by reducing their branches to one half their length, in July—be certain to give bloom in autumn, a result much desired. Some of the Hybrid Perpetuals make handsome beds on the lawn. The following is especially adapted for the purpose, owing to their short compact habit, and sturdy growth; and when hedged down or securely fastened to the ground, and due attention paid to their summer pruning, (which is important,) a succession of bloom may be had from June to September.

Autumnal flowering varieties, Auguste Mie, Baronne Hallez, Dr. Arnal, Baronne Prevost, Comte de Paris, Comte de Eugene Sue, Jules Margottin, Wm. Jesse, Geant des Batailles, Wm. Griffith, Paul Duprez, Queen Victoria, Madame Laffay, Prince Leon, Rosine Margottin, Madame Rivers, Madame Domage, Duchess of Sutherland, Soliel d'Austerlitz.

To those that do not possess a bed of Roses, I would advise them to repair the omission at once, for gathering roses in early morning, with the dew still on their fragrant petals, is one of the greatest pleasures of life.

#### LANDSCAPE-GARDENING.

BY GEORGE E. WOODWARD, NEW YORK.

NO. 4.

THE great advances made in the art of Landscape Gardening during the last ten or even twenty years, has created a demand for more general information on the subject. Those works that have issued from the English press, do not supply the directions wholly applicable to this country. The differences of associations, habits, climate, &c., &c., requiring a treatment of another character. If we were to find fault with nearly all the publications on Landscape Gardening, it would be that they treat that subject in too general a manner. We have essays on Taste, Color, Trees, &c., &c., but nothing on practical operations, nothing that details the necessary proceedings required to carry out a plan of improvement. One is obliged to ransack a scientific library, study drain-

age, ten or fifteen authors on road making; several on engineering and architecture, bridge construction, lines, cement and mortars, soils, manners, geography, chemistry, botany; then drawing, painting, surveying, taste, &c., &c. By the time all these have been waded through, the indefatigable amateur will have come to the conclusion, that the more he learns, the less he thinks he knows, or is beginning to get an idea of the immense amount of information yet to be acquired; advancing from that stage of ignorance in which he did not know that he knew nothing.

The labor of hunting up all these different sources of information, is scarcely equalled by the amount of study necessary to acquire or to make a practical use of them; and with many it is considered the best to do a thing expensively wrong, than to either obtain or pay for that knowledge by which it can be done economically right.

Landscape-gardening, seriously considered, is an art that occupies no mean position, drawing largely on nearly all the cultivated arts and sciences, and made up of most of their leading excellencies. It cannot but be admitted, that to qualify one for its pursuit, must require a persevering course of study, both of a theoretical and practical nature,—its pursuit being of a constructive and tasteful character, have led many to suppose that it, in common with other constructive arts, is instinctively comprehended. There are more of us that like to admit that we cannot plan and superintend the erection of a house—lay out and construct a common or ornamental road, or design any system of improvement. Yet the practice of such pursuits belong to professions requiring great skill and extensive learning. The professions of the architect and civil engineer are not natural gifts, nor can they be acquired by any medium amount of application. What is true of them is equally true of Landscape-gardening, which in its higher developments, embracing a far more extensive range of study, and thoroughly unites the practical and artistical.

Landscape-gardening, considered in its popular sense, is supposed to be of easy attainment, and to comprise a general knowledge of the manner of setting out trees and shrubbery; constructing roads, and the ability to graduate the earth's surface, generally speaking, to a level. There may be a simplicity in such apparently plain operations; but if we judge by results, what must be our opinions? simply these: there are few, very few who have any idea of what is necessary to be done in planting or transplanting a tree. Setting out trees properly, requires a knowledge that must be obtained by both study and practice; and we will venture to say, that out of the first hundred men you meet anywhere,

not one of them can do it right. It is quite a mistaken notion to suppose you know how to set out a tree; the fact is, unless you have made it a study, you will fail, and the failure will cost you the price of the tree,—the value of your own time, and loss of time between the dying of one tree and replacing it with another, besides some considerable annoyance.

The construction of roads is the next operation that is thought to be easily mastered; and yet not one single author on Landscape-gardening in Europe, or this country, has ventured to give any intelligible instructions on this subject. Not one of them ventures even an opinion as to the manner of laying out a curve, or what variety of curve possesses in the highest degree, a combination of the practical and beautiful. The merest allusion to a few stakes, whose positions are to be guessed at, until they look right, constitutes all the information we have to guide us in laying out an ornamental road.

The manner of constructing such roads, is by no means definitely stated. Certain authors have recommended plans of their own, but from them we can produce no scientific reasoning, that shall insure smoothness, hardness and permanence, and nothing by which true economy is united with excellence, or in other words, the manner of constructing a first-class roadway at the minimum of expenditure. It seems a very absurd statement to make, that anybody does not know how to lay out and build a road. This most difficult branch of civil engineering, every body understands, until they attempt to illustrate their knowledge, and an absolute failure has but little effect on their wisdom. If you want a very unsatisfactory as well as a very expensive road, build it yourself,—do the same thing with your house. Paint your own pictures, try your own lawsuits, doctor yourself, make your own clothes, mend your own boots. If you have an unlimited length of purse, vanity enough to rank your taste and ability as supreme,—the satisfaction of saying *I did it*, may be some compensation. But such experience will illustrate one fact, there are no successes in this world of permanent value but what require a lifetime of study and devotion to achieve them, and the practice of the cultivated art of Landscape adornment is no exception to it.

If one's ambition does not carry him above the pleasure of owning and managing a second or third-rate place, then it would seem unnecessary to thoroughly investigate the principles of the art; but if a tasteful expression of Landscape beauty is desired, and the most rigid economy be an absolute condition, then close study is indispensable. The work of a finished expert, in any art or pursuit, is more

beautiful and economical than the bungling performance of a new hand.

[Mr. W's articles invite criticism; but we can pardon minor weaknesses for the general facts they teach, that mere "architecture" or mere "cultivation" is not Landscape-gardening.]

#### THE GRAPE.

BY A. S. MILLER, ALTON, ILLINOIS.

As spring is approaching, it would not be out of the way for us to say a few things with reference to the vine, its culture, varieties, &c.

For the West the Concord stands pre-eminent as a table-grape, on account of its hardness and freedom from mildew, being an abundant bearer also.

Catawba still remains the finest light grape, although hard to acclimate; yet when trained upon a trellis and pruned in winter and summer with moderation, will succeed tolerably well. In Southern Illinois the Delaware will certainly become the leading wine-grape, being superior to any other grape of that class; it is a profuse bearer and very hardy.

Our opinion is that the Diana will never become popular in this region, it being but little better than the Catawba, if it is any, which, verily, we doubt. The vine is scarcely hardy, as the leaves are subject to mildew some. Of course, the wood cannot ripen well. The fruit is smaller than the last-named variety, and the vine bears but moderately.

The Clinton is excellent, an account of its perfect hardness being more so than our native varieties would be under the same treatment, but small and very tart.

The Bland we have not fully tested. The Rebecca mildews some. The Cassady summer-burns so sadly as to be impossible to grow in this region. The Clara and Herbeumont are liable to winter-kill.

Now, for the culture of the grape, what the soil should be every one knows; and as to situation, any point will do except extreme north. We do not advocate the murderous pruning that some do, nor do we side with the let-alone plan, but would endeavor to go "*in media res*" and prescribe a moderate system of pruning. The vines should be planted eight feet apart, quincunx style, and trained upon a trellis. For plans of the same, see "Barry's Fruit-Garden," page 248. This plan will do until we become convinced that others are superior.

The horizontal trellis is, in our estimation, the best, although we would not recommend it, on account of some objections. The arduous task of pruning the vine on this trellis; the constant watchfulness required in order to keep the vines from running rampant are every thing. But the points in favor of it are: 1st. The roots of the vines are

in a cooler soil and atmosphere. That always should be kept loose and friable by the horse-hoc. The soil thus treated does not become hard and dry. While the fruit is protected from the scorching influence of "Sol," by being drawn through the meshes of the trellis, hang suspended under the leaves.

2nd. The birds are more easily watched,—these being our greatest pests at the ripening of our grapes. The vines can be rid of insects more easily with tobacco fumes, on account of their being over-head.

I will close by giving a slight description of this plan. Set posts in the rows twenty feet apart, leaving eight feet above ground and two and a half feet under. Upon these nail slats twenty inches apart. Then smaller slats or rods of iron should cross these at right-angles. The whole should be firmly nailed together, to prevent their breaking under the weight of fruit and leaves. Permit the vines to have more space as they grow older, by removing every alternate vine. My word for it, they will go ahead and prosper, if other difficulties do not arise than we usually have to contend with.

#### HOUSE CULTURE OF CAMELLIAS.

BY MISS E.

FOR successful house culture of Camellias,—first secure the proper kind of earth,—(Mr. Editor can best tell what that is). Then secure sufficient drainage, and when the plants are brought into the house, put them into a cool room, and keep the temperature about 45° or 50°. When the buds are well formed, keep the earth wet. The saucers of the pots should never be without moisture. I keep mine *always* with water in them; as the buds open, they may be brought into the parlor, and then, if kept wet enough, they will bloom finely. When the bloom is over, less water is necessary. I have generally a fine show of Camellias in February and March, in the latitude of Philadelphia.

[Turfy, spongy, fibry surface soil from old woods or bogs, suits the Camellia. We can testify to the success of our correspondents' treatment.—Ed.]

#### THE GREEN ROSE.

BY R. B.

I pray, Mr. Editor, do not let the French take from us the credit of the Green Rose; you must say "it was first introduced to the world," by a Baltimore florist about seventeen years ago, at \$2.50 per plant, and sent in 1852 to England and France, by a Philadelphia florist. So you see Messrs. Pere and Clement *did not* first introduce it,—your memory is good.

#### SORTS OF GRAPES TO GROW FOR A VINERY.

BY A GRAPE-GROWER.

YOUR article in the January number, page 30, on the best foreign grapes to grow is really valuable, they are the essence of the grape. You have never told your readers that you brought to this country the Black Tripoli grape from the original plant at Welbeck; I consider it in every way superior to Black Hamburg. What of the Golden Hamburg? I see it somewhere represented by Decan's Superb; they are entirely distinct. Is this another mixture like Black Barbarosa and Prince Albert, the latter not worth a fraction? We (the nurserymen I should say,) have too many sorts and far too many names.

[Glad to receive an endorsement from so respectable a source.

Knowing that the Black Tripoli of American collections was spurious, the writer took pains to get cuttings from the original vine, through the kindness of Mr. Tillery, the Duke of Portland's gardener, and handed them to our friend some years ago. It is a pleasure to hear that it proves so superior with him.—Ed.]

#### BEN DAVIS AND NEW YORK PIPPIN AGAIN.

BY CHARLES DOWNING, NEWBURGH, N. Y.

IN the February number of the *Gardener's Monthly*, you give it as your opinion that Ben Davis and New York Pippin are identical, and copy the two descriptions as my own to show their similarity; but you overlooked that the outline and description of Ben Davis were from Mr. Downer (not having seen the fruit myself), and although the descriptions are somewhat similar, yet they may be different varieties for any proof that you have given to the contrary. It is often the case among such a vast number of sorts, that two similar descriptions may apply to one or two distinct kinds, because soil and locality in different sections change the character of fruits so much in form and appearance that it is often very difficult to decide positively their true names. I do not say that Ben Davis and New York Pippin are two distinct sorts, neither have we the proof as yet that they are alike. The Ohio Pomological Society at their January meeting decided (I quote from memory) them to be identical, yet it is best to wait a little longer before giving a final decision.

You remark that all are liable to err, myself not excepted,—strange, passing, were it not so, among such a multitude of varieties and variations.

[Mr. Downing's note reached us after our last issue had gone to press.—Ed.]

#### OFFICIAL REPORT OF THE AMERICAN POMOLOGICAL SOCIETY.

BY COL. WALTER L. STEELE, ROCKINGHAM, N. C.

MR. EDITOR, I notice that several gentlemen who participated in the discussions at the late meeting of the American Pomological Society, have recently corrected, through the *Gardener's Monthly*, the erroneous reports of their remarks, as published in your periodical. I ask the liberty of correcting some errors in the official report recently published. (1)

On page 52 I am reported as having said that the *Limber Twig Apple* "will grow at a level of thirty degrees above tide-water." I did not say so. I said it did well north of the parallel 35, if at an elevation of several hundred feet above tide-water. Does any body know how many yards it requires to make thirty degrees of elevation?

On page 53 it is reported that I located the nativity of a certain apple in the county of *Stansill*. I have often since the proceedings were published, been asked in what part of the State this county was situated; and have not been able to give my friends a satisfactory answer. There is no such county known to the laws of North Carolina, and as I pride myself somewhat on a knowledge of the geography of the State, I feel a little mortified at the ignorance which I am made to display.

This apple, (a capital one too,) originated in Richmond County, N. C.; had attention first drawn to its merits by Dr. P. W. Stansill, and by me, has been given his name, and that was what I said.

On page 94 I am made to indorse the character of the fruit in my life, and, hence, I am sure, I did not speak of its qualities at all.

And now a few words in regard to the character of Northern winter apples, after being transferred to the South. I make these remarks in response to an inquiry from my old acquaintance, Mr. Langdon, of Tennessee. Mr L's experience agrees with my own, and I feel sure, with that of nearly every intelligent cultivator in the Southern States. At my first planting of fruit trees, having no experience, I set out the Yellow Bellflower, Roxbury Russet, Newark Pippin, &c., which all matured by the first of November. Not one proved a winter fruit. I dug up the whole of them and threw them over the fence. No apple which keeps in New York throughout the winter, will last longer in this climate than the middle of November, except now and then a single specimen, our spring coming too early for them. I have eaten Bloodgood Pear in this village, on the 20th of June; and the same year, at the house of Jonathan C. Baldwin, of Chester County, Pa., the same variety the 18th of August.

[1. The corrections heretofore made, have been

of our own report, which, being the fullest ever published, risked more errors. Mr. Steele's note shows that even the brief official abstract published by the Society is not exempt from errors; and that it is dangerous for any journal to announce prematurely, that its report is "the most accurate."—Ed.]

#### GAS TAR AND HOT WATER FOR PEACH TREES.

BY R., BEVERLY, N. J.

LAST spring I tried the plan recommended by you as a preventive to the borer in the peach trees, namely, by applying coal tar to the collars of the trees. Previous to doing so, I examined them carefully—found only two worms, which I destroyed, and then tarred them about three inches below and three above ground. Within a week the leaves of several began to turn yellow, curl and drop off, and whole twigs dry up, particularly on the Morris' Whites, Troth's Early, Old Mixon Free, the first suffering most of all. In order to prevent the total loss of the trees, I then resorted to a plan much used in this neighborhood, and which most persons might think would ensure their destruction, but which completely restored mine. It is simply to pour about half a gallon of boiling water around the collar of every tree injured. This, if done two or three times a year, will effectually destroy borers without wounding the trees, by cutting into the roots to follow them. If at any time the leaves turn yellow, or show signs of disease, the same treatment will perfectly restore them, and bring out young healthy foliage within a week or ten days, even though the tree may have been like the patient of Dr. James, of *Cannabis indica* notoriety "at death's door."

[In 1850, '51, and '52, we applied Gas Tar to apples, peaches, and dwarf pears, without any injury; but the trees were healthy. So much has been said of the risk by others, that in latter years we have recommended it only with caution, as our pages will show. We have heard others speak well of hot water.—Ed.]

#### THE ALLEN RASPBERRY.

BY A. LOYD, LAFAYETTE, IND.

HAVING recently noticed commendatory articles upon this fruit, we cannot refrain from giving our experience, after giving it a three years trial. We obtained one hundred plants directly from Mr. Allen, and from the ten thousand plants which have sprung from that hundred, there has never been a single quart of berries gathered.

Others in this vicinity have also tried them, with generous cultivation, in various soils and exposure, all with the same result, in this region.



## The Gardener's Monthly.

PHILADELPHIA, APRIL 1, 1861.

All Communications for the Editor should be addressed, "THOMAS MERRILL, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

Our Subscription list for Rathvon's Entomological Essay is fast filling up, and as we have only intended publishing a limited number, we would desire all those who may wish to have the work, to send their name and address as early as possible.

## SPECIAL NOTICE TO ADVERTISERS.

We receive advertisements up to the 20th of the month; but as the heavy amount of advertising we receive on that date renders it a great effort on the part of our printer to get the month's issue into the hands of subscribers as punctually on the 1st as we desire, we should be obliged by receiving advertisements as early IN THE MONTH AS PRACTICABLE.

## GARDENING IS NOT AGRICULTURE.

WHILE reading a report of a meeting of the Fruit-Growers' Society of Western New York, a year or so ago, we were forcibly struck with a remark of Mr. Vick, to the effect, that, judging by what we hear at horticultural meetings, and read in horticultural journals, one would suppose that all the evils that attend pomological practices in every part of the world, were concentrated and poured out over our devoted land; and yet it is a fact beyond controversy, that we have the finest climate and soil for fruit-culture, and perhaps the fewest and weakest enemies to contend with than any other country under the sun possesses.

The fact is, with all our boasted activity, we are in fruit-culture a lazy people. We hate to do any thing for our trees; in fact, we do comparatively little. "It won't pay." We stick in trees to-day, and to-morrow we look for the fruit. We have not learned to labor, and have not learned to wait.

In the mechanic arts we have harnessed the lightning, and made steam our bond servant,—and fresh from our victory, we enter our garden plot, intent on similar conquests in the more immediate domain of nature. But she will be victor here. We must bend to her times and her seasons. Conditions of vegetable growth must be studied, and natural laws obeyed, and it is only after the sweat of

our brows has watered our labors, that the sweet fruits thereof will spring up to our hand.

We read of the fine and luscious fruits of Europe, but we never think of the immense amount of labor and skill spent on their production, nor dream of the hundreds of enemies that have to be overcome before the well ripened fruit rewards its possessor. We allude not merely to the colder and more inhospitable countries of the north, but include even the celebrated sunny climes of Italy and the south, the inhabitants of which we are accustomed to consider as idle, as it is well possible to be. But if any class is lazy there, it is not the one to which the Horticulturist belongs. The Italian gardener is a model of persevering industry. With but a tithe of the science which nations, blest with a free press and cheap literature possess, he is, nevertheless, in many respects, the equal of men from the wisest of the others, in sound practical knowledge of the gardening art, derived entirely from steady and laborious experience. Even in England and other portions of Britannia's home dominions, the amount of worry, care, and toil, and trouble to bring fruit to perfection, is astounding to one uninitiated in the mysteries of the art, when they become in time revealed to him. Not only does the soil and climate oppose him at the outset, but he has a multitude of outside enemies to contend with. He has, in the first place, to surround his orchard of choice fruits with a high wall, to ward off the predations of those to whom hunger and want inspire no law. Then wire worms, and the grubs of cockchafers and bugs attack the roots,—slugs, snails, and myriads of "creeping things" devour the foliage before it is scarcely above ground. Getting larger, red spider, aphides, scale, "American blight," and Loudon only knows what not, attack the top. Scalds, blisters, scales, cankers, mildews, and every evil named in the encyclopedias, fatten on the shoots and leaves. Escaping all these, bullfinches, "tom tits," sparrows, and a host of feathered thieves, eat the buds before they burst; what few are left to flower, late frosts destroy, all but a very few which bear fruit; of these few, the thrushes, blackbirds, "sweet robin red breast," and similar marauders get the best part; even after powder and shot, at an awful expense, have made many of them pay the death penalty, and so many come to the funeral, that the force seems in nowise diminished. After all this, should a few still be left—hornets, wasps, ants, and the "servant girls in the house," (English gardener's worst plagues,) get the best of them, until by the time the Lord of the Manor gets his share, the gardener can tell you he has had no time to be idle, no inclination to leave much to "nature," nor disposition to think whether the operation did or did not "pay."

And this last part of our sentence brings us to our

real troubles. "It won't pay," is our great enemy. It is more destructive than the curculio,—burns greater holes in our pockets, and tempers than the fire-blight, is a great "borer" of the first class, and a bug of enormous magnitude. Mildew, and rot, and bugs, and "blight," have destroyed their thousands; but "it won't pay," has slain its ten thousands. Go where we will, look at what we may, or read of aught that we do in Horticulture, we find "it won't pay" every where. Here it is clothed in a large garden, where half paid laborers half do half the work on the place, and the other half goes undone for want of time. The lawn is a hay-field—the park has degenerated to a potato patch—the greenhouse grins at you through a score of crevices as you pass by it, and the poor over-worked "gardener" who has probably just returned from market, where he has been to sell cows, puts on, as he looks at you, his best airs, lest you may chance to suppose he is ignorant of the proper time to sow peas, or plant potatoes. "It won't pay," reigns here; and there, where no gardener is kept, no park, no lawn, no pretension to departments of any kind, every thing is attempted, and nothing succeeds; an osage orange hedge on the boundaries running up to seed,—apple trees moss-barked from cold clay soil, and cherries hide-bound from poverty and weakness. Plums toppling over by action of the borer. Peaches eaten up by the yellows,—in fact no labor, no fertilizing sweat—thorns and thistles rampant—verily "it does not pay."

It is a pleasure to hear the expression from the lips of an agriculturist. "Will it pay?" is the first article in his constitution. Profit is the point of honor with him. To make the "store" in the city, meet the expenses of the farm in the country, is placing the ass on the back of the animal that should be its rider; and where fruit-culture is adopted as part of a system of agriculture, we care not how often or how earnestly is asked the question, "Will it pay?" But we protest against its admission into the ethics of horticulture. Like Caleb Cushing in another case, in this we set "our face like flint against it." It debases horticulture,—ruins its professors,—and shears it of many of its most delightful parts. Horticulture is solely and entirely for pleasure and gratification, and wherever these are achieved, "it pays well." If our means are limited, instead of ten acres of a garden, have only five. If we cannot command the means to grow every kind of fruit, grow but one, and grow it well; and if we attempt to keep any thing of a garden, employ only the best skill to attend to it, and pay that skill well. The man who really loves his garden for the pleasure it affords him, and has a gardener who is really a gardener, one who has made

it a life-long study, and meets sufficient inducements in its pursuits to warrant him in entertaining no lingering wish that he had years ago, "changed it for a better one," never asks "does it pay?" any further than it brings in a rich harvest to the granaries of his mental and moral nature.

When we look at fruit-culture as it is with us, we are bound to confess that it has degenerated. Agricultural views have become so incorporated with horticulture, that scientific skill, and taste, and talent, have become cheapened, and seeks more remunerative channels. "It must pay" has frightened us. The trail of the serpent marks all that we do.

We hope for better days, and that too at no distant date,—when most of our gardens shall have fruit in abundance, and to spare; and skill, labor and talent, to that end, shall be appreciated as they deserve to be.

## Scraps and Queries.

Communications for this department must reach the Editor on or before the 10th of the month.

The Editor cannot answer letters for this department privately.

JETHRO TULL'S SYSTEM.—B. inquires, "I have seen a statement that Tull continued for twenty years, to get first-rate crops from ground without manure. If this is correct what becomes of your modern theory of manuring?"

We have seen no such statement in any authoritative work. On the contrary, Tull's system was a failure. Like many at the present time, he thought and wrote first, and practised afterwards, in a great degree; but his own experiments did not bear out his theory. A few years before his death he expressed his want of faith in his own system as a *certain rule* of practice. Instead of twenty successive crops, *six* were all that he is reported to have tried, and these were "beautifully less" each year. If you are seriously leaning to the idea that the soil contains within itself an inexhaustible source of fertility, we shall expect to hear of sundry patches over your unmentionables, and a purse with microscopic contents, heading the next chapter in your history.

DOOLITTLE BLACK CAP RASPBERRY.—After our last number went to press, we received a note from Mr. Collins, of Auburn, New York, giving an account of the discovery of this in 1853, or '54, by Mr. Joslyn. In substance the same as already given from the pen of Col. Hodge. Mr. C. will nevertheless please accept our best thanks for the information.

APHIS ON APPLE TREES—J. L. G. Milford,

Ohio.—“Is there any thing that will kill the aphid on large apple trees while in the ground?”

[They usually attack only the younger points of the shoots. We should syringe them with nauseating compounds, or cut off the shoots, and burn them. Perhaps our correspondents may, some of them know a better way.]

QUINCE STOOLS—*Paradise Stocks*.—A correspondent, without date or signature asks:—

“Please inform a young nurseryman how to plant Angers Quince stools for stools. Also the Orange Quince for stools,—also whether Paradise and Doucain stools can be grown profitably in this country, and if so, how?”

[Set out plants two feet apart; cut them to the ground in the spring, and about July, when the shoots have become a little hardened, place a few inches of soil about the bases of the shoots, which will root, and may be taken off as plants the next spring. Cuttings of Quince stools are taken off and planted in the fall, and protected by litter, leaves, or shavings from severe frosts.

Paradise stools are raised from cuttings of the roots. For a full chapter on this subject, see our first volume, page 24.

THE NANSEMOND SWEET POTATO—by C. B. Murray, *Foster's Crossing Ohio*:—

A small tract on the cultivation of this popular esculent. We have no doubt by attending to the rules given, roots of an enormous size may be grown; but whether Mr. Murray can beat the following from the *Houston Telegraph*, we will let himself say:—

*Largest Potato in the World!*—Sweet Potatoes grow to a tolerably large size in the United States, but in the Republic of Texas they beat the world, especially in the Oyster Creek nation. Messrs. Kyle & Terry sent us one yesterday that weighed *twenty-nine pounds*, and measuring thirty-nine inches in horizontal, and thirty-three inches in vertical circumference.

CAMELLIAS—DWARF PEARS—A subscriber, *Philadelphia*.—An article by a lady in another column, will afford you good hints for managing your room Camellias. They will not do well in winter, in a dry cellar near a furnace; but would do in a cool one where they could get sun sometimes.

If your four year old Dwarf Pears continue to grow freely, you need not prune much now. That operation is principally to encourage vigorous growth. If they are well set with buds, they may over-bear next year if too many set. When as large as Walnuts, thin out all but a few dozen, which is enough for the first year of bearing.

PEARS—MULBERRIES—H. Worcester, *Mass.*—Your proposed plan of setting Dwarf Pears in rows running north and south, ten feet apart, and six feet apart in the row, is rather close together, and unless the soil is very well supplied with fertilizing materials, and the deep, we should fear they would dry out in hot seasons, and soon become stunted.

We have no experience in striking the Downing Mulberry from cuttings; but it will no doubt do as well as other kinds, which taken off in spring, and treated as simply as Currant cuttings, usually grow as well. They are often grafted on White Mulberry, we believe.

SWAMP MUCK AND SAW-DUST AS A MULCH FOR DWARF PEARS—C. M. D., *Jamaica, L. Island*.—Saw-dust is injurious to most plants and to most soils. We suppose your soil is sandy, in which case, swamp muck will probably prove a beneficial mulch.

METROSIDEROS NOT FLOWERING—J. McK., *West Manchester, Pa.*—Enclosed I send you a small twig from a plant called *Metrosideros*. The plant has been in my greenhouse eight years, (a fine, thrifty plant,) but has never flowered. Can you tell me the reason? I have seen them in other greenhouses covered with flowers. But a month or two ago I cast my eyes on a poor, miserable, scrubby, half-starved little thing all covered with flowers. I came home so vexed at my barren plant, that I took right hold of it with the intention of throwing it out; but, after a moment's reflection, concluded to leave it alone until I would ask you whether there was such a thing as a barren *Metrosideros*. Therefore, on your decision hangs his life, if a he it should prove to be. (1.)

Also, another twig from a plant I call *Akenia mollis*. Because I bought it under that name. Some of our florists say it is not the name of the plant, but fail to give me another. Can you give me the correct name.” (2.)

[1. *Metrosideros floribunda*, and never flowers freely till it has been first well grown, then half-starved, when it is one of the handsomest plants grown.

2. It is *Akenia mollis*, more usually, however, called *Malvaviscus mollis*, sometimes *Hibiscus mollis*.]

RUBUS LACINIATUS—M., *Cincinnati, O.*—This has been for some time in cultivation around our large cities, and notices of it are frequent in our first volume, particularly at page 184. Mr. Lawton, having called the particular attention of the Pomological Society to it, it has lately received marked attention.

It is the cut-leaved variety of the common English Blackberry *Rubus fruticosus*. It received its name, *fruticosus* or “shrubby,” from the fact of its possessing a more woody habit. In the temperate parts of Europe the writer has seen stems of it as thick as his wrist, and several years old; but in more northern latitudes it dies down every year. Where it retains its woody character, it throws up but few suckers; but where it dies down, it has the habits of all the rest of the class. We certainly regard it as worthy of attention.

ORIGIN OF THE MOSS ROSE.—A correspondent recently inquired of us the origin of the Moss Rose. The following is all we know. The poet is a little lame in the grammar of the second line, but this we can forgive on account of the beauty of the thoughts that follow:

The Angel of the flowers one day  
Beneath a rose-bush sleeping lay,—  
That Spirit to whose care is given  
To bathe young buds in dews from Heaven;  
Awaking from his slight repose,  
The Angel whispered to the Rose,  
“Oh, fondest object of my care,  
Still fairest found where all are fair,  
For the sweet shade thou'st given to me,  
Ask what thou wilt, 'tis granted thee.”  
Then said the Rose, with deepened glow,  
“On me another grace bestow.”  
The Spirit paused in silent thought,—  
What grace was there that flower had not?  
’Twas but a moment,—o'er the Rose  
A veil of moss the Angel throws,  
And robed in nature's simplest weed,  
Could there a flower that Rose exceed?

BRIGHT'S SYSTEM OF PRUNING GRAPES.—We have received from Mr. H. E. Chitty, of New London, Conn., further remarks in reply. We very much regret that our space is so limited as to forbid lengthy and prolonged controversies on any subject introduced. When any party gives his views on any question, our pages are open to the most liberal criticism, and we cannot deny the criticised party the right to reply. Mr. Chitty's article is an excellent production, occupying six closely-written pages of cap-paper, would take near three pages of the *Monthly*, and on which he must have spent much care. We are very sorry that the rules we have to adopt for our guidance prevent its appearance. With regard to the subject itself, we must be allowed to say, that nothing but facts and figures as to the comparative merits of the two systems will satisfy us and the public. Science partially favors both views. Experience must strike the balance. At present Mr. Chitty and the permanent cane party have the best of the argument. Vines on the old system have, as Mr. C. repeats in the article now before us, “borne satisfactorily for twenty, thirty, and fifty

years,” and gardeners are justified in hesitating to abandon what they know to be a good system, for one that is *possibly only* better. Gentlemen, let us have a few more experiments. Nothing like them for testing knotty questions.

A few days ago we read in an exchange—*The Banner of Light*, we believe—an account of a meeting of philosophers at Boston, when one, a Dr. Adams, asserted, as a fact, that a quart of water could be got into a quart-measure already filled with sand. The subject was debated *pro and con* by the savans present, and no conclusion seemed to be arrived at by the distinguished body. Our office-boy coming in at the time, we propounded to him the question. “Dun know,” says he; “but I'll try.” In a few moments he returned with the report that the quart of sand took up one-third only of the water in the other quart, demonstrating, at the same time, the folly of the “philosophers,” and the additional fact that a measure of fine bar-sand contains within it one-third of space.

The hint is not intended for those exclusively who wish to give us “a little more grape,”—all of us can profit by it.

HOT-WATER TANK—A Subscriber, *Bowmanville, Canada*.—In a propagating-pit sixty feet long I intend building a tank three feet wide, to be heated by an elbow of a four-inch iron pipe built in the furnace. About two feet of the pipe will be exposed to the fire. How long will it be advisable to make the tank? (1.)

What work on propagating and cultivating exotics do you consider the best? (2.)

[1. It depends on the size of the furnace and the amount of heat you can bring to bear on the pipe boiler. With an ordinary strong fire and little water in the tank, it would be safe to run the tank the whole sixty feet of length.

2. There is no complete work. “Buist's Flower-Garden Directory” and “Breck's Flower-Garden” are the best we know.]

PRAIRIE FLOWERS—Mr. R. O. Thompson, of *Nebraska City*, sends us an account of the many beautiful flowers of that region. Botanical collectors, from Michaux and Nuttall downwards, have pretty well explored the country, and it is more than probable that every thing beautiful has already been made to pay tribute to our collections. The seeds which Mr. Thompson encloses us, for instance, belongs to *Clematis Virginiana*. If the gentleman will send us dried pressed specimens of flowering shoots next season, we can probably tell him whether or not they have been already named or introduced, and

the good services he so very kindly offers thus rendered more certain of results.

Mr. Thompson says:

"The Prairie Dwarf Seedling Rose, twenty kinds of native grapes, eight of strawberries, six of wild plums (better than many tame ones), twelve creepers, two gooseberries, two raspberries, and many flower-roots I will send by mail or express to any one, *gratis*, who wishes them. I have a desire to see our rarities, beauties, and good things sent abroad and tested in every locality in the States. I send you enclosed seed of one variety of creepers,—a most beautiful thing. Cuttings of the grapes, scions of the plums, plants of the strawberry, and roots of the rose and creepers will be mailed to all who apply for them."

STRELITZIA REGINA—*G. W.*, Wellington, Canada West has had a plant four years that has not produced flowers. When well established, they flower very freely here. The custom is to give them plenty of pot-room, and set the pots in the summer in a hot, sunny place in the open air, and in a warm stove in winter. They bloom freely every summer.

RAISING TREE SEED.—*F. W.* says:—"The different kinds of elm, birch, and linden seed I have failed in raising from seed. What is the best time and manner?"

[Elm, if fresh, usually grows well sown early in spring. The other kinds must either be planted in fall, or suffered to lie over in the ground a year without growing.]

AZALEA FLOWERS—*E. F. S.*—We are sorry to say that the flowers were so completely crushed in the letter, that it was impossible to name them for you. They should be sent in a small box with damp moss around them.

THUJA WAREANA, OR PPLICATA—*R. B.* says:—"This is a seedling variety of our American Arborvitæ. We have quantities of seedling plants from the former that all prove the latter."

## Books, Catalogues, &c.

BRIGHT ON THE GRAPE-VINE.—We have been favored with advanced sheets of the second Edition of Mr. Bright's book, in which we find many new positions advanced, that will attract considerable attention. For some years past the best grape-growers have been gradually abandoning the old idea of animal carcasses, and strong nitrogenous matters for borders. We find in this that Mr. B. takes the ground, that all such, even stable manures, are

not only no good, but positively injurious. Mr. Bright's views we regard in many points extreme; but his writings have had an immense influence in introducing good practices into favor, and we are glad to see that he has been encouraged to bring out a new and improved edition.

THE PRINCIPLES AND PRACTICE OF LAND DRAINAGE.—Embracing a brief History of Underdraining; a detailed examination of its Operation and Advantages; a Description of various kinds of Drains, with Practical Directions for their Construction, the Manufacture of Drain Tile, etc. Illustrated by nearly 100 Engravings. By John H. Klippart. Robert Clarke & Co., Cincinnati.

Every reader of the *Gardener's Monthly* is well aware of the importance of underdraining. He who practices it generally adds acres to his farm, without the cost of new deeds. The present work seems to be a collection of all the points in the history of underdraining from the earliest period to the present time. It came to hand only as we go to press, and we have not as yet been able to read it carefully; but a hasty examination warrants us in trusting that it will have a wide circulation amongst all interested in the improvement of the soil.

The *American Stock Journal*, devoted to the improvement of our domestic animals throughout the United States. The first and second volumes bound, have been sent us by the publisher. We believe it is the only Journal devoted to these subjects exclusively, and deserves extensive support. The last number contains minute details of Rarey's system of Horse-taming, by which the most vicious animal becomes an equine Katharine in the hands of this modern Petruccio.

E. WARE SYL VESTER, Lyons, N. Y. Fruits and General Stock.

JOHN G. BARKER, Hartford, Conn. New and choice Bedding Plants.

RANDOLPH PETERS, Newark, Del. General List.

B. K. BLISS, Springfield, Mass. Flower and Vegetable Seed, Fruits, &c. 70 pages.

GEORGE NICHOL, Providence, R. I. New Roses, &c.

C. BEADLE, St. Catharine's, Canada West. Trees and Plants.

URI MANLY, Marshall, Ills. Fruits and Ornamentals.

EDGAR SANDERS, Chicago, Ill. Bedding Plants.

G. GOLDSMITH & Co., Indianapolis, Ind. Fruit and Ornamentals.

J. H. BOARDMAN, Brighton, N. Y. Grape-vines, &c.

W. T. & E. SMITH, Geneva, N. Y. Fruits, Trees, and Flowers. 32 pages.

NEALLY BROS. & BOCK, Burlington, Iowa. Wholesale Catalogue.

R. LINSLEY, West Meriden, Conn. Roses, Bedding-out Plants, &c.

J. KNOX, Pittsburg, Pa. Small Fruits.

TRUEBLOOD & LIPSEY, Salem, Ind. Fruits.

JOSHUA PIERCE, Washington, D. C. Small Fruits.

Full sets of Catalogues of the extensive departments of the following gentlemen have been received:

ANDREW BRIDGEMAN, Broadway, New York.

R. BUIST & SON, Philadelphia.

The Catalogues of the following well-known firms are on our table, and, in addition to their usual full lists of things cultivated, contain on their fly-leaves advertisements of the *Gardener's Monthly*, for which act of kindness the publisher returns his best thanks.

BATEHAM, HANFORD & Co., Columbus, Ohio. Fruits, Trees and Flowers. 50 pages.

BARNES & WASHBURNE, Harrison Square, Mass. Flower and Vegetable Seeds. 50 pages.

E. C. FROST, Havana, N. Y. Fruits and Flowers, with sketch of Wagener Apple.

J. A. BRUCE, Hamilton, C. W. Seeds and Flowers.

## New and Rare Fruits.

GIPSON'S KENTUCKY SEEDLING APPLE—*Mr. C. P. Hale*, Calhoun, Ky., writes:—

Enclosed I send you an outline of an excellent winter apple which grows in this county. The out-

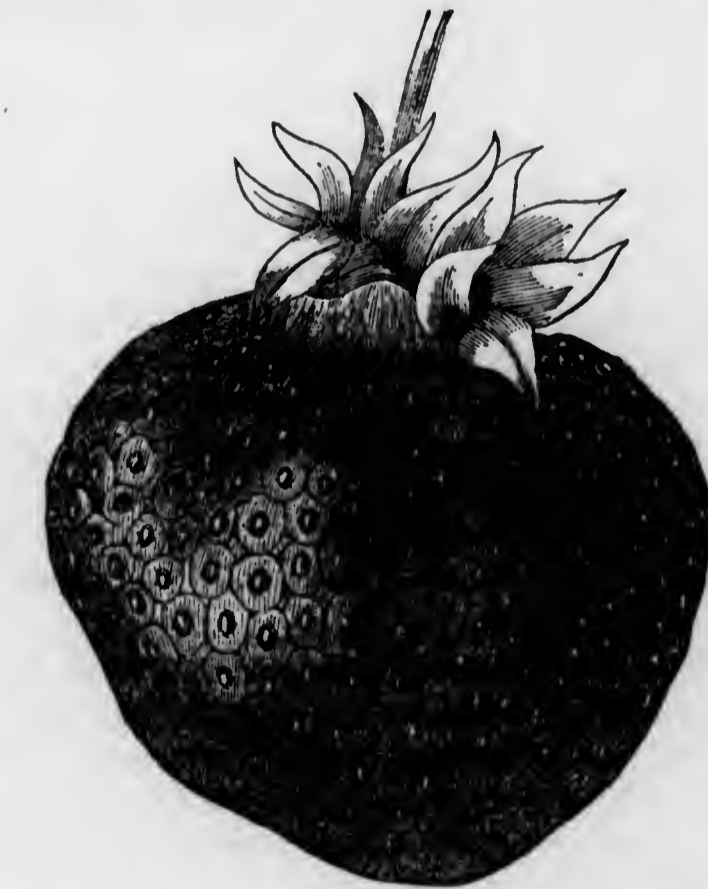


line was taken by drawing a pen around one half of the apple. It gives the shape except the calyx, which

was injured. The tree grows on the farm of Mr. A. Gipson. I propose to name it Gipson's Kentucky Seedling. Mr. Gipson says the tree while young was found growing by a path-way leading from an orchard of the Prior's Red apple, to a school-house in the neighborhood, and he thinks it sprang from the seed of that apple, dropped by the children passing to or from the school-house. He says it is more productive than the Prior's Red, or Rawle's Jannet, on his farm, and keeps better than either of them; that it produced twenty or thirty bushels of apples this season; and, that it has never been pruned. There have been no trees propagated from it yet.

Size rather below medium, round-ovate, one-sided; skin smooth, dark red on sunny side on greenish-yellow ground, blotched with dark brown, dotted with small black dots in patches, and specked with small gray specks in the skin. The brown blotches and black dots may be rubbed off without injuring the skin; stalk from  $\frac{1}{4}$  to  $\frac{1}{2}$  inch long; cavity narrow, uneven; basin shallow, slightly plaited; calyx partly closed; flesh pale yellow, very fine grained; tender, juicy, sprightly, sub-acid; keeps all winter, about equal to the best for this country.

NEW ENGLISH STRAWBERRY—*Frogmore Late Pine*. This is not as large as a "cocoa nut," as friend Hovey would say; but is extolled by the English growers for being larger and better than any late



kind in cultivation. Since the old notion, that foreign strawberries will do no good in our climate, has been exploded as a general rule, some of our cultivators will doubtless have this variety introduced, and placed on the trial list before the season goes

## Domestic Intelligence.

OSAGE ORANGE HEDGES.—I have made good hedges in five years, as follows, for 100 rods:

|  |         |
|--|---------|
| 3000 plants .....                                    | \$12 00 |
| Ploughing and preparing strip of land, half day..... | 1 00    |
| Setting the plants .....                             | 3 00    |
| Cultivating three times a year, five years.....      | 2 00    |
| Cutting back with stub-scythe, about.....            | 3 00    |
| Interest, about.....                                 | 5 00    |
|  | <hr/>   |
|  | \$26 00 |

or about twenty-five cents a rod. By employing bun- glers, hand-shears, picking out weeds with the fingers, &c., the cost might have been greatly increased. Ploughing and harrowing a strip five feet wide on each side, which is cheaply done, is at least twenty times more useful than merely hoeing by hand a narrow strip where the plants stand. The roots run far, and care nothing for a few weeds in the row.—*Country Gentleman.*

APPLES PER CENTRAL NEW YORK.—The report of the Oneida community says: "These have been unusually abundant and perfect. Sorts, heretofore very imperfect, show what they are in these favored localities.—The *Red Astracan*, *Primate* and *Sweet Bough*, among summer varieties; the *Porter*, *Gravenstein*, *Norton's Melon*, and *Lowell*, autumn sorts; and the *R. I. Greening*, *Baldwin*, *Esopus Spitzenburgh*, *Swaar*, *Wagener*, *English Russell*, and *Northern Spy*, late keepers, have all proved well adapted to this place. The *Primate* is the best summer apple we know. *Baldwin* and *Porter* liable to overbear. *Swaar* and *Spitzenburgh* pay for high culture. *Wagener*, a famous early bearer, and of superior quality. The *Northern Spy*—"slow but sure,"—has this year shown that it will produce great crops of large apples. The next enlargement of our apple-orchards will be of this sort. First full returns from young orchards—one thousand bushels of choice fruit harvested."

GRAPE EYES.—A correspondent of the *German-town Telegraph* writes, that he prepares and plants grape eyes in the usual way, and sets the boxes in a warm closet where they sprout, and are gradually inured to light and air, and that he has succeeded well in this way.

THE OHIO BEAUTY, APPLES.—Dr. Warder read a letter from Mr. William F. English, Rhinehart, Anglaise county, Ohio, referring to the "Ohio Beauty." Mr. English says: "One tree of this va-

riety, of about sixteen years' growth, charmed and astonished everybody. Almost every approach to the trunk of the tree was cut off by the limbs bending to the ground; in many places, apples matured resting on the ground. Some of the limbs of this tree extended twenty-two to twenty-four feet, horizontally, from the trunk, and yielded the present season thirty bushels of apples. The largest apple we weighed this season weighed one pound. Full as the trees were, one hundred and twenty to one hundred and twenty-five, taken on the average, make a bushel. Every day still more and more confirms me in the opinion I formed before I was so well acquainted with other varieties; that is, that among the best apples in general cultivation, it has no equal."—*Cincinnati.*

IMPROVED HOLLYHOCKS.—Radical shoots, taken off as cuttings in the spring, no doubt give the strongest spikes, but they may easily be propagated by single eyes in July and August. Plant out in March; the former month is best for early flowering, the latter for very late blooming. Never plant on new ground, or in maiden earth, but choose a soil that has been well worked, and if well trenched, so much the better.

DRYING RHUBARB.—Rhubarb dries very well, and when well prepared, will keep good for an indefinite period. The stalks should be broken off while they are crisp and tender, and cut into pieces about an inch in length. These pieces should then be strung on a thin twine, and hung up to dry. Rhubarb shrinks very much in drying—more so than any plant I am acquainted with, and strongly resembling pieces of soft wood. When wanted for use, it should be soaked in water over night, and the next day simmered over a slow fire. None of its properties appear to be lost in drying, and it is equally as good in winter as any dried fruit. Very few varieties of rhubarb are suitable for drying, as most of them contain too much woody fibre. The best variety of rhubarb for any purpose is the *Victoria*, when grown in a suitable situation. The *Mammoth* is worthless, owing to its fibrous nature, as are also some other kinds.—*Prairie Farmer.*

## Foreign Intelligence.

MUSHROOM GROWING.—The artificial cultivation of mushrooms is now so well understood and practiced that perhaps little more can be advanced on the subject. In my own case, I merely state a mode of growing them in the spring and summer months, which I have found to answer better than any way I have yet tried. In a large Vinery here, used for the growth of the *Black Damascus Grape*, there is a long

pit or bed in the middle of the inside of the house. This bed is about 3 feet in depth, by the same in width, and is filled with well prepared horse droppings, in February, or beginning of March, to heat the roots of the Vines, and to make a moist ammonia- cal atmosphere for the buds breaking. About the beginning of April, when the bed is no longer wanted for this purpose, I add a little more fresh droppings to the surface of the bed, and spawn it in the usual way. Some good fresh turfy soil of a loamy nature is then put on the surface, and the whole beaten as hard as possible with a wooden mallet. Wooden shutters, or boards, are then put over the bed, the surface of which is at least 6 inches below the boards. The young Mushrooms usually appear in the begin- ning of May, and the beds continue in full bearing all through that month, and June and July. The Mushrooms from this bed are not like the half-starved buttons grown in regular Mushroom houses, but large dark brown fellows from 3 to 4 inches in di- ameter, and as full of juice as field Mushrooms. At one of the horticultural shows at Chiswick, I remem- ber having seen a fine large dish of forced Mush- rooms, sent by Mr. Ingram, from Frogmore, which were of the same color and substance. They were stuck into Moss in a shallow basket, which showed them off better than the usual modes tried at exhibi- tions. I attribute the large size and succulence of the Mushrooms grown in this way, to the deepness and quantity of the fermenting materials in the bed, and the additional moisture in the air of a large Vinery; for the boards are frequently taken off the bed, when the vines are syringed or watered at the roots. When there is room in the inside of Vineries, or Peachhouses, for a bed for using fermenting ma- terials, no better plan can be devised for making Vines and Peaches break readily, and the beds can after- wards be used for growing Mushrooms. The only precaution is when the fruit begins to ripen, to clear all the beds of the fermenting materials, and cover them up closely with the shutters or boards, to pre- vent dampness. In August, or September, I usually clear the bed here clean out, and the *Black Damas- cus Grapes* keep without damping or shrivelling till the end of November.—*William Tillery, Welbeck.*

CYCLAMENS.—Never dry them, as the "general practice" does; but when the flower and the frost are done with for the season, plant out the balls en- tire in a warm border, where the roots will not be disturbed the whole summer, let them take the rain and the drought as they happen to come; but do nothing more on your part till the middle of August, then watch them, and the moment you perceive a move for fresh leaves, up with them that day, shake off every particle of soil from the roots, and po-

them in the flowering pots at once, in good holding loam, with a little sand and very rotten cowdung, and so dry as that it will sift like leaf mould, drain particularly well, and let the bulb be one-third out of the earth; and if you could plunge the pots in a cold frame, one watering would do till after Christ- mas.—*Cottage Gardener.*

PELARGONIUMS—*Best Show Varieties.*—Aurelia, Brilliant, Criterion, Eclipse, Etna, Evelyn, Fair Ellen, Fairest of the Fair, Fire Queen, Lady Can- ning, Leviathan, Miss Foster, Mr. White, Prince of Wales, Rosy Gem, Rosalie, Ringleader, Rose Cele- stial, Richard Benyon, Rose Leaf, The Bride, Viola, Vestal, Wonderful. Best new ones coming out: Autocrat, Hyperion, Lord Clyde, Hesperus, Bacchus, Apollo, Cherub. *Best Spotted*—Arab, Charmer, Charles Turner, Conspicuum, Fancy, Guillaume Sevyren, Guido, Hero, Mazeppa, Mr. Beck, Mr. Hoyle, Madame Pescatore, Madame Lemichez, Peacock, Pescatore, Sanspareil, Spotted Gem, Spotted Pet. Best new ones coming out: Beadsman, Bracelet, King of Purples. *Best Fancy.*—Acme, Bridesmaid, Captivator, Clara Novello, Cloth of Silver, Circle, Formosum, Madame Rougiere, Mrs. Turner, Mar- chioness of Tweedale, Negro, Princess Royal. Best new ones coming out: Lady Craven, Omega, Sarah Turner.—*Dobson & Son, Isleworth.*

## Foreign Correspondence.

### Letter from our Occasional Paris Correspondent.

FRIEND MEHAN, you were very kind when you stated your five arguments why I should be Letter- writer Extraordinary to His Excellency the *Garden- er's Monthly*. Shall I hit you back with five argu- ments against it? Let two suffice. I am not on a gardening tour. I am not scientific enough even for an "occasional." I will, nevertheless, write when the spirit moves. Alas! the spirit moved me the other day in a melancholy way. Cemetery flowers made me think of you and the *Monthly*. I went to seek the grave of a young man, an American, who died just before my arrival here; died, too, of — Paris; a schoolfellow of mine, whose living eye and hand and tongue I expected to enjoy here; who came over to —; but that sad tale has no business here. Well, the cemetery differs from those at home in nothing more than in the abundance of wreaths of Immortelle flowers. The French love to visit cemeteries. Their gay nature here, perhaps, finds that reaction which every thing in creation seems to require. Even distant friends and relations are vis- ited by them, when dead, with a feeling of kind re- membrance, which these, when alive, unhappily do

not enjoy, and for all there is the wreath of Immortals.

Busts and statues, on anniversaries of the death of their originals, are wreathed in the same way. Napoleon I., cast in bronze, standing on a high column made of iron ordnance taken in battles and recast, on every recurring day of his death, gets profusely bewreathed, mostly by the few veterans still living. Or if one of his old followers living in the provinces happens to come to Paris, he will not fail to hang up his wreath on the iron railing round his idol's column in the Place Vendôme. Of course, the cultivation and sale of such wreaths has become a distinct trade. Numbers of girls are employed to make them, and they are sent from Paris all over France, selling by the dozen, the gross, and the hundreds of gross.

But away with *lemoncholy*,—let us turn to live fresh flowers, even in winter. Let us go to the ball of Madame Secretary of State, here called Minister for the interior. This is the night, here is the card of invitation. You smile. You want to know what business I have with the ball? Incredulous, modest man! Do not all the gardeners belong to the world's aristocracy? Am I not, further, a representative of the American nation? Is not America "a great country?" And, lastly, if gardeners were contraband articles for such balls, who knows me, in my present position, as ever having handled spades any more than clubs or diamonds or hearts? But I will not lead you into the ladies' saloons; I will but show you the approaches; how, when once your foot has passed the portecochère, you will forget season, climate, and our common notions of habitation; for you will step into a bower or grove of exotic plants, all so arranged that you see no pots and tubs. Rhododendrons, Azaleas, Camellias of every quarter of the globe, and of the fifth, too. Musas of Ethiop, Acacias of New Holland, Heathers of the Cape, all the varieties of Palms of the Islands, the natives of Java, of the Brazils, of scorching Africa, of India in the East, of Cuba and of Botany Bay, they all meet here in brilliant gaslight, to strike your eye with the dazzle of their blooms, to fill your brain with their bewitching fragrance; in fact, to time you to the ball and to gaiety, and to "nerve," if perchance, you arrive in the wrong mood. And whence all these plants? Not from the greenhouses of Monsieur le Ministre, to be sure. Why should he risk his plants, when for so much he can have so many for this or that occasion? Save me from statistics, friend Meehan. I hate figures. It is sufficient to tell you that a good many establishments earn every winter a good deal of money by hiring out the denizens of their plant-houses. The pay, however, is not for the bringing and fetching alone, nor

for the percentage of wear, tear, and risk; but for the art of placing them along the entrance, up the stairs, etc., for making decorations, for hiding, by their aid, unsightly nooks, for filling up with them useless corners, and for accomplishing really artistic designs. When the city of Paris gave a ball in the City Hall, to Queen Victoria of England, when she was here, the large spaces of roof intervening between the second floor of the principal sides of the quadrangle and the different buildings rising from it—the depressions or spaces being necessary for letting in the light—were roofed over in Crystal Palace manner; connected with these buildings, the floor, heretofore roof, boarded and gardens made of them, in which birds sung and fountains played.

And as a contrast, turn now to those exhibitions from which all classes to the humblest draw their supply of plants and flowers, to the flower-marts of Paris. Of this I will write to you on some future occasion. M.

## Horticultural Societies.

### THE FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

(Continued from Page 96.)

#### ARE COLD GRAPERIES WORTHY THE ATTENTION OF THE FARMER?

Mr. S. Miller said it was a mistake to suppose these structures required very close attention. A friend of his, who was an engineer, usually left a cheap viney he had erected go all day without any attention, and he had perfect success.

Mr. B. Bartolet, a farmer of Chester County, said, in 1844 he put up against his house a viney twelve by sixteen feet, at a cost of about thirty-four dollars. He had frequently given it no attention for several weeks, and year before last particularly. Has very fine crops. He had, he thought, as much as two hundred pounds on some occasions from four vines.

Mr. A. W. Harrison, though only a horticultural amateur and not a farmer, thought that, from his experience, there was a profit to be made well worthy of the farmer's attention. More care would have to be exercised in having matters safe from contingencies, so that, as in Mr. Bartolet's case, the viney might be left a long time without care. Inside borders had such advantages. Besides the money profit, the refining influences of such operations on the farmer's family was worth a good deal.

Mr. Saunders spoke of the increasing risk of failure in pears, cherries, apples, &c., and asked, What so certain as a crop of viney grapes? There was too much mystery made of grape-growing,—too much nonsense in usual rules of management.—Borders three feet deep were sufficient, and cost but little. As for so much talk about soils, any earth that would grow good cabbages would grow good grapes. He favored inside borders, made arrangements to keep the air moist as heat increased, which also had a good effect on restraining mildew. No crop produced so much for so little outlay, and he hoped every farmer would profit by Mr. Bartolet's experience.

Mr. Bartolet said he had both an outside and inside border. Thought that a border wholly inside would at times get too dry. He laid down and protected his vines in winter, until the spring opened and the buds pushed. Kept the ashes shut, more or less, till all danger of frost was over, when they were left open altogether. He used soap-suds and sulphur about three times a year over the leaves and about the viney, and attributed to it his freedom from mildew.

Mr. Saunders remarked, with regard to the drying of inside borders, that he had found one thorough watering a year sufficient.

**CRACKING OF THE PEAR AND BLIGHT.**

Mr. Baldwin thought electricity at or about the time of thunder-storms had an influence on the production of blight, and thought some application might guard against it.

Mr. Millhauser observed that blight was quite a modern disease, while we had thunder-storms years ago.

Dr. Eshleman thought locality had some reference to the cause of cracking. In some localities Hosenshenk did well; in others it cracked badly. At New Holland, Lancaster County, the Diller did finely, but was worthless with him in Chester County. Fre-

quently only single limbs were struck with fire-blight, and when there were no thunder-storms.

Mr. Harrison thought that when a tree was weakened in its constitution by any course of treatment, any unfavorable circumstances to general health would bring out disease. He instanced two trees of the Des Nonnes Pear in his garden bearing fruit for the first time. Around one of these a thick dressing of stable-manure had been accidentally placed the year before. The tree grew vigorously, and last year the fruit pears in his garden that bore, did not crack. An abundance of nitrogeonous manures rendered wood soft and spongy, as it makes a cabbage tender and juicy, and when in that condition disease fastens on the structure and often becomes hereditary and constitutional. The knowledge of the effect of peculiar substances on the health of vegetable structure was only in its infancy. Mr. Baxter, of Philadelphia, famous for fine pears, hung iron about his trees. The rain brought the oxide to the ground, and it was, in his (the speaker's) view, but a clumsy way of applying oxide of iron to the soil. Sulphate of iron has been known to make leaves of pear trees very large, and the fruit very fine. Experiments with steel in trees have resulted in no good, indicating that it was the oxide of iron from the use of the latter that was beneficial. When the tendency to disease had become a habit, many things would bring it out, and many things would also produce the tendency to disease. Bearing young, in vegetables as in animals, had an enervating tendency. Give him well-ripened, close, compact, hard wood, a stock from a healthy parent, and one that has not over-borne when young, and he did not fear disease.

Ellwood Thomas, of Montgomery County, grafted a hedge pear with W. Doyenne. Bore well for a few years, then cracked badly. After that he grafted Julienne, which has since done well. The tree has always been surrounded by sod. He thought it could not be deficient elements in the soil, or in such a case the Julienne would crack as bad as W. Doyenne.

Mr. Grider thought there might be sufficient of certain elements for one variety, and not for another, for he knew a friend who had a pear, the fruit of which cracked freely, and after a plentiful application of salt to the ground about the tree, the disease disappeared.

Mr. Miller thought he had known beneficial results both from iron and salt. Had seen fine White Doyennes in Lancaster County in sheltered gardens.

Mr. Baldwin had seen scions taken from healthy White Doyenne trees, and put on trees that bore cracked fruit, and for some time after the fruit was healthy.

Mr. Harrison agreed in the view of Mr. Grider. It was well known that one kind of soil would render a grape sweet, another kind of soil would produce the same kind more sour. It was so with the pear. High-flavored pears absorbed more of the elements of perfection. Hedge pears would be satisfied with very little.

A gentleman observed that guano-water had been found by him favorable to healthy fruit.

A. W. Corson had a Butter Pear to crack seven successive years. Last year dressed the surface about the tree with ashes and stable-manure, with a perceptible benefit to last year's crop.

Mr. Lukens Pierce made some remarks which our reporter did not hear, and

Mr. Saunders observed that he had given the subject much attention, and was satisfied that cracking was owing solely to atmospheric causes. Soil analysis was so indefinite that no satisfactory result could be had. Two analyses on soil, taken but a few feet from each other, would vary in elements and in their proportions. This might be considered but a "practical" view; but there were two classes of "practicals"—those who "practiced" and observed as they went, and those who "practiced" what they were taught—mere machines, who never bestowed a thought on what they were doing. Agreed with Mr. Harrison, that ripe wood was important. Where wood was not well ripened, partial shelter would mitigate or keep off crack and blight. The effect of frost on soft wood was much the same as heat in summer. The moisture evaporated too rapidly, and disease or death ensued.

Mr. Miller enquired if summer-pitching would harden or ripen wood, and

Mr. Saunders replied that it would, if done early in fall.

Mr. Vos, of Berks County, spoke highly of the Reading Pear, which, he said, was as easy to get perfect as the Bartlett, and bore nearly as well. He was not much of a reader, and got his knowledge entirely from experience. His views, whatever they might be, were, therefore, his own, and not suggested by other parties; and he would say that he had found great benefit from light manures for the pear. In fact, he considered wood-ashes, salt, and iron-dings indispensable to get perfect fruit. His soil was clay subsoil, and never had any sign of blight or crack amongst his fruits. He grew many kinds, and all did equally well. He manures entirely by top-dressing. There were soils about Reading in which no pear could be made to grow.

General Keim said there was an extremely fine winter pear cultivated in the neighborhood by the early German settlers, which they called the Och, and which for many years was entirely free from crack and blight. Pears were less subject to disease in the city of Reading, where they were protected, than in the environs.

He said there were many very fine varieties of fruit about Reading, named after good citizens, that had sprung up from self-sown seed brought from Canada by the Indians, who had a regular meeting or camping ground in the vicinity every spring. The Keim Apple, he thought, undoubtedly originated in this way. He paid a glowing tribute to the benevolent purposes of horticulture, and closed by an invitation to the members of the Convention to honor him with a visit at his house on their adjournment, which the members accepted, and felt themselves, in turn, honored and gratified by the cordiality and kindness with which the General received and entertained them.

Dr. Eshleman said it was eight years since he had first experimented on the special manure theory on a Butter Pear. He took out the soil about it three feet wide and three feet deep, and filled in with a compost, in which were sulphate of iron, oxide of iron, wood-ashes, charcoal, &c., five cart-loads in all; but fruit cracked as bad as ever. Grafted all but one limb with Bartletts, which do not crack. The ungrafted fruit cracks as bad as ever. The tree is also well protected. He did not believe that only the constitutionally weak took disease. The healthiest man was often the first in times of epidemics to take sick and die. He inclined to the belief that cracking and blight were the results of a parasitic fungus.

Mr. Harrison replied that it was, nevertheless, a fact that, as a rule, good healthy wood was more liable to be exempt from diseases arising from constitutional weakness. He instanced two orchards, near each other, of about two hundred varieties,—one manured in the usual way with strong stimulating and coarse wood-producing manures, in which one-third of the fruit was badly cracked; and the other, which had inorganic manures only, and not a crack or sting was visible. He was assured by parties highly respectable, that this was a regularly marked character of the two orchards. They had both been underdrained, and both treated and managed alike, except in the single point of the system of manuring.

Mr. Saunders remarked that it was one of the most interesting discussions he had ever listened to, and clearly showed to his mind that it was essential to study the general laws of vegetable health above all; yet when trees were once weakened, he had no doubt that position and shelter would be found very beneficial.

#### CAUSE OF THE FAILURE OF THE GRAPE, AND THE BEST VARIETIES FOR EASTERN PENNSYLVANIA.

H. M. Thomas said that about Reading it was customary to dig trenches one and a half ft. deep and one ft. wide, into which some leather-parings and stable-manure were put. They always bore, never had rot, and but little blight or mildew.

Dr. Kessler said that, for the last thirty years, the Isabella had been the great grape of Reading. Recently they had not done so well as formerly. The leaves became hurt usually after showers which were followed by hot sun. When the leaves once got injured, he had noticed that the grapes never ripened. The only remedy he knew was to encourage suckers to throw up a new set of leaves and canes, provided the injury was prior to July or August.

Mr. Grider has twenty acres of grapes. He and another neighbor had lost heavily by rot during the past four years. Rot and mildew extended over the whole United States, and now, in the infancy, as it were, of our wine-making experiments, he would point out a remedy would be a national benefactor. In early spring he had noticed a small insect preying on the bark, which produced by its puncture, as seen when examined with a magnifying-glass, a small red spot, which successively turned purple, brown, and ultimately black, the bark splitting open in time and exposing the wood by the time the latter ripened. The insect appeared but a small midge. The rot appears in spots in his vineyard, not evidently on vines more weakened than others,—often, indeed, only on some branches of the vine, while the other branches of the same vine produce perfect fruit. In fact, the rot often seems to rise in a direct line from the ground upward, as if it was smoke from a chimney.

Mr. Fehr led a branch of a vine into a house, and it bore good fruit; all on the outside vine rotted. Thought the house avoided change of temperature about the fruit. Grapes he had always found to do much better in the shade than in the sun. His experience with vineyards near Reading dates from 1840. Had no doubt mildew was atmospheric, and that the gases of towns were unfavorable to its development. Had imported Rislings from Germany, but they were a speedy and total failure. He had now for some years grown only the Catawba and Isabella. His system of pruning varied with the strength of the vine,—left plenty of wood on strong vines. He thought mildew attacked grapes worst in June. On dewy, hazy mornings, had noticed a pale hue on the berry, and by nine o'clock next morning the mildew would be plainly discernible. He calculated he had lost as much as \$10,000 in his vineyard by rot and mildew. He spoke of the winged thrip, also, as being very destructive to the health of the vine foliage.

Mr. Saunders, by permission of the Chairman, read his essay on the subject in the last proceedings of the American Pomological Society.

Mr. Grider hoped attention would be turned to find a certain remedy. Had seen a solution of sulphur east off mildew after it had been badly fastened on berries.

Mr. Miller, of Chester County, noticed, as a singular coincidence, that when rose-bugs were abundant about vines, there were plenty of grapes,—and grapes scarce in seasons when they were absent. It had become something of a proverb in his section: "No rose-bugs, no grapes."

Mr. Fehr confirmed the observation. Used to send men to kill off rose-bugs: found his mistake, and the first year after discontinuing the war against rose-bugs made twenty-four barrels of wine. He subscribed to the doctrine "No rose-bugs, no grapes."

S. Miller, of Chester County, noticed that, invariably, grapes on trees were healthy in every respect, while they rot in the vineyard.

It was here proposed to take a vote on the five best kinds the members would recommend.

Mr. Rutter said there was so much difference of opinion at the last meeting about fruits for profit from their ease of culture or prolificness, and fruits to be grown for personal use for their superior quality alone, that he thought it would be well to vote understandingly on that subject.

Mr. S. Miller, of Lebanon, thought the Diana with him the safest from mildew. Had never seen any on Concord. Spoke well of Clinton in that respect; but had not had good Catawba or Isabella for ten years.

Mr. Fehr had tried the Rebecca, but it failed entirely in his locality.

Previous to a vote, the Chairman (Mr. Miller, *pro tem*) hoped that only those would be recommended which the members had thoroughly tested, and to mark on the ballots the names of the kinds they had tried and selected their choice from; but we did not understand that this was attended to; and it was agreed after the vote was taken, that the result should not be considered the authoritative sense of the Society. The following was the list, the order of preference being given as the list runs:—Concord, Diana, Delaware, Clinton, Isabella. Our reporter observes that these votes do not amount to much, as probably those who had grown a Concord might not have grown a Diana, as they only voted on what they had grown. Scattering votes were given for the following, and in consecutive order: Catawba, Taylor's Bullitt, Cloanthe, Ontario, Cassaday.

#### SMALL FRUITS.

Rev. Mr. Knox, of Pittsburg being present, was invited to favor the meeting with his experience. For raspberries he used a Double Michigan Plough to the depth of twenty inches. Preferred the Brinckle's Orange for flavor, beauty, and productiveness, but it was rather soft for carrying to market well. It was rather tender; but his faith was in protecting all, even the hardiest. Franconia he preferred as a red. Next the Improved Black Cap. He praised it highly for profit. Does not prefer it to others himself; but for market use one must study the wants and wishes of his customers, rather than his own taste. Improved Black Cap was far superior to the common kinds. He planted them seven feet apart and three feet from each other,—other kinds five feet, and three feet from each other in the row. Used stable-manure. For marketing raspberries, less than pint boxes were the best size. Objection has been made to the color, but in his market, where the Orange is known, it sells well at good prices.

Mr. Heines spoke favorably of mulching raspberries with manure.

Mr. Harrison favored tan-bark. He allowed only those canes to grow that he wished to bear fruit next year, and found wood-ashes and salt an excellent manure. Approved of the Orange and Franconia. Thought Pilate and Hornet promised well. Would send raspberries of the finer kinds to market with their stems on. Hudson River Antwerp was praised for its regular-sized berries. Col. Wilder was first-rate in the shade, but poor in the sun.

Mr. Knox prepared ground for strawberries as for raspberries. Soil had remarkable effects on the results of strawberry culture. Has had profitable strawberry crops from ground only ten inches deep. Grows them in rows two and a half feet apart, eight to fifteen inches apart in the row. Never lets any runners grow. Keeps the cultivator going till fall,—cultivator made expressly for the purpose. Lays straw along to keep the fruit from the dirt. Boys draw the straw apart for the operations of the cultivator with a hay-rake. Uses the labor of women and boys for pinching runners and the lighter labor. Has beds expressly for propagation, where runners are allowed to run. Disrunners beds last a long time without renewal. His beds are five years old, and thinks they may last five more. Spoke highly of a kind known in Pittsburg as Baltimore Scarlet, as suiting their soil well; also of Burr's Pine and Baisi's Prize. Many foreign varieties suited his locality well. Trollope's Victoria had brought one dollar per quart, and berries had measured two and a quarter inches across. Albany's defect was in having various sized berries. Sorted them before marketing. Liked small boxes, holding about one pint. Triomphe de Gand was his favorite,—thought it hard to improve on it; berries regular, usually one and three-fourths inches in diameter. His system had been objected to as expensive. Found, by the returns, it was the cheapest. Two hundred dollars could be realized with him, on his system, for every one hundred dollars spent. The average yield with him of Triomphe de Gand was three hundred bushels to the acre; of Hovey's Seedling, one

hundred. He usually set out twenty thousand plants to the acre, and one pint per plant was the minimum yield.

Mr. Harrison spoke of layering runners into small pots plunged about the plants as an excellent plan for amateurs who wish to be quite successful with valuable kinds.

Mr. Horloch, of Reading, spoke of the difficulty of raising superior seedlings. Had raised large quantities for ten years, but had only one worth any thing. Fruit for marketing was his business, and he had found it profitable. Found the strawberry to do best in a loamy soil that had been in sod for two years previous. Had grown Hovey and Large Early Scarlet for some years. Found keeping soil clean and the plants well thinned paid much better than letting them run together. He dressed in the fall with two-year old cow-manure, covering leaves entirely; raked it aside somewhat in spring. Found taking off the runners had a tendency to make large fruit. Thought old plants began to fail after the third year; they then got "a calamus root," (woody stems or rhizomes). The first season of setting out grew onions and light crops between the plants; next two years they bear. Makes new beds every year for regular succession. Mulching with manure he approved of; and where water could be had to irrigate the beds while the fruit was in blossom, it paid well.

Dr. Eshleman on a small piece of ground had produced at the rate of six hundred bushels to the acre.

Mr. Gay had seen strawberries near Reading frequently averaging from four to six inches in circumference.

Dr. Eshleman remarked that a New Yorker had grown them eight inches round. In his cultivation uses a cast-steel rake. His experience favored that of Mr. Harrison and Dr. Knox in other respects.

Mr. Rutter inquired whether there was any kind that would bear so well with so little cultivation as the Albany Seedling? He thought that to those who did not make a business of growing strawberries for market, and whose other occupations rendered it necessary to have a strawberry that would take care of itself in a measure or have no strawberries at all, it was an important question.

Mr. Dingee said that with a farmer it was not always a question, whether labor would "pay" on his strawberry-bed; but whether, consistently with his regular farm duties, which called him to "make hay while the sun shines," he could often give it any labor at all. He thought a strawberry that would not suffer by a few days or weeks' neglect, had an advantage over others that would.

At this stage of the proceedings, the Report of the General Fruit Committee of the Society was called up and read by the Chairman, Mr. John Rutter, which at the conclusion was warmly applauded. It was, in the main, an elaborate essay on the Degeneracy of Fruits.

#### GOOSEBERRIES.

Mr. Elwood Thomas called attention to the fact that the Cluster and Houghton's Seedling, two distinct kinds, were often confounded.

Mr. Harrison repeated his experience given at the June meeting, and expressed his conviction, that with proper precautions, mildew could be easily conquered, and that the gooseberry was amongst the best of fruits.

#### CURRENTS.

Mr. David Miller classed them next to the grape in value, especially for wine. He preferred having a few inches of stem above ground.

Mr. Saunders had seen them trained to handsome pyramidal forms.

Mr. Knox said high cultivation was particularly necessary for the currant. The cherry was a shy bearer for two or three years. Very profuse after that. He valued it highly.

#### BLACKBERRY.

Mr. Saunders had known forty-eight plants to produce twelve bushels at Rahway, N. J.

Mr. Harrison observed that the fruit ripened well in the shade. A gentleman remarked that some varieties had not proved hardy with him.

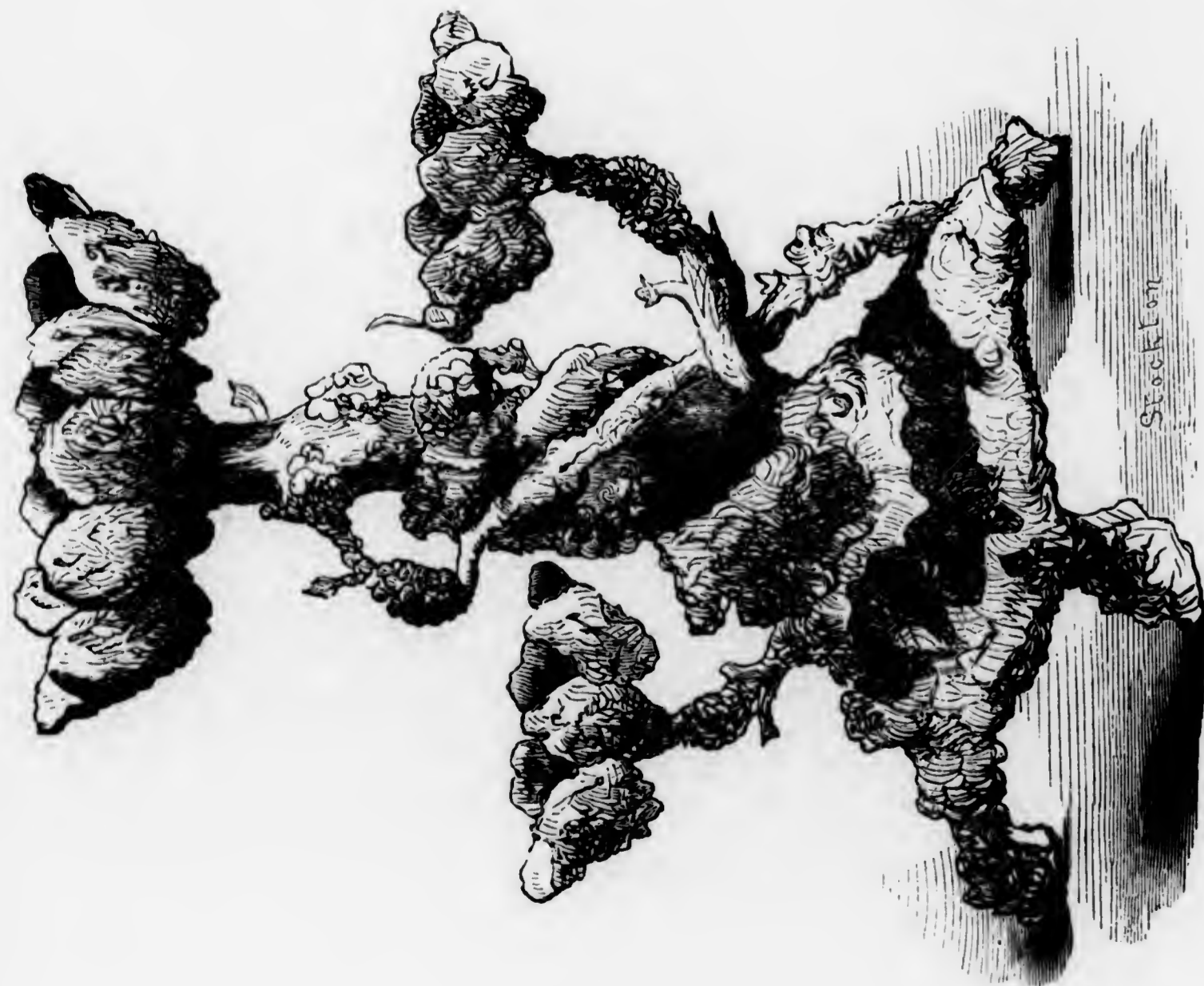
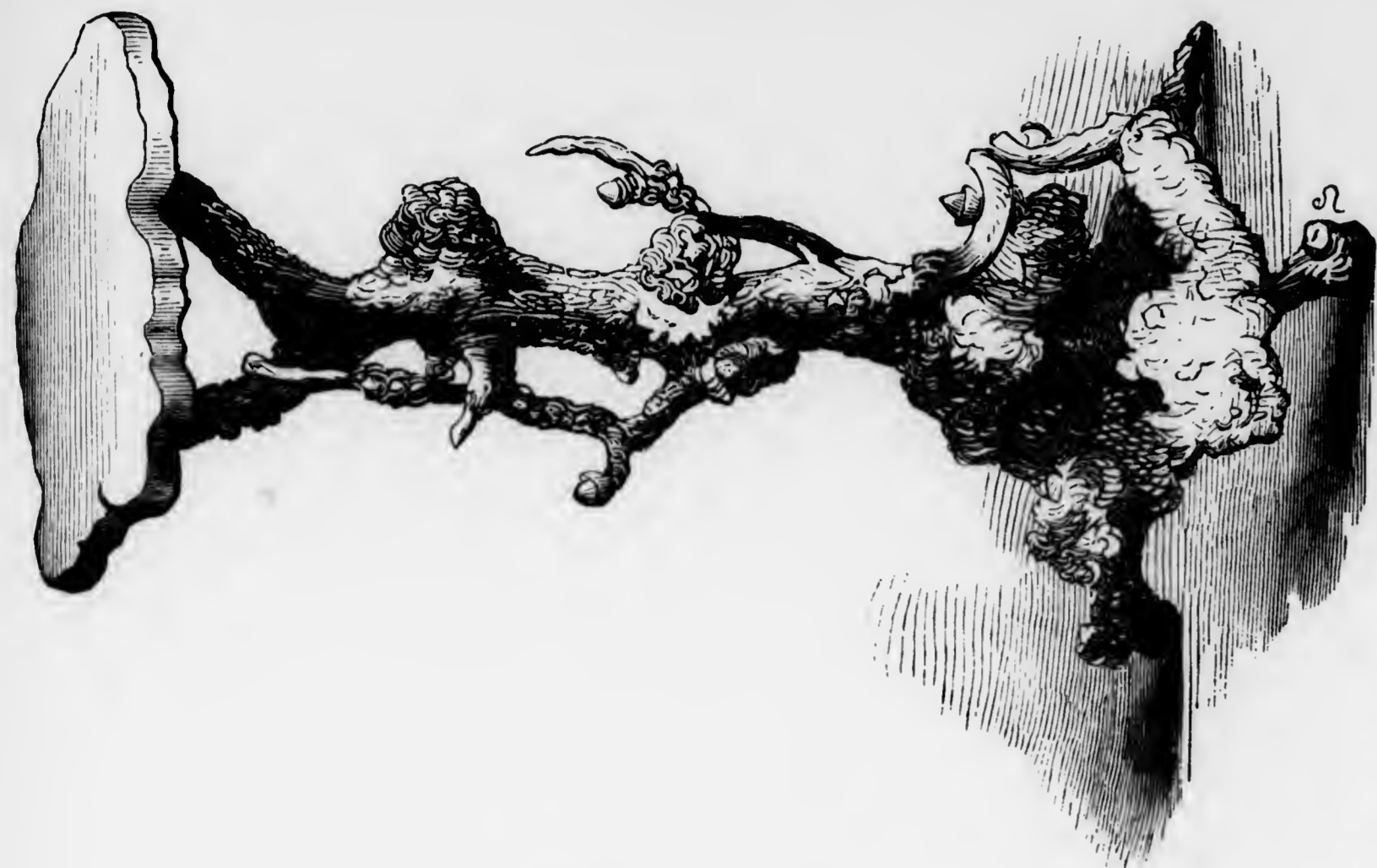
Mr. Saunders said it was owing to imperfect culture that did not permit the wood to ripen.

Dr. Knox pruned the canes a little; cut off about one-third the length of both cane and laterals.

Some enquiry was made about Newman's Thornless. Mr. Harrison said he had seen it the past season in the garden of Mr. Thomas Meehan, at Germantown, bearing very early and abundantly.

Some few remarks were made on the cranberry, and after some further routine, the Convention adjourned *sine die*, to meet again at the call of the Committee.

The meeting was one of the pleasantest the Society has held. It was well attended by members. "Axes to grind," that will at times exhibit their edges in all societies, were not discernible in this. Fault-finding and bickerings about fine punctilios and dull platitudes, that have ruined some good societies, were absent from its councils; and but one object seemed to actuate all who participated, namely, a desire to give and to receive information.



RUSTIC ADORNMENTS.

# THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

MAY, 1861.

VOL. III.—NO 5.

## Hints for May.



### FLOWER-GARDEN AND PLEASURE-GROUND.

ABOUT the first week in May, residents of the Middle States commence to set out their bedding plants. The modern style of planting in masses affords great scope for a tasteful arrangement of colors, either in the same bed, or by arrangement amongst a set of flower-beds. The ribbon style of flower-gardening beds in long, narrow, and winding strips and coils, is also popular for the same purpose. It requires, besides good taste in arranging colors harmoniously, judgment to select those kinds that will continue in bloom the whole season, withstanding well the summer drouth, and that will harmonize in habit and growth with one another.

Flower-gardening affords scope for many pretty fancies, besides arrangement of color, which, in the hands of a person of taste, render a garden a paradise of enchantment. Borders and edgings of ivy, periwinkle or variegated plants, may be made to appear as frames to the pictures of pretty flowers enclosed by them. Waves and fringes of green may be led along through a large flower-bed, and the various divisions formed be filled with its own color, making a natural and living bouquet; different colored gravels may be chosen for paths between beds; different shades of green be made by the selection of grasses of different hues, where grass walks are employed. Old stumps or roots may be occasionally introduced in the centre of beds, and covered with green vines, or flowering clumbers, as taste may dictate; rustic baskets and vases, and even in many instances where very artificial styles prevail, the topiary art may be called in, and good effects result from the use of the knife or shears on certain plants. Much may be done with wire. We once saw a cir-

cular bed, in the centre of which was a very fine specimen of Lamarque Rose, trained on a single stem to the height of six feet, and then the head trained on an umbrella-shaped wire frame. Around the bed was a wire frame about nine inches high, slightly inclining outward, on which was *Tropæolum canariense*, and *Ipomœa clamœclit* (cypress vine crimson, white would do as well). From this frame to the umbrella head rays of wire were fastened, and the vines run up, but never allowed to get in amongst the rose branches. The bed itself was filled with *Salvia patens*, and when we saw it in September, was a mass of blue. It was difficult to conceive any thing more beautiful than the whole presented, and it reflected great credit on the taste of the lady who conceived the plan, and the skill of the gardener who had so well executed it.

The system of bedding plants has called for a new class of characters. Formerly viewed as a "florist's" flower, a verbena, for instance, would require roundness of form in the individual flower as a first requisite. The lobes of the edges of the border should seem so to overlap each other as to form a perfect circle. Then there should always be an "eye," and the colors of this eye and the margin beyond be well defined, and not run gradually into each other. But for bedding purposes, a new and striking shade of color, a free blooming character, neat habit of growth, and power to endure a hot, dry sun, are of far more importance; and the energies of our improvers should be devoted to this end. Seedling raising with this view is very interesting, and we would recommend all our amateur friends to try their hands at it. It is a highly interesting source of gratification even in itself. The way to proceed is to note some variety that approaches nearly to the desired shade, and select seed from these. The next season some flowers will be produced probably deeper, and in a few generations, by careful annual selection each time, the desired shade can be obtained. The old notion that "like produces like," is a fallacy. There is always more or less of difference in the progeny from its progenitors, though most generally so slight that we do not observe it; but a little art added to nature's own pro-

cess brings out the variations very remarkably. Where quite different characters to the original are desired, hybridization may be resorted to. For instance, we may have an excellent habit of growth, and free blooming quality, but a dull colored flower; a kind as nearly allied to the good qualities as possible, but with better colors should be selected with which to fertilize the other. Flowers should be selected for fertilization soon after they have expanded, and the one used as a fertilizer chosen when matured. The flower of the former may then have the latter shaken over it, and fertilization will probably ensue. This is a rough method. The passage of a camel-hair pencil from one flower to another is better; the pollen from the stamens of the one is more certainly carried to the other. When hybridizing is carried on with nicety, it is best entirely to remove the anthers with a pair of scissors before applying the pollen of the other kind. This lessens the chances of self-fertilization, and renders the operation either a certain failure to produce seed at all, or a different race from its parents by the seed so produced. New fruits may be produced in the same way. It was at one time supposed all these productions were mules, and though they might produce flowers in their progeny, would not produce fruit, and so the operation would not benefit the pomologist. But this is now found not to be the case. The progeny is sometimes barren, but this is rather the exception than the rule.

#### FRUIT GARDEN.

THE most paramount question with the fruit gardener is the destruction of insects. We have to confess a belief that all schemes for their wholesale destruction have proved failures, and that our best hope is in their individual destruction. The different kinds of moths and flies may be entrapped by the thousand, in a persevering employment of wide mouthed bottles of sweet liquids hung about the trees. The curculio, whose most tempting allurements do not lie like moths in the way of sweet food; but in finding a nice juicy nidus for the deposit of eggs wherewith to perpetuate its species, can be slain by the hundred, by perseverance in the shaking process. A snag, made by sawing off a small branch a few inches from the main trunk of the tree, should be secured on each, on the point of which to hammer, or otherwise the bark of the tree would be irreparably injured. With a sheet spread under the tree, and a sharp, quick jar with the hammer, all the pests then on the tree may be secured and destroyed. They are rather lazily inclined, but still a few will come from your neighbor's trees; but a few jarrings occasionally will keep them down. Experience has

shown that this course, which only demands a little labor, is much more effectual than the thousand schemes that have been devised for hanging various charms about the branches, and then kneeling down and crying on Hercules for assistance.

The black knot and mildew, next to insects, prove the most troublesome opponents of lazy fruit-growers. We have no doubt that industry in experimenting and skill in scientifically arranging facts will ultimately overcome these difficulties. There are two general principles that may serve as a starting-point. First, we know that on mountain sides, where the atmosphere is damper than on plains, and the humidity more uniform, fruit crops seldom or never fail, and that in new countries where from the excess of vegetation the atmosphere is almost always saturated with moisture, fruits do well. As agriculture renders the air dryer, fruit-culture becomes more difficult; correct principles of culture will, therefore, point to the necessity of in some way providing for these deficiencies before it will be as successful as formerly.

Last season we saw some heavy crops of plums under trees that had been wrapped around with mosquito netting, thus effectually protecting the fruit from curculios. If such gauze were steeped in tan-bark before using, it would probably last a great many years in good order for use. Trees might be trained *en espalier*, on purpose to be the more readily protected in this way. It is a nice plan in many respects, as should mildew or insects attack the fruit tree, or a shade or shelter be required for any purpose, the tree is in the most perfect shape for operating on to the best advantage. This is the season to commence with young trees to put them in shape for this purpose.

Watch all young fruit trees against bearing too abundantly while young, or the first season after planting. There can be no objection to the ripening of one or two fruits on a tree the first season of setting out, in order to test the kind, or to administer to curiosity, if the tree be otherwise growing freely. If little growth is making, no fruit at all should be permitted. It is a better practice to disbud or take out soon after shooting all shoots that are needless to the perfect shape of the tree, than to wait till fall or winter. The pruning knife need then only be used to shorten a branch into where several branches are desired to push, or to induce a more vigorous growth from the pruned parts. In the gooseberry, raspberry and strawberry also, no more shoots should be suffered to grow than will be required to bear the next season.

Where water can be commanded, there is nothing so profitable as to well soak the soil about small fruits; first about the time that they have set their fruit. Much of the value of this operation, however,

will depend on the nature of the soil. The advantages are least in a tenacious, and greatest in porous soil. It is said that an animal derives most benefit from food when it is hungry before it begins to eat; it is certainly so with plants. Water applied to soil already wet is an injury; and water never has so telling an advantage on vegetation as when every leaf is about to wither up for want of it. A plant that never seems to want water is in a very doubtful condition in regard to its health.

When the strawberry crop is about to ripen, mulch with clean straw, to prevent rain soiling the fruit. Short grass from the lawn is often used; but it mildews as it decays, and detracts from the flavor of the fruit. Hot suns increase flavor, and strawberry tiles were once in fashion to put around the hills, which, by absorbing heat, added greatly to the fruit's rich quality. All that we have said of strawberries supposes them to be fruited on the hill system, with the runners kept off. Those who desire the best results, will grow them no other way.

In summer pruning or disbudding, it is also worth while to watch for shoots pushing stronger than others, and always take them out. This is the only way that shoots of equal strength can be encouraged in every part of the tree. This is particularly true of grape-vines. If a shoot once get the start of the others in strength and vigor, the others will gradually get weaker to the other's increasing luxuriance.

As to the best system of pruning grapes, there are several "schools," all contending that their views are "decidedly best." In such cases we have generally found there is much to admire in them all,—situations and peculiar circumstances deciding the point in each individual instance. There are a few points incontrovertible to insure success, and it matters little what system of pruning is followed so that they are secured. First, a healthy set of roots of the previous year's growth is essential to produce vigorous start of growth the year following. Secondly, after starting, these roots can only be kept vigorous by encouraging an abundance of healthy foliage, to be retained on the vine as long as possible. Thirdly, the leaves of the first growth are at least of double the value to the plant than those from secondary or lateral shoots; they should, therefore, be carefully guarded from injury. Fourthly, checking the strong growing-shoots strengthens the weaker ones, equalizes the flow of sap to every part of the vine, and insures regular and harmonious action between all the parts. Any system that secures this, does all that is necessary for the general health and vigor of the vine; and where some special objects are desirable, such as dwarfing, particularly early bearing, productiveness at the expense of

longevity, special means must be employed to bring them about.

#### VEGETABLE GARDEN.

CABBAGE, Cauliflower, and Brocoli, are now set out for fall crops, and Endive sown for winter Salad. Lettuce also for summer and fall use. This, however, must be sown in very rich soil, and in a partially shaded situation, or it will go to seed. Peas, Beans, and other crops, should be sowed every two weeks. They do much better than when a large crop is sown at one time, and then have too many on at one time to waste.

In the cultivation of garden crops, the hoe and rake should be kept continually at work. Weeds should be taken in hand before they are barely out of the seed-leaf, and one-half the usual labor of vegetable gardening will be avoided. Hoeing or earthing up of most garden crops is of immense advantage in nearly every case. One would suppose that in our hot climate flat culture would be much more beneficial; but a fair trial, say on every other row of a bed of cabbages, will show a great difference in favor of the earthed-up plants. It would be easy to explain the reason of this, but in this column we try to confine ourselves to "hints," and leave reasons to our other departments.

### Communications.

#### LINNEUS AND LINNÆA BOREALIS.

BY L., HADDONFIELD, N. J.

SOME of our readers have at times experienced difficulty in mastering and retaining the seemingly crabbed names employed by botanists to designate plants, and it may truly be asserted that some of them are, indeed, rough, uncouth, and harsher than our

"Northern whistling, grunting guttural,  
Which we're obliged to hiss and spit and sputter all."

Such names as *Schleicheria*, *Zauchneria*, *Escholtzia*, *Scheuchzeria*, &c., in my humble opinion, should not have been adopted. Not that they are difficult to retain in the memory, but because they are harsh and do not conform to the genius of the Greek and Latin languages, from which scientific terms are generally derived. Moreover, a name should convey a meaning having some bearing upon the subject, descriptive of its qualities, thus becoming an aid to the memory, and readily recalled by association.

Exception may be made in favor of naming in honor of those who have advanced the science of



botany by explorations, special study, &c.; but in this case those only who have distinguished themselves should be thus commemorated, and harsh, uncouth names rejected. Linnæus adopted this custom, and honored several of his patrons and pupils after this fashion.

Thus the *Celsia* was named after Celsius, one of his earliest benefactors. The *Kalmia*, abounding in our woods, and so well known in English gardens, but a stranger to our own, commemorated his friendship for Professor Kalm, his pupil and fellow-laborer, and who first presented this beautiful plant to his teacher.

Linnæus well observes in his "*Critica Botanica*," concerning this practice of bestowing celebrated names upon genera of plants, that a "proper connection should be observed between the habits and appearance of the plant and the name from which it has its derivation."

The *Andromeda*,\* a beautiful little gem, much resembling the Heath of England, and belonging to the order Ericacea, and one of the best representatives of the Heath in America, may be cited in illustration. The buds are of a blood-red hue before they expand, but when fully blown the corolla is of a flesh-color.

During his Lapland tour, Linnæus found this plant in abundance, adorning the marshy ground with its delicate blossoms; and as he admired its beauties, his imaginative mind was struck by a fancied resemblance between the appearance and circumstances of this plant and the story of *Andromeda* as related by the Greek poets. "A maiden of exquisite beauty chained to a rock amid the sea, and exposed to monsters and venomous serpents. This lovely little flower," he said, "is her vegetable prototype. Scarcely any painter could so happily imitate the beauty of a fine female complexion, still less could any artificial color upon the face bear com-

\* *Andromeda hypnioides* (the Moss-like *Andromeda*), probably the species known to Linnæus, as it abounds in the elevated regions of Lapland, is also found in the Alpine summits of the White Mountains. It is one of the smallest and most delicate of shrubs, a tree in miniature, and bearing a resemblance to some of the Mosses.

A species of *Andromeda* (the *Mariana*) is very common on the sandy roadsides in New Jersey, near Philadelphia, and on similar soils south to Florida, is a most beautiful object. It is a shrub from two to three feet high, much resembling the Whortleberry bush. In June and July it hangs out its clusters of white waxen bells in profusion. Its common name "*Staggerbush*" will recall it to many who do not recognize its Linnæan appellation.

The Linnæan genus *Andromeda* contained a large number of species, but it has been broken up by David Don and other botanists; and the genera *Cassiope*, *Cassandra*, *Zenobia*, *Leucothoe*, *Lyonia*, *Pieris*, &c., all named from ancient fables or history, not one of which has been so happily chosen as that first applied, and under which they are still described by some botanists and known in gardens.

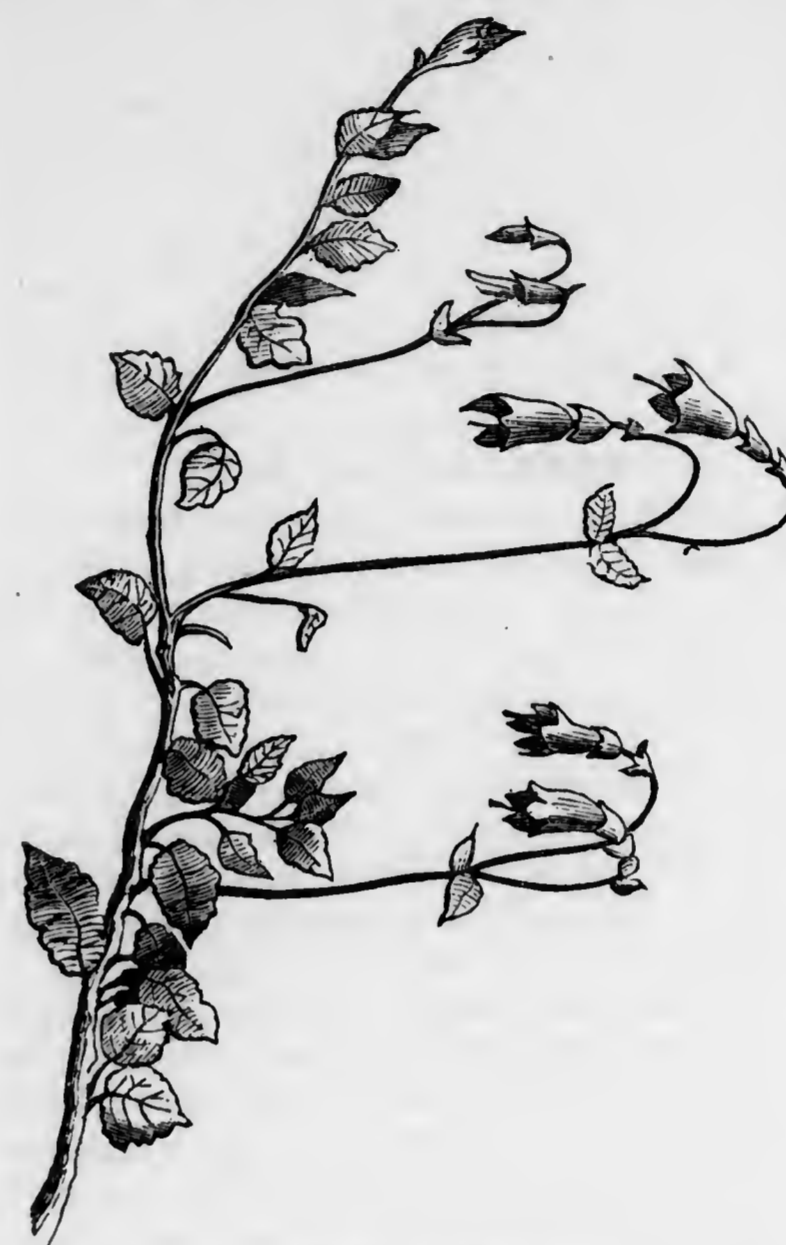
parison with this lovely bloom. I find it always fixed upon some turfy hillock amid the swamps, and its roots bathed by their waters. In these marshy and solitary places toads and venomous reptiles abound; and just as in the case of *Andromeda*, *Perseus* comes to deliver her from her dangers, by chasing away her foes, so does the summer, like another *Perseus*, arrive, and, drying up the waters that inundate the plant, chase away all her aquatic enemies, and then she carries her head (the capsule), which before had drooped pensively, erect, and displays her beauties to the sun." Pleased with the idea, he chose for this flower, which is the type of a new genus in the system he was arranging, the name *Andromeda*.

Other illustrations of the application of this canon of Linnæus may be found in the *Scheuchzeria*, a grassy Alpine plant, named from the two *Scheuchzers*, one of whom excelled in the knowledge of Alpine plants, and the other in that of grasses. Also in the *Hernandia*, an American plant, named after *Hernandez*, a naturalist sent out to Mexico by Philip II. of Spain, and said to have been given to the plant, which has large leaves and small flowers, in allusion to the great opportunities afforded to the naturalist and the little use he made of them.

And, again, the *Buffonia* received its name in honor of the celebrated Count de Buffon, while one of its species was called the Slender-leaved *Buffonia* by Linnæus on account of the slender pretensions to botanical science which that naturalist possessed!

Linnæus selected, as an emblem of himself, the *Linnæa borealis*, (so named by Gronovius), which he describes as "a little Northern plant, flowering early, depressed, abject, and long overlooked;" and then traces a resemblance between this flower and his own early lot. Like it, unfolding in a remote northern region, without the gifts of fortune or the means of cultivating his natural powers, he was long unknown and overlooked. Indigent and obscure, he pursued in secret his scientific researches, exploring the recesses of nature, tracking her footsteps to her remotest retreats. Mountain and glen, forest and moor, alike yielded up their treasures to the ardent inquirer, who came forth, after a season, enriched by the spoils he had collected, and which, arranged in a new and beautiful order, he presented to the surprise and delight of kindred minds in every region. Then, indeed, his resemblance to the humble flower of his choice ceased, and men of science in every civilized country pressed forward to avail themselves of his discoveries and share in his pursuits, and the clouds that had gathered around his youth were dissipated, while for the last forty years of his life he saw himself surrounded by the honors

and emoluments his country and his king had bestowed upon him, and enjoyed the chosen delights



[*LINNÆA BOREALIS*.]

of his heart amid a host of pupils who honored and loved him as their friend, the instructor and then benefactor.

After he attained the Chair of Botany at Upsal, he continued in an uninterrupted career, teaching his favorite science in the halls where he had himself been a pupil, and which he had so often entered with childish awe. Under his rule the fame of the University extended over Europe, and even to America, and at one time while Linnæus was Rector, in 1759, it numbered fifteen hundred students!

[To be continued.]

#### THE VERBENA DISEASE—"BLACK RUST."

BY PETER HENDERSON, JERSEY CITY, N. J.

I KNOW not whether you have this disease amongst you to the extent we have it here or not; if not you may congratulate yourselves, as with us it is one of the least subduable of ills that plant-kind is heir to. To our notion, it is a comparatively "new disease," as the doctors would say, never having observed it

before 1856, although it may have been in existence much longer.

According to our present observations, it appears to be a species of mildew, affecting the *Verbena*, *Heliotrope*, *Lantana*, and plants of similar kinds, and from probably the same cause as our ordinary mildew—sudden change of temperature. We are led to this belief from having observed, repeatedly, that a bed of *Verbenas* in vigorous growth, after sustaining a smart frost in October, in two or three days after began to show signs of the "rust" on exposed shoots, while shoots covered up by the foliage, and thus slightly protected, were perfectly free for some time longer.

If we are correct in this, prudence will teach us, that instead of leaving the propagation of varieties for the next year until the coming of frost, our stock of cuttings should be secured in advance of that time. I have pursued this method for the past two seasons, and I may say here, scarcely had a diseased subject in my collection of upwards of fifty thousand *Verbenas*.

In corroboration of this theory, I may state the fact, that after I had secured all the cuttings I wanted from my own varieties last fall, I got six or eight sorts from a neighbor nearly six weeks later, about the middle of November,—they seemed to have no indication of the disease at the time, but in a few weeks it developed itself to such an extent that all had to be thrown out; while my own, struck about the first of October, and grown under the same circumstances, were entirely free from it. Moreover, my friend, getting a lot of cuttings from me at the same time I got his, lost every plant from the disease.

But it is not enough to secure the cuttings before the approach of the disease; it is equally imperative, we think, to maintain a uniformity of temperature in the greenhouse to prevent its attacks there, and this, we think, should be as low as possible—merely above freezing—giving abundance of air in mild weather. I doubt much if a great deal of this trouble is not traceable to the keeping of too high a temperature in the greenhouse, thus giving them a tendency to draw, to counteract which air is given, which harshly playing upon the tender succulent shoots, impedes the flow of the sap and the "Black Mildew" or "Rust" follows.

I do not advance these views, Mr. Editor, as entirely correct, but they are such as my observations have forced upon me. I should much like to see the matter referred to by others of your readers. It is a subject of more than ordinary importance, not only to the admirers of this beautiful tribe, but to the commercial florists, three-fourths of whom for the last two seasons have had their stock more or less injured.

**ENGLISH BLACK RASPBERRY.**

BY L. S. MOTE, MILTON, OHIO.

I FIND in the *Gardener's Monthly*, vol. 2., No. 7, page 218, the following notice of the "*English Black Raspberry*."—"This is a hybrid between the Blackberry and the Raspberry, and is the parent of *all the black autumnal-bearing varieties*, although itself a summer bearer, etc." "As this notice appears to have been taken from the *Cottage Gardener*, it will do to say it is the parent of *all the European autumnal-bearing varieties*, perhaps; but America has many *natives* of her own which produce autumnal crops, amongst which is the "Ohio Everbearing," and, although closely resembling in many particulars the "Common Black Cap" or thimble berry, is nevertheless superior to it. The berry is larger, softer, and more luscious, and as I do not find any notice of it in the *Monthly*, I will give Downing's description.

"Ohio Everbearing."—This is a native of Ohio, and was first made known to Eastern cultivators by Mr. Longworth, of Cincinnati, though we believe it had been cultivated for some time previous, at a Quaker settlement in Ohio. It is precisely like the American Black Raspberry or Black Cap, in all respects, except that it has the valuable property of bearing abundant crops of *fine fruit* till late in the season. We have seen a quart gathered from a single plant on the 11th day of November, &c." I have cultivated it for the past thirteen years, and think I ought to know something of its merits, and that Downing needs a little emendation as I have given above, in regard to the *size* and *quality* of the berry, &c. I can fully endorse what he says of its autumn production, and deserving to be in every large garden, (and I would say in every small one too.) I have raised a good many *seedlings* from this kind, nearly all of which show this peculiar trait of "autumn bearing." Some of these I think are superior to the parent. I had the curiosity to count the berries on a *small* one that fruited last autumn for the first time, which was as follows: ripe berries on it, 22; berries not quite ripe, 82; part red, 66; green berries, 35. Total, 205; besides five other branches budding and in bloom. I have one (a yearling, a cross with "Rivers,") that bore *red* berries. If it proves hardy, it will be a great acquisition. I also have a number of other *seedlings* from various kinds, that will fruit the coming summer, and if I get *one good* one from them I shall feel paid. I think we need a *hardy, good flavored, autumn-bearing* Red Raspberry. Health permitting, I propose to continue my efforts in the production of such a one. At the same time, I am not neglecting in the *same line*, the Apple, Pear, Cherry, Peach, Grape, Gooseberry, Strawberry, &c.

[There are a great many erroneous statements

flying about as facts, yet so apparently plausible that that they cannot be contradicted. We generally strive to work all these matters into our columns of "Domestic and Foreign Intelligence," for the express purpose of calling attention to them. In the present instance we have long held the opinion that it is altogether a mistake, that this English Black Raspberry is a hybrid from the Blackberry, or that Mr. Rivers found it in a hedge in Essex, England. Our *opinion* is that it is a form of *Rubus occidentalis*, or wild American Raspberry, that has got into cultivation in England, and all trace of its history lost.—Ed.]

**PROPAGATING BOX.**

BY T. H. HUNTER, LANCASTER, OHIO.

I HAVE often heard it remarked by persons who have propagated the Rose, that the Hybrid Perpetual class could not be rooted from cuttings in the winter, but that all the other classes could be. I think this is a mistaken idea; I have succeeded in propagating them equally as well as either the Bourbon or Bengal roses, which with me are the most certain to root. I put in the first week of December last, one hundred cuttings of the *Souvenir de Leveson Gower*, and on examining them to day, I find that all but six of them have rooted exceedingly well. My course of treatment is this:—I have a bed containing 4 inches of clean washed sand; the bottom is bored full of 2 inch holes, over which is spread straw, to prevent the sand from falling through. The pipe which conducts the hot water through my greenhouse is completely boxed up, under the bed, which affords a strong bottom-heat, and I have sash over the cuttings which confines the heat that arises from the sand. I keep the cuttings moist by watering with clear rain water, at about 70° temperature. The glass must be kept closely, only occasionally raising them to give air.

I have not only succeeded in rooting Roses in this way, but a great many varieties of hard-wooded plants. It may, perhaps, be an old plan, but to me it is entirely a new one,—I have never seen it used, but only adopted it, after experimenting in various ways, in rooting plants from cuttings.

[This plan is in successful use by some other propagators, but will be new to *the many* for whom we write. We are obliged to our correspondent, and to all who furnish us with details of any practice new or old, that they find eminently successful.—Ed.]

**WEATHER AT NEW LONDON.**

BY H. R. CHITTY, CONNECTICUT.

FEBRUARY 8th we had the most sudden and severe change of temperature that I ever (with one excep-

tion), experienced in America. The morning was fine and mild, with a gentle south-west breeze, which increased to a gale, with threatening rain at noon. At 1 P. M. the thermometer stood at 42°, about which time we had a heavy shower, which lasted but a few minutes. At 3 P. M. it began to rain again, but was immediately seconded by a heavy snow squall, which lasted about two hours, up to 5 P. M.; the rain had been from the south-west, but when the snow began, it suddenly turned from that point to south, north-west, north and north-east; from the last point, however, it only blew a short time, but went back to north-west, from whence it blew all night—so hard that a man could scarcely make headway against it. About 5 P. M. it snowed harder I think for a short time than I had ever saw it before, but at 5½ the sky was perfectly clear, and the thermometer at 14°; at 10 P. M. it was at zero. At about 5 this morning it was 20° below zero. And at noon to day it stood at zero. The decrease of temperature was 42 degrees in 9 hours, or 62 degrees in 16 hours. Had so severe a change with such a wind, taken place at night, the consequences must have been disastrous. The exception I refer to, was, I think, about February 20th, 1856. I was with Mr. Buist, of Philadelphia, at the time. We then had a decrease of about 50 degrees in 8 hours; it was a severe time, and you, doubtless remember something of it.

[We had a specimen of the same kind here in Philadelphia. The thermometer, however, sinking to but 6° below zero. Very great damage, however, has been done to the tenderer evergreens. *Euonymus japonica*, *Deodars*, *Cedar of Lebanon*, are more injured than we have ever seen before. The winter in England has been equally disastrous on evergreens.—Ed.]

**REMARKS ON THE CULTURE OF DENDROBIUM NOBILE.**

BY W. GREY, ALBANY, N. Y.

THE cultivation of Orchids in a mixed collection of stove plants is not attended with as much difficulty as many growers suppose. Where the house is kept in the winter months at 65° by night and 75° by day, advancing the heat in the spring, almost any Orchid may be grown. In the stove where I stand the Orchids, the side shelf is covered with lead, and filled with water to about the level of the gravel, on which I place those plants that are in a growing state, and the evaporation caused by the heat from the boiler produces a nice moist growing heat, which *Dendrobiums* seem to delight in, and without the least injury

to other plants. Not to occupy more space with preliminary remarks, I will try to explain in as few words as possible, our mode of growing *Dendrobium nobile*.

*Season of Growth, &c.*—To grow the *Dendrobium* with success, it is necessary to become acquainted with its native climate. It is a native of India, where it is found growing on trees over streams and moist places, the streams drying up in the hot season, when the plants cease growing and rest, and as the season becomes cooler with occasional showers, they produce their flowers, and as the season advances make their growth.

The house I rest the plants in I keep the thermometer from 50° to 65°, and when I want a plant for bloom in May, I keep the plant in the heath house. I introduce plants into the stove as I wish a succession of bloom, and have no difficulty in having plants in bloom from November to May. When I wish to have as many flowers as possible on a plant at one time, I keep it in the stove and do not rest it; when not rested, they seldom show many flowers, and by having the growth of a well-established plant for two seasons, from three to five hundred may be had at one time. Our largest specimen has had seven hundred and twenty-two flowers the two last seasons. The plants start into growth as the flowers fade, which is a good time to propagate by dividing the plants. The young shoots or bulbs that start from the old bulbs I take off when well rooted. I also cut the old flower-bulbs into lengths, and lay them on wet moss, in a pan or saucer, and cover with glass, and place on the hot-water pipes, where they break freely. As they grow, take them off and pot, keep in a close frame until established. To get an old plant to break freely, it is necessary to cut with a thin sharp knife between the bulbs just as the flowers fade. This causes many shoots to start that would lie dormant if otherwise left alone.

*Potting.*—This should be done as the plants start growing. The material I use is fibrous peat, and sphagnum moss,—potsherds, and charcoal, for drainage, and grow in pots or rustic baskets. I give preference to hard wood maple for baskets, which does not produce fungus when decaying. When potting, I place a small pot inverted over the hole of the large one, and fill up with potsherds to the height of the small one, cover the crocks with sphagnum, and fill with pieces of fibrous peat, charcoal, and sphagnum, having it as porous as possible. I raise the soil in the centre about an inch above the rim of the pot, on which I spread the roots carefully, and steady the plant with a stick; then cover the roots to about an inch from the crown. In removing a large plant into a basket, I place a small basket in the centre,

filled with coarse pieces of charcoal. I have found the soil in baskets, when overhauling them, sour when not filled with drainage in the centre. The plant should have as much of the old soil removed as possible without injuring the roots, and raised a few inches above the top of the basket, and avoid placing soil around the crowns, as it often causes the young growth to damp off. When plants do not require repotting, it assists their growth to remove from the top the old soil, and give them a top-dressing, adding a little coarse manure.

**Watering.**—When the plants are at rest, very little water is required. I give water as the shoots begin to shrink. Plants that are rested in the greenhouse will want water about once in two weeks after the plants are removed into the stove to expand the flowers, I water about once a week, enough to wet the whole of the compost, as the young growth begins to show from the bottom of the bulbs. I take great care not to wet the crowns, as when the young shoots that start first damp off, the next that start seldom, if ever, make strong shoots, and when they are not from two to three feet long, the bloom will not be abundant. After the young growth have commenced to root freely, I then draw the syringe occasionally over the plants, and give abundance of water at the root until the growth is matured, when I remove the plants into the house, where I rest them and gradually withhold it as the bulbs ripen. After the growth is about half grown, I give weak liquid-manure, which is a great assistance to plants that have only been top-dressed.

In conclusion, the whole success of cultivation is to get a strong growth and give a long season of rest exposed to the sun, and it is positively necessary to look after insects that prey on the tender roots and young growth. Slugs, woodlice, and a small shell-snail are the most troublesome, which I destroy by candle-light, as they leave their places of concealment at night. Mealy bug and scale I keep off by constantly sponging the plants with cold water.

[We noticed in our March number remarkably fine specimens of this plant, grown by Mr. Grey, to which we would refer all who are interested in the above account of Mr. G.'s mode of managing it. The ease with which our correspondent has achieved success with a class of plants usually considered untractable under ordinary cultivation, will, doubtless, stimulate many others to try their hands at the enjoyment of such rare beauty.—ED.]

#### NOMENCLATURE OF FRUITS—BEN DAVIS AND NEW YORK PIPPIN APPLE.

BY A. MATTISON, PADUCAH, KY.

ON page 85 of the March number of the *Monthly* it is said that the Ben Davis and New York Pippin

are the same. I also believe them to be the same; but I object to the name being made Ben Davis.—The apple was known all along the Ohio river below Louisville thirty years ago,—long before it had the name of Ben Davis attached to it,—and it was always known by the name of New York Pippin. The name of Ben Davis was given to it by (if I do not mistake) Mr. J. S. Downer, of Todd County, Ky., where, he says in his catalogue, it originated.

It was known in this region for years before he ever saw it, and thousands upon thousands of people know it by the name of New York Pippin, who never did and never will hear of the name of Ben Davis. Your "works of authority" will have a hard time in changing the name of that apple in this Western country. The New York Pippin is one of the "institutions" of this part of the United States.

[It is clear that there must be some fixed rule for naming fruits, or we could never be sure when we had the proper name. The rule adopted by the great body of Pomologists and Pomological Societies, is to recognize a name as rightfully belonging to any fruit only when it is described in any work of admitted authority. A fruit may be a seedling, but it does not follow that it is, therefore, essentially new,—and it is the province of men learned in their respective branches of Pomology to pronounce whether it is or is not new, and rightfully claiming a distinctive name. It is this adoption of "everybody's name" that is the vice of Pomology, and is multiplying synonyms to an unbearable extent. No matter what name, or how many names a fruit may have before it is described by an acknowledged authority, the one it is so described under will be the one pomologists will adhere to. The describer will, according to pomological rules, give it the name it was popularly known by before description, "if not objectionable" we think the rule has it,—but this is but a recommendation, and not imperative on the describer, who can give it any name he pleases, and we can recognize no authority but actual description in the way stated. For instance, some ten years ago a grape was first described under the name of Delaware. It has since been shown that the grape had been known for many years before as the Ruff Grape, Derr Grape, Wine Grape, "Powell Grape," Heath Grape, French Grape, &c., but this priority of popular names gives it no claim in the sight of Pomologists to any other name than the described name Delaware.

We have entered into this subject at length, as we think it very important that it should be understood, or the nomenclature of fruits will soon become a mass of puzzling confusion.

With regard to the apples in question, we have

only to say that as Mr. Downing disclaims in our last the responsibility of the description of Ben Davis, while he does assume the description of New York Pippin, it makes of course a difference in our view of its proper name; though we cannot refrain from saying, it is unfortunate that loose descriptions from irresponsible sources should be admitted into works that we wish to uphold as the standard of authority in pomological nomenclature.—ED.]

#### APPLE ORCHARDS.

BY A. MARSHALL, WEST CHESTER, PA.

If you will spare me a little space, I will give your readers my views on the culture of Apple Orchards. First subsoil the ground as deep as possible. If drained with drain tile in addition, it will be better. Even high ground will be improved by under-draining; and drain-tile is so cheap, that it costs but little. I would say here, that farmers expect too much from the ground of an apple orchard. If you want to grow apples, you must devote a piece of ground to that purpose, and grow nothing else on it. Get trees two or three years old from the graft or bud, branching out low; plant them twenty feet apart each way, which will set one hundred and nine trees to the acre. The ground should be prepared and manured the previous summer. Plant shallow. Seed down to clover with a very thin scattering of oats for the purpose of mulch. This oats crop is not to be taken off. You must make up your mind at first to take off nothing but apples, and to wait a few years for these. Mow your ground every year about the first of September and spread the mown grass over the ground. This, with the leaves from the trees, will not only keep up, but improve the soil. Keep all animals out of the enclosure. Do not permit the top branches of your trees to run too high. Keep them down so that you can hand pick the fruit from a step-ladder. The annual mowing will keep the ground clean. No other culture will be needed except to loosen the ground a little about the stem of the tree in the autumn and leave no harbor there for mice.

The next great question is—Will it pay? I think it will, if these conditions are complied with. One fact has been pretty well established in Eastern Pennsylvania,—that land having been cropped with wheat, corn, oats, &c., for thirty, forty or more years, will not continue to produce these crops and apples, too. If you want to grow apples, you must devote a lot of ground to that purpose. With newly-cleared ground, or in river bottoms full of vegetable matter, the case will be different.

I believe that not less than half a million dollars worth of apples have been imported into Pennsylva-

nia from the Western and Eastern States within the last year. Chester County, alone, has imported and consumed thousands of dollars worth. Why should not our farmers put this money in their own pockets?

#### MILDEW ON THE GRAPE.

BY F. A. BALLER, ROCHESTER, N. Y.

HAVING noticed the very interesting articles of Mr. M. B. Bateham and A. A. Mullet on the Causes of Mildew in the Grape-vine, I beg to offer my views on the same subject.

In my opinion, there are two distinct species of mildew that the grape is liable to,—one is, I think, principally caused by stagnant water at the roots, and shows itself in dirty-looking blotches on the leaves and fruit. It has a peculiar smell, resembling musty hay, and exhibiting, under the microscope, very minute toadstools with purple caps. Others forming in the substance of the leaf, knotting up from innumerable little fibres, in the same way as the common mushroom. This species I do not think is half as troublesome as the other, nor so general, yet a misapprehension may exist in regard to it that others may not think of.

In regard to the second species, it is, I think, too well known to need a description. Sufficient for it to say that it makes its appearance in a filmy substance, which rapidly spreads and destroys the tender parts of the leaves, making them appear, after a little time, as if sprinkled with hot water.

Having occasion, a season or two ago, to move a few vines from a brisk growing heat to a cold frame facing north, where they were shut up close and left till the next day, what was my surprise to find them, when taken out, all spotted and covered with mildew. This set me to thinking, and subsequent experiments and close observation have enabled me, at least in my own mind, to form an opinion as to the cause of mildew generally.

In the months of July and August, when the growth of the vine is vigorous, the leaves throw off or evaporate a great deal of moisture. The weather is at the same time warm, and possibly dry. Suddenly we get a heavy fall of rain, followed, as rain generally is, by a lowering of the temperature, accompanied by a cold, moist atmosphere. This at once checks evaporation from the leaves. The roots being somewhat removed, do not feel the effects of the sudden change for a time, but continue to take up moisture, which the leaves cannot possibly get rid of. This state of things is followed by a rupturing of the tender vessels of the leaves, when mildew immediately sets in. Bright weather is apt to aggravate the complaint,—at least for a few days, till

some of the moisture in the soil has passed away.

I could cite a number of instances in support of these views, but am afraid to trespass on valuable space. One instance I will give, however, that must answer for all I have under my care,—a house built almost entirely for growing hardy American grapevines. It is two hundred feet in length, and not provided with any bottom ventilation, except from doors at each end. Last season this house was filled with vines in pots. The first week in August, when they were growing vigorously, we had rain, followed by cloudy weather; and as previous treatment of these vines had been for a continuance of fine weather, (by flooding the house with water in the morning, as well as copious syringing overhead, often watering morning and evening,) I looked, not without some anxiety, for the appearance of mildew, and was not disappointed in examining some of the plants which stood closest together. We immediately built a strong fire, raised all ventilators and doors, besides raising the fumes of sulphur in every part of the house, withholding water both at the root and leaf, till all danger was past. By such measures we overcame the difficulty, though not without considerable trouble.

I cannot but fall in with many of the views expressed in the before-mentioned articles, such as distance of planting, thorough drainage, circulation of air and elevation, by which last you secure a warmer, drier, a more even, and above all, a moving atmosphere, as well as freedom from frosts for at least two weeks longer than your valley neighbors, by which means you secure riper and firmer wood.

#### HINTS FOR THE IMPROVEMENT OF HORTICULTURAL SOCIETIES.

THE Pennsylvania Horticultural Society has, in common with most of the older ones in the States, declined in usefulness for some years back. The more active members of this Society are, however, desirous to re-elevate it to its former pinnacle of popularity, and recently appointed a committee to examine the subject, with the view of founding a new era of success on the report.

We are indebted to the kindness of the chairman, Mr. W. Saunders, for the opportunity of publishing it from the manuscript; and as we deem the excellent suggestions it contains likely to benefit other societies situated as this is, our readers will thank us for laying it before them.

To the President and Members of the  
Pennsylvania Horticultural Society:

The committee appointed to investigate the history of the Society, and discover, if possible, the cause

of its decline, as well as its inefficiency, and suggest measures for its future improvement, beg to submit the following report:—

The objects of the Society, as set forth in the act of its incorporation, are "for the purpose of promoting and encouraging horticulture, by improving the growth of vegetables, plants, trees, fruits, and flowers, and of introducing into our country new varieties and species."

In pursuing their investigations into the early history of the Society, your committee have been highly interested in tracing its rise and rapid progress of usefulness and success. During the first eight or ten years of its existence the records are rather meagre; but it is due to our late Secretary, Mr. James, to mention his name in connection with the fact, that for the past twenty years the minutes of the society contain a vast amount of horticultural information, such as the introduction of new plants, vegetables and fruits, which if collated and presented in a detailed and comprehensive form, would be of much value to those members who are not familiar with its theory, as well as forming a useful reference for the future management of the Society.

From the records it appears that one great object has been to endeavor to enlist the attention of the public, and in order to accomplish this very desirable and necessary object, public exhibitions of the products of the greenhouse, garden, and orchard, were early established; and still further, to enhance attractive displays, premiums were offered for the encouragement of exhibitors, and as an incentive to higher excellence in their productions. Towards carrying out these views, the Society has disbursed from twenty to twenty-five thousand dollars in premiums, and the result has been, that for a period of twenty years these exhibitions annually gained in notoriety, until they formed an attractive display, which for magnificence in the quantity, quality and variety of the productions, has never been excelled, indeed, never been equalled, by any similar institution in America.

These exhibitions, however, can only be looked upon as auxiliary to the fulfilment of the aims of the Society. It is a well established fact, that in order to ensure public attention, one of the most effective modes consists in making appeals of an attractive character. If properly conducted, public exhibitions with such attractions as horticulture, floriculture and pomology can command, seldom fail in enlisting that recognition and support contemplated by their originators, and up to a certain point, are of vast service in popularizing and disseminating a taste for gardening. But there must necessarily be a certain degree of sameness in the general features of these displays,

which tires by repetition, and they gradually lose the esteem of the mere sight-seer, and even those who have become more or less enthusiastic in their admiration of the purposes and objects of the Society, become indifferent when they discover that it fails to afford sufficient food for their increasing desires.

The means degenerate into the end, and, instead of public exhibitions being considered simply as a means of increasing the usefulness of the Society, they become the sole aim of its existence, and they are then placed on a level with other public amusements, and are left in the background when competing with more sensual exhibitions.

Your committee are of opinion that the culminating point of exhibitions has been reached; and the Society must direct its attention to other sources of attraction, and in order to meet the improved taste and keep pace with the progressive spirit of the times, must offer inducements of a more intellectual, instructive, and scientific character.

Your committee have given prominence to the exhibitions, as they have occupied so largely of the attention and means of the Society; and so long as they are self-sustaining, we consider them highly useful, but when they become a burden, it is at least evidence that some degree of modification is required in their management, and in the position they occupy in the legitimate transactions of the Society.

It may be found that the main cause of the decline of the Society has been owing to the prominence given to public exhibitions, and the concomitant evils that invariably arise where money premiums are allowed a prominent place; and we, therefore, suggest that the Society take this matter into consideration, with a view to the modification of these exhibitions, more in accordance with the purposes of its organization and the unmistakable requirements of improved cultivation.

Among the minor causes operating against the Society, may be mentioned the indifference of its members, and the want of strict adherence to its by-laws.

The unsatisfactory mode of conducting the business meetings simultaneous with public exhibitions, has also had an injurious influence upon the proper administration of the affairs of the Society.

In proceeding to suggest measures for the future guidance of the Society, your committee would remark that, in order to engage the co-operation of the public, it is necessary to keep in view the fact, that some equivalent should be rendered for the present annual contribution required for membership. When a person becomes really interested in horticultural pursuits, and attaches himself to a Horticultural Society, it is with a view to some degree of individual benefit, as well as to enjoy the

indirect advantages which such institutions are expected to confer on the community. He naturally turns to the Society for information on gardening matters, and expects to find through its proceedings a digested report of all recent improvements and discoveries connected with these subjects. We need not state that the Society has been somewhat remiss in this respect, and we are of opinion that one of the first considerations should be directed towards the publication of an annual report, which should be made as complete as the means of the Society will allow.

The Society has in its possession a valuable horticultural library, but owing to its location and other circumstances, it is not so available as its merits entitles it to be. Libraries of this kind are chiefly useful for purposes of reference, and should, therefore, be placed within the reach of all who have the privilege and desire to use them. Your committee would, therefore, in this connection, desire to express their gratification of the action of the Society in appointing a committee to endeavor to procure a room in some favorable and convenient location, in which to arrange the library, and provide for its being thrown open as frequently as possible.

Connected with the library, a reading room should be provided, where suitable periodicals might be placed for the use of members.

Your committee would strenuously urge the great advantages that would result from the introduction of conversational meetings, where horticultural and kindred subjects could be discussed, and much valuable information elicited.

We would also direct the Society's attention to the work of anticipating horticultural progress, by offering premiums with special reference to experimenting in improved modes of culture, or in any other manner to establish facts upon subjects on which information is desired.

Encouragement far more than has hitherto been extended, should be given to the production of original communications on horticultural subjects.

And in order that the Society render itself instrumental to the benefit of all who depend upon the products of the garden and orchard, we would suggest that it consider the propriety of appointing committees, and defraying their expenses, for the purpose of making thorough investigation into the maladies and diseases of vegetation, and other questions demanding close observations and collected facts for their intelligent study and solution.

Above all, let the transactions of the Society first be rendered worthy of itself, and the reasonable expectations of its friends; and secondly, let these transactions be published under competent supervi-

sion, and a copy presented to each member, thus forming an inducement to membership superior to any thing now offered by the Society.

All of which is respectfully submitted,

WILLIAM SAUNDERS,  
W. L. SCHAFFER,  
J. E. MITCHELL.

#### THE CULTURE OF TREES FOR SHELTER TO BUILDINGS.

BY WALTER ELDER.

THE culture of trees for shelter, shade and ornament, has been in practice from time immemorial. The ancients worshipped trees as the great monarchs of vegetation; and in "Holy Writ" we find many records of the high estimation in which trees were held. The Romans have always venerated them. Indeed, civilization and arboriculture have always travelled together. Great Britain, at the present day, perhaps, holds the palm for fine cultivated trees, and large tracts of the country are sheltered by the belted parks and shady avenues. The green turf, mild climate, picturesque scenery, robust people, and improved breeds of domestic animals, are all indebted to the shelter of trees. In the fens of England and moors of Scotland, that are devoid of trees, their crops are a month later than those grown near to the leafy domains of the nobility. Indeed, the word *noble* was first prefixed to *man* for the fine specimens of trees grown upon his estate. In this country the wild animals that roam at large know the value of trees, as they dwell in the open plains during the growing season and retire to the forests for shelter in winter. We can readily imagine the miseries of a country destitute of trees, by hearing the great velocity of the winds as they sweep over the western prairies, and of the awful *simoon* upon the great African desert. Could that desert and those prairies but be clothed with trees, how different their climates and mild their changes of weather would become. When a man of wealth purchases land to make a rural home or summer retreat for himself and family, the first thing he should do after determining upon the sites of the buildings and staking them out, is to lay the foundations for leafy temples to shelter them from the north and west, by draining the land (only where it needs it) and deepening and enriching the soil by summer fallow and green crops and dressings of guano, poudrette, super-phosphate, &c., and plough them under when a foot high; the soil will be in good tilth by fall for the trees, which should be all planted by the middle of November. Belts sixty feet wide and upwards, closely planted, with a tenth of them evergreens, and a few Lombardy poplars, as they rise

high above the other trees, give beauty to the scene and look like spires of a city in the distance. If they are planted upon a level with the buildings, they will give better shelter a hundred yards off than closer; yet a few ornamental ones should be planted around the buildings, to improve the architectural beauty and attract the lightning from them in summer.

The working farmer, too, should plant trees to shelter his buildings. If he grudges to grow forest trees, then cherry and large growing apple trees, with a few evergreens, will suit. By that children can play out at all seasons, and grown people can go out and in, attending to their daily avocations without discomfort; cattle and horses can be yarded parts of the days more frequently and longer at a time, to breathe the pure air, while their stables are getting cleaned and well ventilated, which will greatly promote their health and ward off disease. But where there is no shelter from the north and the west, the difference of temperature on windy days between the inside of the stables and out doors will be too great to turn them out with safety. It is not the degree of cold itself that hurts an animal so much as the shifting winds, that carry off its heat faster than it can restore it by motion or breathing. If gentlemen and working farmers would consider the value of the health of their families and stocks, they will see that the culture of trees for shelter is the most profitable crop they can grow. The plague among cattle of late, with its losses, call loudly for shelter by trees.

One great drawback to the culture of trees, with us, is that all the spare monies are expended upon the buildings. The architect is lord and master of all, and the gardener, *poor man*, with his head stored with wisdom and knowledge, must stand back. Because he takes off his coat and toils with his hands, his wisdom is folly and his counsel set at naught; yet he is patiently awaiting the march of civilization and scientific improvement to restore him to his proper place. If ten per centum were withheld from the construction of the buildings and spent upon trees, to shelter them, it would be both the most judicious and most economical plan to give comfort and pleasure to their inmates, as well as for beautifying and enhancing the value of the whole. Who that has lived beside a forest clump, but has listened with awe, on tempestuous nights, at the fearful warfare going on between the winds and the woods? The moanings of the wild elements, as they bounced against the dauntless sons of the forest; and the creaking of their timber sounding like the cries of the wounded on a field of strife; and who that has looked on the contest in open day, but has admired the awful grandeur of God's omnipo-

tence, as gust after gust struck against the trees; the lashing and twisting of their branches and cracking of their trunks, as they tried to crouch beneath the furious blasts; and, again, their elasticity bringing them back with renewed vigor to the charge. A strong sentinel on the outposts gets a stroke and it lays him low. Think how buildings would suffer by such battering as that upon the trees and the stroke that uprooted that great tree. Often have we, when viewing the fierce strife, exclaimed: "Lord, what is man, that thou art mindful of him!"

#### LANDSCAPE-GARDENING.

BY R., RICHMOND, IND.

I, too, am at a loss to comprehend the true meaning of "landscape-gardening," notwithstanding the numerous able articles which have appeared in the "Monthly," and am inclined to believe, from the tenor of those articles, that it has but little relation to gardening proper, and only an artificial representation of nature, according to the taste of the constructionist, whose success depends on *cultivation*, not of the soil, but of the mind, which the poet, the painter, the architect, and the sculptor is presumed to possess,—yet at the same time enables any one of ordinary taste and judgment to distinguish a good picture from a "daub," to *imitate* it.

As it is not in our nature to admit total ignorance of a subject that so often presents itself to the reader, we will premise that we know something of it, and take the position that a man can be a landscape-gardener without being a landscape painter, poet, architect, or mathematician. And if we should assert that many sensible persons associate this subject with garden vegetables only, we trust we may not be esteemed unusually *verdant*, when we refer to the difficulty attending it.

The immortal Burns was a gardener, and prided himself on his ability to make straight corn rows; but, if I am not mistaken, straight lines must be avoided in the *landscape-garden*, in which none but the *aristocratic* "garden stuff" are allowed to show their heads on the undulating acres of *terra firma* that happen to be favored by nature with a "bubbling fount" which can be converted into a *jet d'eau*, thence diverted to an *aquarium*, where the *finny tribe* can gambol and "the lowing herd slake their thirst" in the shade of a *rustic bridge*, the abutments of which is constructed of "rock work" and surmounted with a statue of Downing or Bartram, and gently curving walks and devices covered with clean gravel connecting these objects with the house, the barn, the grapery, the plum, the pear, cherry, apple, and other plantations, all of which should be "grouped" separately, interspersed at respective distances with

flower borders, ornamental trees, arbors and blue grass.

Lest this view of the case should conflict with a very different opinion of others, or where the ground will not admit of all of the *objects* referred to, it might be proper to remark that good taste would exclude some of them and substitute others and include the whole vegetable kingdom or any part of it, on the principle that one class of artists selects bold romantic subjects as only worthy of their pencils, while another paints quiet pastoral scenes with equal success; the main requirements for a good picture being ease, grace and a tasteful combination of the objects introduced, all of which is available to most men who will give their attention to it when they once know the outlines. Hope you will advise us if they are contained herein.

#### HORTICULTURE ON THE MISSISSIPPI.

A LADY, writing from Jackson, affords us the following items of interest:

"Flowers are much cultivated in this place. We have some handsome greenhouses, some plain ones, but a great variety of plants for so new a country. We have some fine nurseries. HATCH has quite an extensive establishment near Jackson, and I think makes very large sales, and keeps his greenhouses well supplied with new and attractive plants."

#### A FINE BLOOM OF ROSES.

I SEND you a description of a rose, which I saw a few days since, at the hot-house of Francis Putman, florist, of this city, which I think must be one of the finest plants in this portion of the country.

Mr. Putman tells me that about three years since, he inserted two buds of the Gloire de Dijon Rose into a plant of La Marque, which he had growing in the border, each of which grew nearly twenty feet the first year, and have continued to make the same strong growth, flowering profusely at the same time, until at the present time the plant covers a space of twenty feet square, and is a perfect mass of buds and flowers. I should think that there were now at least four hundred in different stages of bloom, those fully expanded being from three to four inches in diameter, perfect in form, and very fragrant, and, what is greatly in its favor, continue a long time without decay. It is certainly one of the finest floral displays which I have ever seen, and every admirer of flowers should see this plant if they wish to know what a rose is.

[No name accompanied the above, but as it bears the semblance of probability, we pass it. The writer's name, in matters of fact, should always be sent for our own private satisfaction.—Ed.]

**GRAPES AND CATERPILLARS.**

BY A. MARSHALL, WEST CHESTER, PA.

LAST spring, when my Catawba Grape-vines had thrown out shoots to the length of eight or ten inches, I observed that on several of the shoots the tender leaves at the extreme end were *curled*, indicating a lodgment of some insect that would be no advantage to a further development of the vine. I pinched them all off with the thumb and finger, and burned them. This I attended to for several days. I usually pinched off the top of the shoot, so as to get below the affected leaf or leaves.

In the summer when the leaves of my neighbor's vines were eaten up with a little brown caterpillar, mine were entirely free from them. Some of your readers may profit by this fact.

**COLD PITS.**

BY R. M. CONCKLIN, COLD SPRING HARBOR, N. Y.

LAST winter I built a small house, somewhat on the plan suggested by Schuylkill, only it was sunk five feet deep and walled on the sides with stone. The front roofing of glass, on the fixed plan, and back, or north side, of tongued and grooved boards, made tight, with small moveable contrivances for letting air circulate. Although left in a very imperfect state, when the cold came on, the thermometer sometimes at five or six degrees below zero, without any artificial heat, orange trees and plants of a similar character have wintered there without material damage from frost. This I attribute in a good degree to the depth of the pit. Now, as it seems to be conceded in some of your editorials on this subject that the effect of high fires in plant houses is often very injurious, why may not this be obviated by sinking the house lower in the earth? Would there be any serious objection to that course? In regard to heat, a double advantage would be derived—exclusion of cold and accession of heat, from the higher temperature of the earth beneath. To be sure, it would cause some waste room by the shade of the wall; yet, perhaps, that might be suitable for some purposes.

The house I built was thirty feet long by eleven wide, roofed so as to require sash bars about eight feet long, composed of common soft pine, one inch thick by three inches wide. The entire glazed front, including work and materials, did not exceed twenty dollars in cost. Now as the expense of roofing with glass is so trifling, why not double the process, and thus render it unnecessary to keep so much drying heat in the flues? The intermediate space between the roofing, it seems to me, would almost render the building impervious to cold. If you could give some

light on the foregoing points, it would confer a favor on one of your readers, if not many others.

The communication of William Bright on the subject of renewing grape vines has been read with deep interest. His theory of fruiting only half the length of the rafter has for several years been a growing conviction, until it has driven me to adopt it, as much as possible, in open air culture of the native varieties.

[Such pits are excellent for preserving full-grown plants,—or, as gardeners would say, store-pits. For plants required to be kept growing through the winter, experience proves them unsuitable. Plants do not grow as well in sunk pits as when in houses built entirely on the surface of the ground.—ED.]

**HELIOTROPE FOR WINTER BLOOM.**

BY AN AMATEUR, PHILADELPHIA.

I FREQUENTLY hear persons complain that they get but little bloom from their heliotrope during the winter, and as I have had very fair success with mine, I offer you my experience, although some of your readers may be able to give you a better mode of culture.

In the first place, I would remark that the older and more woody the plants are the more bloom they will generally afford, and, therefore, the plants kept for winter bloom must be from three to four years old before they are of much service. I will, therefore, commence with the cuttings. They should be struck early in the spring, in the greenhouses, and gradually inured to the air, or "hardened off," as it is technically called by gardeners, by planting out time, which is after all fear of frost is over.

They should be planted out in a bed of deep rich soil, and encouraged to grow by frequent waterings in dry weather and occasionally with manure-water. By fall they will be good stocky plants. Choose a damp, cloudy day, the latter part of September, for lifting and potting them, and when potted place them in a close, damp greenhouse, shaded from the sun. If the shoots are long and "leggy," give the plants a severe pruning. If you do not care for the bloom the first winter, keep them cool and rather dry. In the spring, say the middle of May, turn them out of the pots into a rich border and give them plenty of water, as before directed. Continue the same treatment for three years, in all, and your plants will by the third fall have attained a large size, and of a shrubby, woody habit. Take them up very carefully the last of August, and put them in large pots or in wooden tubs or boxes; place them in the shade for a few days to recover, and then prune off the straggling shoots and clean off the dead leaves. Water

plentifully, occasionally with manure-water, and keep them close and warm for a month or so, then gradually diminish the water and heat and by the first to the middle of December they will commence blooming and furnish you with a profusion of flowers during the whole winter. I have seen plants grown in this way that completely filled with their roots a tub larger in diameter than a flour-barrel, with tops four feet across and nearly five feet high. One such plant will give you as much bloom as you will probably want.

I have also grown plants, with the main stem trimmed up to four or five feet high, and then allowed to form an umbrella-shaped head, by training on a wire hook. The stems of some of these plants were three-fourths of an inch in diameter, and completely hard and woody, and with plenty of bloom.

Bear in mind, that too much heat and moisture keeps the plants growing, while a check will almost invariably throw the plant into bloom. Be careful in fumigating the greenhouse always to put the plants down on the floor or take them out entirely, or the foliage will be very much injured. I have thus given you my experience, but hope some of our commercial gardeners, who grow flowers for bouquets, will give us their experience with this very desirable plant. I will merely add, that I have seldom seen the heliotrope do well in house or window culture. To bloom it well a greenhouse is almost indispensable.

**ALL ABOUT COOKING POTATOES.**—We take the following from the *Home Monthly*:

**Potatoes Fried with Fish.**—Take cold fish and cold potatoes. Pick all the bones from the former, and mash the fish and the potatoes together. Form into rolls, and fry with lard until the outsides are brown and crisp. For this purpose, the drier kinds of fish, such as cod, hake, &c., are preferable. Turbot, soles, eels, &c., are not so good. This is an economical and excellent relish.

**Potato Cheese-Cakes.**—One pound of mashed potatoes, quarter of a pound of sugar and butter, and four eggs, to be well mixed together; bake them in patty-pans, having first lined them with puff paste.

**Potato Colcanon.**—Boil potatoes and greens and spinach separately. Mash the potatoes; squeeze the greens dry, chop them quite fine, and mix them with the potatoes, with a little butter, pepper, and salt. Put into mould, buttering it well first; let it stand in a hot oven for ten minutes.

**Potatoes Roasted under Meat.**—Half boil large potatoes; drain the water; put them into an earthen

dish, or small tin pan, under meat roasting before the fire; baste them with the dripping. Turn them to brown on all sides, send up in a separate dish.

**Potato-Balls Ragout.**—Add to a pound of potatoes a quarter of a pound of grated ham, or some sweet herbs, or chopped parsley, an onion or eschalot, salt, pepper, and a little grated nutmeg and other spice, with the yolk of a couple of eggs; then dress as *potatoes escaloped*

**Potato Snow.**—Pick out the whitest potatoes, put them on in cold water; when they begin to crack, strain and put them in a clean stewpan before the fire till they are quite dry, and fall to pieces; rub them through a wire sieve on the dish they are to be sent up in, and do not disturb them afterwards.

**Potatoes Fried Whole.**—When nearly boiled enough, put them into a stewpan with a bit of butter, or some clean beef-drippings; shake them about often to prevent burning, till they are brown and crisp; drain them from the fat. It will be an improvement if they are floured and dipped into the yolk of an egg, and then rolled in finely-sifted bread-crumbs.

**Potatoes Escalloped.**—Mash potatoes in the usual way; then butter some nice clean scallop shells, patty-pans, or tea-cups or saucers; put in your potatoes; make them smooth at the top; cross a knife over them; strew a few fine bread-crumbs on them; sprinkle them with a paste-brush with a few drops of melted butter, and set them in a Dutch oven. When nicely browned on the top, take them carefully out of the shells, and brown on the other side. Cold potatoes may be warmed up this way.

**Potato Scones.**—Mash boiled potatoes till they are quite smooth, adding a little salt; then knead out the flour or barleymeal to the thickness required; toast on the griddle, pricking them with a fork to prevent them blistering. When eaten with fresh or salt butter, they are equal to crumpets—even superior—and very nutritious.

**NEW APPLE—The Missouri Janet.**—The following is a correct description: Size above medium; yellowish white; nearly covered and striped with red, with bright red cheek on exposed side; flesh compact, tender, juicy, with a very rich sub-acid flavor; tree very healthy; a fair grower, and most abundant bearer, keeps until May and June.

As a market fruit it is said to be first-rate, not excepting the Rome Beauty or Smith's Cider. It is superior to either in quality of fruit, being much richer and more highly flavored, and leaves them very far behind as a long keeper. Its fruitfulness and hardness of tree is also said to be good.

## The Gardener's Monthly.

PHILADELPHIA, MAY 1, 1861.

All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

Our Subscription list for Rathvon's Entomological Essay is fast filling up, and as we have only intended publishing a limited number, we would desire all those who may wish to have the work, to send their name and address as early as possible.

## BENEFITS OF DROUTH-UNDER-DRAINING.

To cultivate a closer acquaintance between science and practice, has been a cherished aim of the *Gardener's Monthly*. The "mere plodder" and the "book gardener" could aid each other materially if they would but know each other better. We hope this exclusiveness has had its day, and as the sun of progress warms up our better natures, each class will see how dependent it mutually is on the good offices of the other.

For want of this disposition to travel closely together, we have been great losers. To-day we learn as scientific truth, what to-morrow we are taught is an error,—and which error it is obvious a very little more acquaintance with practical men and practical results, would have saved us the time lost, besides the annoyance of unlearning. Time is too valuable to be wasted unnecessarily.

"Could a man be secure  
That his days would endure  
As of old for a thousand years,  
What things might he know!  
What deeds might he do!  
And all without hurry or care."

But as we have but a brief tenure of existence, it is wise that as little as possible of our three-score and ten should be spent in this retrograde knowledge.

As an instance of this want of sympathy between scientific teaching and practical observation, we quote the following from the address of a distinguished agricultural chemist to the students of his class. He is dwelling on the many boons his branch of science has conferred on the farmer. He says:

"Agricultural chemistry has further revealed to you, that the drouth, when the earth is parched and vegetation dwarfed and withered by the heat, is only an affliction for the present, a blessing in disguise

for the future,—that 'the early and the latter rain' may produce at once abundant crops, but dry weather is needed to bring to the surface from the depths of the earth food for the future harvest; that as the drouth continues, the water from the subsoil keeps bringing to the surface the salts of lime, or of magnesia, or of potash, that it holds in solution. Thus we are taught to see in the drouth, one of nature's ordinances for keeping up the fertility of the soil." If this "revelation of agricultural chemistry" is not apocryphal, underdraining is a great mistake.

It is claimed for underdraining that it makes the ground cool and moist in summer, and this is insisted on as one of its greatest benefits,—and that it does render the ground cool and moist under the most trying heats, we all know. But according to the quoted doctrine, this is an evil, rather than a blessing, and we must believe that if we would add to the fertility of our soil, we should favor the earth's becoming as dry and as parched as possible. And then, again, if drouth could "bring soluble salts to the surface," underdraining would have the same power to carry them away,—and the result would be that the more perfectly a soil were underdrained, and the passage of water facilitated through it, the more easily would the soil be depleted of its valuable salts, which, "held in solution" by each shower of rain, would pass away through the drains to waste.

But those who have underdrained tell us they have experienced no such losses. Though the operation has rendered their grounds moist and cool in summer, it is highly productive; and instead of the salts disappearing "in solution" after each rain-storm through the drains, the elements of fertility in the soil is rather increased, and we have no choice left but to decide between infidelity to this so-called "revelation," or a belief in the rationalism of facts and figures.

We choose the latter, and with all due respect for high chemical authority, would make bold to inquire whether drouth really brings "salts to the surface?" Whether even the mere presence of salts themselves in the soil is any test of its fertility? and whether the benefits known to follow the operation of drouth, is not owing to very different laws than our "authority" supposed?

The laws of vegetable life play an important part in all questions connected with the fertility of the soil. As with science and practice, so with life and death; they mutually aid each other. Indeed, without death there can be no life.

All vegetation is founded on decay. The living plant is but old matter in process of reconstruction,—matter set free by decay, and which decomposition has resolved into its original elements. Out of the des-

olate ruins of the past, is the beautiful temple of life built up. "That which thou sowest is not quickened unless it die,"—even the seed must be sacrificed to afford life to its germ.

And all this is as true of the inorganic as of the organic world. Decomposition must act on the mineral, as well as the animal or vegetable, matters in the soil, before they become available for the nutrition of a living plant, and the great agent in this work of destruction is the oxygen of the atmosphere.

The elements of fertility may abound in the soil, but unless oxygen has free scope to enter in and amongst them on its disintegrating and destroying duties, the soil will not be fertile, nor will the husbandman reap his due reward.

And thus it is that drouth is followed by beneficial results—not for the reason "revealed to us by agricultural chemistry" according to our author, but solely because it affords oxygen its only chance of penetrating deeply in underdrained soil. Where water escapes, air will enter, and of course the deeper drouth dries the soil, the deeper in the same proportion does oxygen descend to its destructive offices.

This is beautifully illustrated after every heavy summer thunder-shower. If we go out immediately after the rain is over, and before the little pools have had time to soak away, we shall find air-bubbles rising through them in every direction, by the weight of water pressing into the air spaces, and driving out the gaseous contents of the soil. If the surface of the ground has been rendered hard by traffic, the air will often be forced from many small ducts into one main channel, made, perhaps, by a worm or insect, out of which it can be seen to jet like a mimic volcano. When a boy, the writer has often amused himself by placing light feathers over these columns of air, which in some cases would rise to an inch or more in height. This is nature's method of ventilating the soil,—the way she effects a continuous circulation. As the water enters, the air, deprived of its oxygen in the service of plant life, is driven out; and then, as the water slowly evaporates, the pure air of the atmosphere follows, becomes in time exhausted, and is again driven out by the next summer shower, and so continues a beautiful and perpetual revolution and restoration.

If our view of the beneficial effects of drouth is the true one, it affords "aid and comfort" to the advocates of underdraining rather than to its opponents. The thorough aeration of the soil enters largely into a correct definition of the term underdraining,—and is claimed to be, as it undoubtedly is, the most useful part of the operation. Nature aerates by the slow process of evaporation, and the crops are often sac-

rificed in the drouth to nature's wants,—but man, by underdraining, aerates by method and system, continually and without risk; fears not the drouth, and yet reaps all its advantages.

## REVISION OF THE AMERICAN POMOLOGICAL SOCIETY'S CATALOGUE OF FRUITS.

UNDER the head of "Horticultural Societies," we publish an address that has been issued by the special committee in charge of the subject, to the numerous State and local committees of the Pomological Society.

We call attention to the matter here because we consider it one of the most important moves that the Society has ever made,—a move in the right direction, and one that will require all the aid and cooperation that the friends of Pomology, in every part of the Continent, can extend, to render it as perfect as we hope it will be.

The past efforts of the Society have very properly been directed towards collecting facts bearing on pomological knowledge. By its aid these have become so numerous as to prove bewildering for practical purposes in their present disarranged state. We may get twenty men from Connecticut who have grown a Diana and a Catawba grape, side by side, and who will tell you unanimously that the former is far superior to the latter in flavor; while twenty men in Maryland, speaking of the same grapes, tested in the same way, will as positively assert that the Catawba is certainly the best grape. Of course these are facts,—but they are facts of a limited nature, and before fruit culture can be properly dignified with the name of *Pomology*, it owes it, as a duty to itself, to classify and present such facts in a systematized and scientific manner.

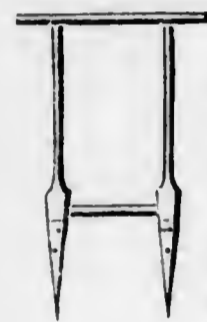
And if points respecting the adaptations of varieties to various localities are in a state of bewildering confusion, the character of the varieties themselves are still more so. We can take up scarcely a single agricultural journal, from separate localities, without finding some fruit recommended as "the best of its class," many of which we never before heard of. Fruits and descriptions of fruits are continually reaching us that we have never before seen, and if we go to compare them with any published descriptions, we find these in such a disarranged condition, that it is next to impossible to identify them. So utterly useless have these masses of descriptions become, that they are scarcely ever consulted by describers. Like lumber in a garret, they might be useful, but are not. If a fruit is said to be a seedling, and it is tolerably good, it cuts a figure in some publication, and though there may be but a

shadow of difference between it and a few score of others already in existence, it goes to swell an already unwieldy list. Why should we endure these things? Botany has its Decandolles, Endlichers, and Jussieus, who out of chaos have produced system and harmony. Their millions of facts are so classified, that once described, any one is known for ever to all who take the trouble to possess themselves of the key. Cannot Pomology have as much done for it? It is a difficult task, we know, but its accomplishment has become a necessity. Some one will achieve it, and a field is opened wherein to immortalize oneself by conferring on pomologists so great a boon.

From the eminent accomplishments of the gentlemen who are acting for the Society on this committee, we are certain that all will be done that the present state of pomological knowledge renders possible; and we hope that they will meet with such assistance and encouragement from all quarters as will stimulate them to prosecute their good work with energy and spirit.

**A CHAPTER OF HINTS.**

**DIBBLES.**



WE annex a drawing of a Dibble much used in France. It makes two holes at the same time, and prevents the necessity of stretching the garden-line so often when planting in rows; the line need only be changed at every second row.

**SEED-DRILL.**

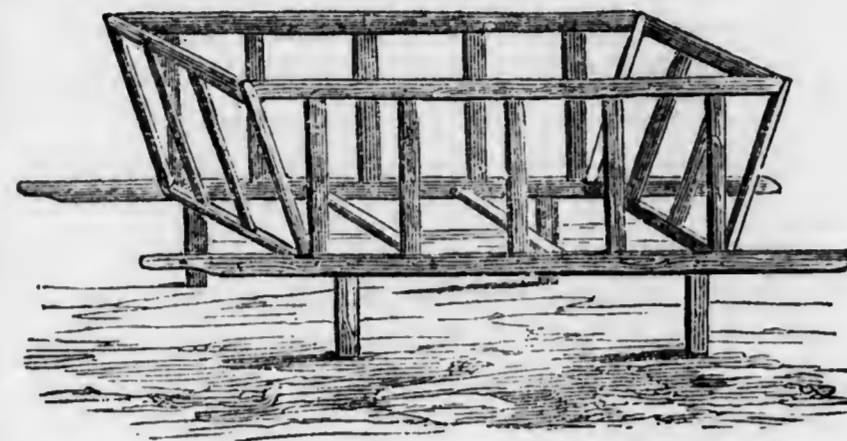
A very simple, and at the same time a very expeditious and effective mode of planting small seeds, is



to put them in a wine-bottle, with a quill inserted in

the cork, as shown in the cut. If the seeds are extremely small, and it is necessary to sow them thinly, mix the seed with dry sand before it is put in the bottle.

**HAND-BARROW.**



A Garden Hand-barrow of the kind represented in the cut will be found very useful on a country place for carrying leaves, weeds, &c.

**GLAZING.**

Rivers, at Sawbridgeworth, England, has introduced a new mode of glazing greenhouses. The sash-bar is formed with a groove down the centre of its upper surface, as shown in Fig. 1, and the glass is laid so that its side is even with the edge of this groove, and is secured by screws with strips of gum-

Fig. 1.



Fig. 3.



Fig. 2.



elastic or leather placed under the heads of the screws to prevent the glass from chipping or cracking. The glass, before laying, has small triangular notches cut in the side with a diamond, as shown in Fig. 2. These notches are first marked with the diamond, and then broken out with a key or a glazing-knife, with a groove cut in it, as shown in Fig. 3.

This does not strike us as any great improvement on the mode of glazing now much practiced by commercial gardeners, of laying the glass in the common-shaped sash-bars without putty, but well bedded in white-lead and secured by sprigs, so that they can neither be lifted up or slipped down, as shown in Fig. 4. *A A* are the sash-bars; *B* the laps in the panes of glass; *D D* are two sprigs, or small nails, without heads, which prevent the upper pane from being lifted up, and *C C* are two which prevent it from slipping down. These sprigs should be five-eighths of an inch long for the smaller sized glass. The glass should be well bedded in with lead ground

**New and Rare Fruits.**

**THE SCHOONEMUNK GRAPE.**—Mr. A. J. Caywood, of Modena, Ulster County, N. Y., writes:

In the March number of the *Gardener's Monthly*, page 82, is a notice of an exhibition at Newburg, N. Y., of the "Skunnymunk" Grape. This is incorrectly spelled, and wrongly named. The grape in question is a new variety of the *Labrusca*, and was discovered by Mr. W. A. Woodward, of Mortonville, Orange County, N. Y., who resides near the base of the Schoonemunk\* Mountain, one of the highlands, about equi-distant from Newburg and West Point. Mr. W. has given much attention to the examination of the native grapes of Orange County. He pronounces this a native seedling. The vine is very hardy, produces abundantly, many of the branches weighing twenty ounces. Allow me to suggest that the name you have given to this grape should be ignored, and that it be named in honor of the discoverer, *The Woodward Grape*.

In the present state of the grape question, the introducer of a good new variety is a public benefactor.

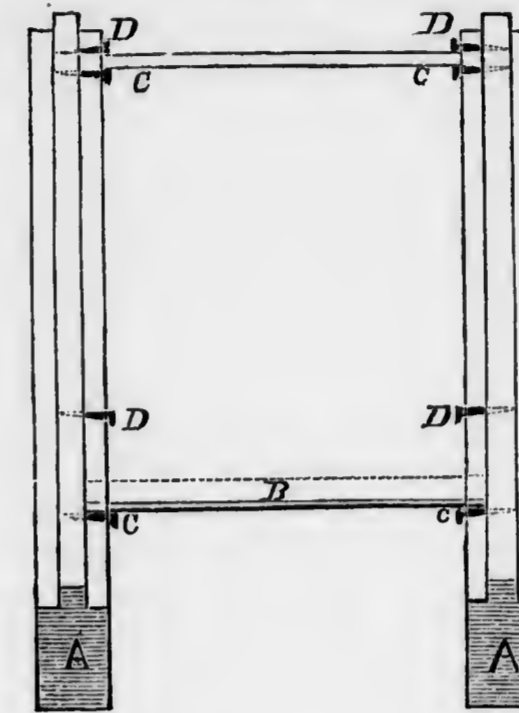
[The name was not given by us, as we have never seen the grape. The paragraph in question was taken from some exchange, but from where, forgotten, so that we could not credit the paragraph to its original authority, as it is our usual practice to do in all matters of fact.]

**MEAD'S SEEDLING GRAPE.**—In our "Horticultural Societies" is a notice of a new grape exhibited before the Missouri Fruit-Growers' Society. Mr. Pettingill obligingly furnishes us with cuttings and the following account of it. If it really sprung from a lot of raisin seed, we are sorry to say that we have no faith in its permanent adaptation to our climate. Of course all seedlings from the foreign class of grapes are in flavor "superior to the Catawba;" but, although the first few years of their seedling existence finds them with a vigorous constitution, enabling them for the time being to resist mildew,—they all eventually succumb, and are abandoned. The Canadian Chief, Clara, Brinckle, and others, are familiar examples. Mr. P. says:

It is an accidental seedling of 1848, found by a Mr. Mead, Lowell, Mass., in his garden, at a place where, the Christmas preceding, some refused layer raisins had been thrown out. Cuttings, I find, do not strike easily. It is a rampant grower, very hardy

\*This word is derived from the India word *Mark* Mountain, and Dutch word *Schoone* beautiful.

Fig. 4.



in oil, and when nailed should again be well coated along the sides with white-lead.

**TILES FOR POTS.**

A writer in the *English Cottage Gardener* recommends the use of the common horse-shoe or U-shaped earthen drain-tile for growing verbenas and other bedding-out plants in, after they are struck from cuttings. They are much cheaper, and the plants can be easily turned out into the beds in rows, with small intervals left between the rows. The tiles are kept in an upright position in the greenhouse by small stones or blocks under each end. Tile of this kind can be purchased in this country by the quantity at about one and a half cents each for 3-inch diameter, two cents for 4-inch, and six cents for 6-inch, each one thirteen inches long. The ends can be filled up with sod, moss, stones, or blocks of wood, or they can be laid in rows side by side, and a long strip of board on edge will close the ends of the whole tier.

**RUSTIC ADORNMENTS.**

[SEE FRONTISPIECE.]

WE give, as a Frontispiece, sketches of rustic work of a novel character, from the pencil of Mr. B. R. Mitchell, Kingston, Mass. The work is formed out of knots and burrs formed by the agency of insects, and is what we may term making the best (and very good, too,) of our insect troubles in a peculiar way.

Much may be done by rustic work, to make gardens interesting. The only objection is, the rapidity with which it often decays. Good material, and that well varnished, will, however, remove much of this fault.

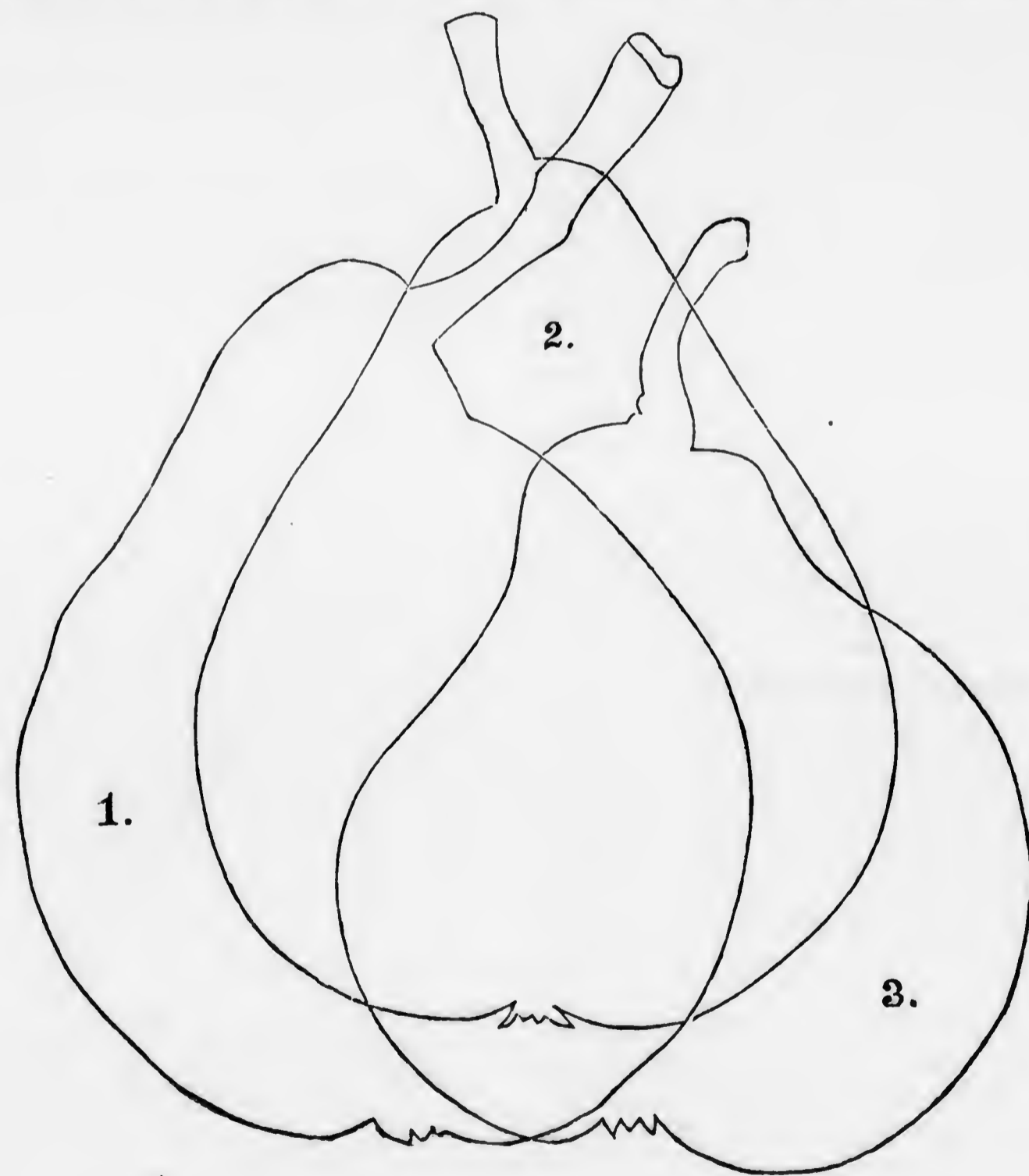


and enormous bearer, never has mildewed, and when my Isabella, Catawba and Clinton have entirely failed from rot, Mead's Seedling has escaped almost entirely. Bunches, large size, shouldered; berries, almost round, large, pale red, covered with lilac bloom when fully matured; flesh, slightly pulpy, very sweet and juicy, with rich aromatic flavor; season, middle of September.

NEW PEARS OF FINE QUALITY—By J. C. Hanchett, Syracuse, N. Y.—The name *De Solis*, given to the pear described in the March number of the *Monthly*, is erroneous, and was caused, probably, by the imperfect manner in which the name was written upon the specimen which you examined. The proper name is *De Sorlus*.

The trees of this variety have been bearing at the Syracuse Nurseries for several years, and the fruit has uniformly been large and fair, and always a favorite. The drawing does not do full justice to it either in form or size. It is larger and more regular. The deficiency in both points may be ascribed to the fact, that the specimens taken to Philadelphia were necessarily picked from the tree early in September, in order to be placed upon the tables of the American Pomological Society on the 11th of that month. As the fruit is a late one, this deprived those specimens of, at least, the best four weeks of their time for growth and development. Much fine fruit is imperfectly represented at public exhibitions every year from this necessity; not always, I regret to say, so successfully as *De Sorlus*, inasmuch as this last proves that to its other merits, may be added that of ripening to perfection even when plucked a month too soon.

I avail myself of the opportunity while making this correction, to offer you the outlines and descriptions of a few pears not yet much known, that have in quite recent years proved themselves at the Syracuse

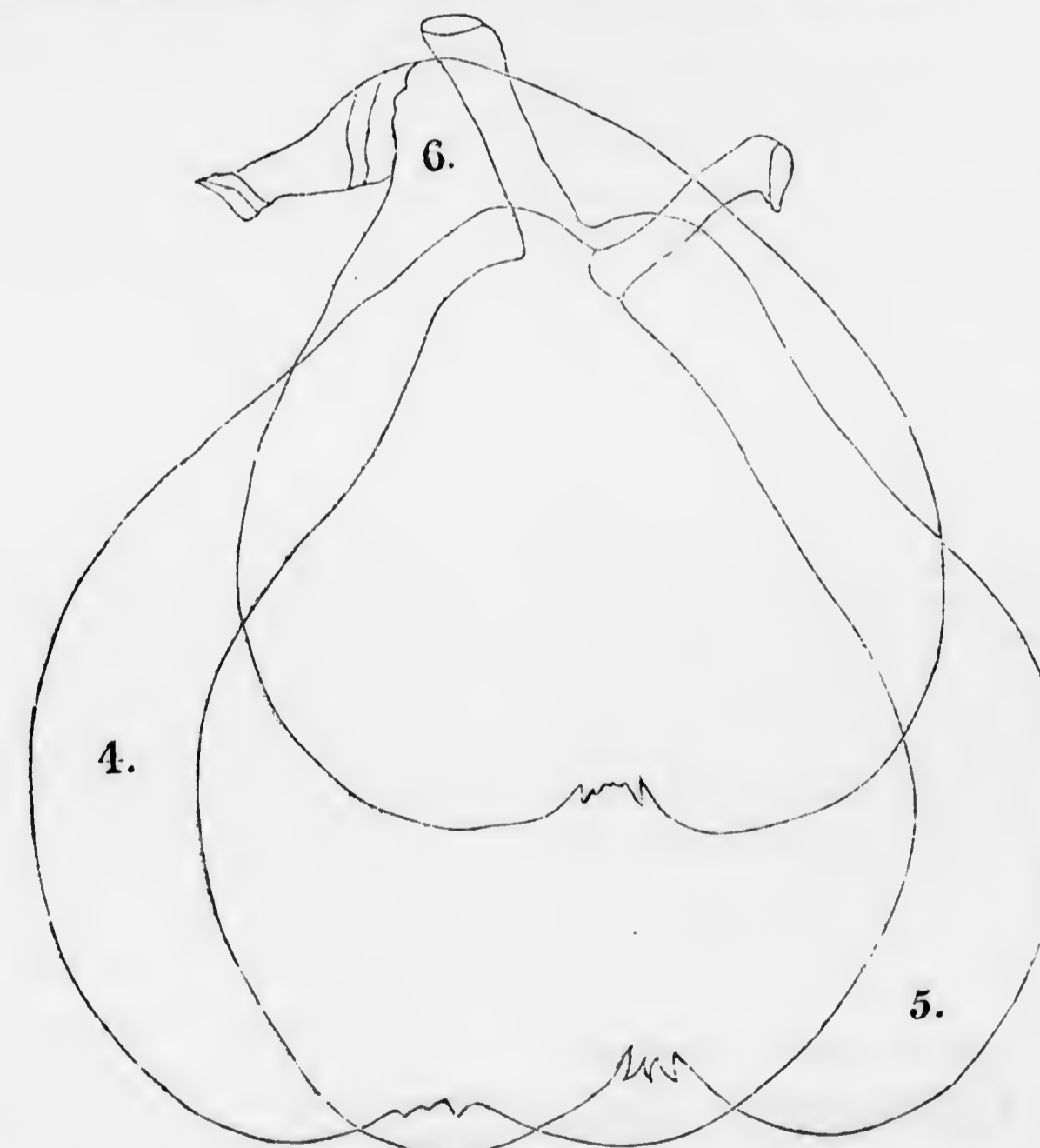


Nurseries. I shall be mistaken if longer acquaintance does not give them a high place in popular estimation; for, while the poorest are really of excellent quality, all of them are of fine size and exceeding beauty.

ANANAS D'ETE. Fig. 1.—Fruit, large, obtuse, pyriform, irregular; skin, fine lemon yellow, sometimes with an orange blush; stalk, an inch long, (often with an apparent joint) inserted obliquely without depression; calyx, small, closed, in a basin; flesh, firm grained, buttery, melting, sweet, and sometimes astringent, with peculiar and very agreeable flavor. In external appearance it has a very close resemblance to the Bartlett, so much so, indeed, as sometimes to deceive the most critical judges. Tree grows well on pear or quince; makes a fine pyramid, and comes early into bearing. Season, September. Almost or quite as early as the Bartlett.

COPS HEAT, (VAN MONS.) Fig. 2.—Fruit, large, obovate, inclining to pyriform; skin, yellow, slightly russeted around the stem; stem, half an inch long, inserted upon a fleshy one-sided prominence; calyx, open, with stiff segments, placed in a very shallow basin; flesh, white, fine grained, very juicy, buttery, melting, sufficiently acidulous to gratefully relieve its almost otherwise cloying sweetness, and delicately flavored with bergamot. I have never tasted any pear superior in my judgment to the specimens of this variety as they proved in the seasons of 1859 and 1860. Season, middle of October. I believe this to be the first description ever given of the fruit in America.

DELICES DE JODOIGNE —Fig. 3.— Fruit, large, medium, obtuse, pyriform, one-sided; skin, yellowish-green, covered with brown specks, and frequently having a handsome colored cheek; stem, about one inch, merged in a fleshy protuberance; calyx, large, open, in a shallow basin; flesh, white, coarse grained, crisp, very juicy, melting, and sweet, and delicately flavored with bergamot. Tree, a stalwart grower, both on pear and quince, and a prolific bearer. Its melting and sugary qualities render it an admirable pear for the oven; even as early as last of August. Season, October. Keeps well.



DE TONGRES. Fig. 4.—Fruit, large, pyramidal; skin, covered with cinnamon dots, and somewhat russeted in splashes, with a brilliant bronze cheek; the surface usually embossed or knobby, like the

Bartlett; stem, short, inserted obliquely, with little depression below the apex of the fruit; calyx, rather large, open, placed in a moderately broad basin; flesh, white, fine grained, abounding exceedingly in a juice, the high vinous quality of which is scarcely sufficiently modified by the saccharine, with a faint flavor of bergamot. Quite similar in character to Beurre Superfin. Tree, not a favorite with nurserymen. Season, October.

DOYENNE DE COMICE. *Fig. 5.*—Fruit, large, obtuse pyriform; skin, yellow, covered with cinnamon dots, often with a broad dark red cheek; stem, short, planted in a slight depression; calyx, small, open, deeply sunk in a broad corrugated basin; flesh, white, fine grained, very melting and rich, with an abundance of saccharine, slightly acidulated juice, barely suggesting the bergamot flavor. It is a pear of most excellent quality. Tree, a handsome free grower. Season, October, and keeps till November.

DOWNING OR DOYENNE DOWNING. *Fig. 6.*—Fruit, medium, irregular, often inclining to turbinate; skin, yellow, covered with cinnamon dots, and russeted about the base; stem, short, stout, fleshy, inserted as though the fruit were wax, and it had been deflected from a perpendicular by heat, forming thick folds where it blends indefinitely with the flesh; calyx, small, placed in a deep basin; flesh, white, fine grained, rather firm, sweet, moderately juicy, with a fine verberna flavor. Though there are many pears of a higher grade of excellence, it is by no means a particularly desirable one to let alone. Season, last of September. Tree, good on pear or quince.

APPLE REINETTE DIEL (*Van Mons*) is described in the French *Hort. Prat.*, by Bivort, and is, in many respects, a remarkable variety. The fruit is of small size, roundish, strongly flattened at both ends. Skin, orange yellow at maturity, covered with grey red projecting points, which are some of them triangular, some square, and some stellate, becoming smaller and most numerous towards the calyx. Stem, short, thick, fleshy, set straight, in a deep cavity, and of a dark grey green. Calyx, small, open, in a deep and broad basin, with calyx-divisions greenish. Flesh, fine, firm, yellowish-white, acidulated sugary, and with an exquisite aroma. It is of first quality, and in season in Belgium from December to March. The plate given with the description is strongly suggestive of the old and famous English Golden Pippin.

## Books, Catalogues, &c.

EVANS' RURAL ECONOMIST is the title of a new monthly publication commenced at West Chester,

Pa., the initial number of which was issued on the first instant. It is a handsome specimen, substantial in appearance, and solid and valuable in its contents.

BARNES & WASHBURN'S Spring Catalogue of New Plants, Bedding Flowers, &c., Harrison Square, Mass. is one of the most interesting lists we have received this season. 50 pages, and well filled with novelties.

SWEET POTATO CULTURIST, by John W. Tenbrook, New York. Published by Saxton, Barker & Co.—A 25 cent pamphlet of 95 pages, detailing the practice of the most experienced cultivators throughout the Union.

SECOND ANNUAL REPORT OF THE PROCEEDINGS OF THE FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA besides an Abstract of the Debates, which have already appeared in full in the *Gardener's Monthly*, it contains the Reports of the various Committees, essays by Mr. John Rutter and Mr. L. E. Berckmans of Georgia, on the degeneracy of fruits, and by Mr. F. J. Cope on Fruit-culture.—These give the pamphlet great interest.

ANNUAL MEETING OF THE FRUIT-GROWERS' SOCIETY OF WESTERN NEW YORK. Another excellent brochure confined entirely to the discussions, and filled with matters of great interest to all fruit culturists.

TRANSACTIONS OF THE ILLINOIS STATE HORTICULTURAL SOCIETY. We have given an abstract of these transactions in our pages, and our readers will be able to judge by it of the value to Illinoisians, and Fruit-growers' of the West especially, of the reports in full. Dr. Warder and Dr. J. A. Kennicot contribute essays for the work, that add much to its usefulness.

### CATALOGUES.

The spring lists of the following firms are on our table. They afford our readers a chance to learn what are in their own vicinity, before going away from home to buy. We are happy to say that since we took occasion to note in one of our earliest volumes, our regret at the inaccurate way in which most of our catalogues were brought out, a marked improvement has resulted; till now a list of misspelled names is quite an exception,—and we feel proud in the fact, that no country in the world can show so creditable an amount of intelligence amongst the body of nurserymen, as a whole, as their catalogues show our country to possess.

### TREES, FRUITS, AND ORNAMENTALS.

John Dick, Kingsessing, Pa.; Plants. Uri Manly, Marshall, Ills. D. R. Tyler, Warren, Mass. T. L. Shields, Pittsburg, Pa. E. C. Worcester, Thetford, Vt. Spooner & Co., Jamaica Plain, Mass. W. Reid, Elizabethtown, N. J. A. Mattison, Paducah,

Ky. Richard Bliss, Springfield, Mass. Andrew Wiggin, Stratham, N. H. J. W. Manning, Reading, Mass. Miller, Swan & Layton, Springfield, Ohio.

### SPECIAL AND MISCELLANEOUS.

Archibald Stone, Binghamton N. Y.; Wild Evergreens. D. R. Tyler, Warren, Mass.; Flower Seeds. A. D. Merrill, Melrose, we suppose Mass.; Grapes. Thos. G. Ward, Washington; Roses.—Lenk, Hansen, & Co., Toledo, O.; Seeds. John F. Weber, Hammondsport, N. Y.; Wine and Grapes, H. A. Dreer, Phila.; Roses, &c. James. Edgerton, Barnesville, O. J. L. Stelzig, & Co., Columbus, O.; Grapes. E. Marshall, Po'keepsie, N. Y.; Small Fruits. D. R. Good, Altoona, Pa.; Wild Evergreens. Dexter Snow, Chicopee, Mass.; Verbenas.

CLASS BOOK OF BOTANY. Being outlines of the structure, physiology, and classifications of plants, with a flora of the United States and Canada. By Alphonso Wood, A. M. New York: Published by A. S. Barnes & Burr, 1861.

This is a new edition of a work first issued in 1845, and now well known and appreciated.

Its distinguishing character lies in presenting a treatise on all the branches of American Botany, in one work. Such a plan must, of necessity, demand brevity in the treatment of details,—but in an elementary work this is not a great objection; indeed, it may be classed as a merit in such a work. A clear conception of the mere "outlines" of the sciences is more readily obtained, when considered independently of minutiae that go to make up its perfection.

The first part treats of Structural Botany, describing the nature and character of the various organs of plants. The second enters into the Physiology of vegetation, or plants in a state of growth. The third part, Systematic Botany,—and the fourth Descriptive Botany, in which the Flora of the United States east of the Rocky Mountains is fully described.

It is a source of gratification to us as horticulturists to feel that there is a growing taste for such works, and that publishers feel warranted in so free an issue of them from the press, as the past year or two has exhibited. There is no surer method of heightening the pleasure which horticulture affords when the taste for it is indulged for purely mental and physical recreation, than to have a clear perception of the scientific principles, on which the varied operations depend,—and to him who has merely a commercial interest in its pursuit, the allied sciences, and especially Botany, is of immense importance. And to professional gardeners,—those who look for-

ward to the elevation of their class to distinguished social position, as a body of intelligent and intellectual men, and as men worthy of honor and of substantial reward for their services, the natural sciences have strong claims on their regard.

Mr. Wood's work is accomplished in a very easy and clear style, free, in a great measure, from the technicalities that are popularly supposed to render science "dry," and calculated to lead the mind easily and pleasantly to the desired accomplishment. We cordially recommend it as an excellent work for beginners.

There are some blemishes which we very much regret. It is not up to the times in the physiological department, and the old system of Endlicher, is adopted without the modern improvements of Lindley, Gray, and others, by which to arrange the plants described. Loose expressions and thoughtless maxims are taught which a slight consideration would show to be erroneous, and which, in a work destined to be placed in the hands of the young, is unfortunate. We are told for instance that the "witch" (twitch?) grass can only be eradicated by being torn to pieces "by the spade of the angry gardener," though we are sure, if he would lay aside his "anger," and go at the job with determined coolness and judgment, he would get along much better. We are also told that the leaf "is the type or idea from which the Divine architect derived the form of every other appendage of the plant," which seems strange to religious minds. It certainly is a most original idea that Divine intelligence should, like mortal beings, require crude material out of which, to "derive an idea." Mr. Wood further teaches that the insoluble coat of resin on the buds of the English Horse Chestnut, is an "illustration of designing wisdom," to preserve the buds in wintry climates. But as the American Horse Chestnut in a severer climate has no gum, or very little, we may reasonably doubt whether this is the real use of the gum, and object to such questionable doctrines appearing in a strictly scientific work.

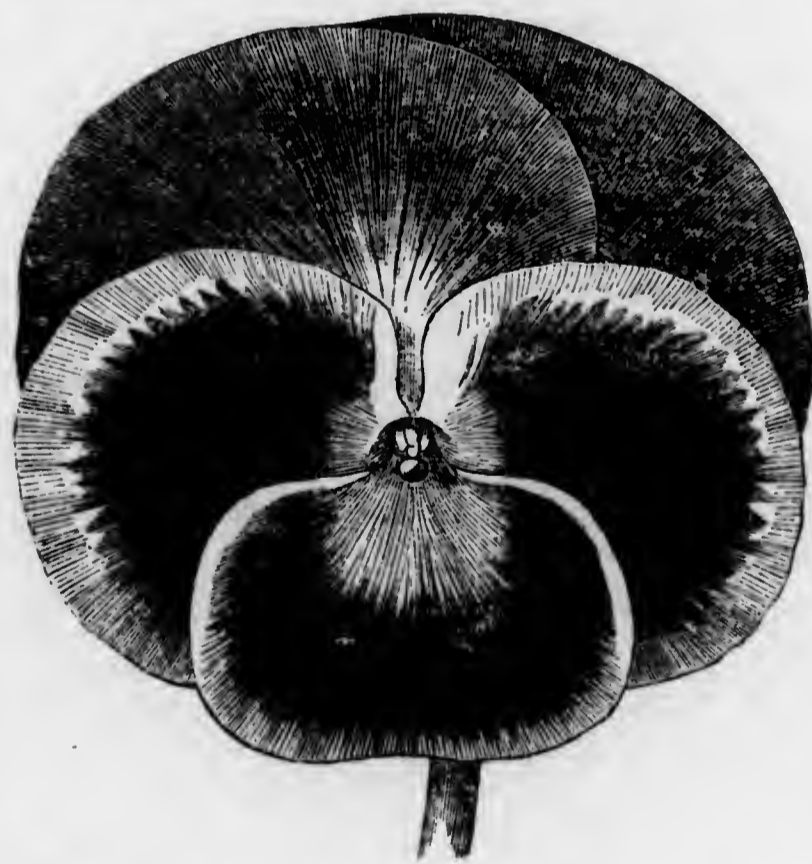
Equally bad is the typographical execution of the work. "Solanum," for Solanum; Camillia, for Camellia; Gronvooi, for Gronovii; Acetocella for Acetosella; Crotallaria, for Crotalaria; Accaulescent," "Mallic acid," &c., all through the work. Sometimes a plant is called *Dicytra canadensis* in one place, and *Dicentra canadensis* in another, and similar incongruities, that must tend to confuse the beginners for whom the work is intended. We point out these blemishes in all kindness, that, in another edition, they may be removed and render perfect a truly useful and valuable work.

## Scraps and Queries.

✂ Communications for this department must reach the Editor on or before the 10th of the month.

✂ The Editor cannot answer letters for this department privately.

**HISTORY OF THE IMPROVED PANSY—Mrs. C. B. S.**—We are unable to give you a history of the Improved Pansy, though you are right in supposing it to date from quite a recent period. If our memory serve us properly, we were taught that the first Pansy, much removed in beauty above the common wild form, was introduced into England from Holland by Lee, the Hammersmith nurseryman, famous for bringing the Fuchsia and other popular plants into notice, about the year 1812. This was a purple, and considered the first of its color, and had an "immense run" of favor with the public. From then till 1830 most of the improvements were in form and color. Coming down to our own day we can speak more positively. In 1834, Thomson, of Edmonton, raised one with a "cat's eye," and at once those with a central eye became the types of good Pansies and "all the rage." Thomson, emboldened by success, persevered, and in addition to peculiar colors, produced varieties of immense size, one of them, we remember, Queen Victoria, was over two inches across—pretty good for that day.



There has not been much improvement in size and form since 1850, but new styles and colors are being constantly introduced. In 1836 the first bronze pansy, then called "Phosphorus," was raised, we do not remember by whom, but, we think, by

Thomson, also. About 1850 the German florists took hold of this class, and for a while "bronze pansies" were pushed, until they had their "rise, progress and decline" in public estimation. Recently the French have tried their hand, and the result is "mottled" pansies of exquisite beauty.

The above is a cut of one we find in the London *Gardener's Chronicle*, but it will give but a faint idea of the rainbow-colored hues, which they present. We have seen them in this country the two past seasons, particularly fine at Hoopes & Bros., of the West Chester (Pa.) Nurseries, and at other places. There is yet room for improvement in the form and texture of the petals, and we have no doubt they will be more popular than either the German or English improvements heretofore made.

We have done the best we can for our fair correspondent, from the unwritten history of the Pansy. We are sure there must be heads that have grown greyer in the service of Flora than we have, that could render a better account, and we hope to receive sketches from them, not only of this, but of other popular florists' flowers.

**GRAPE MILDEW.**—Like the grape-pruning question, we are getting too many articles on the mildew subject, that we fear we shall have no room to publish. Those which contain *facts and observations*, we shall make room for from time to time, but we would suggest to our friends to save us from the pain of rejecting long communications of ill-reasoned and crude, hastily-formed opinions. There is no greater mistake to be avoided than to take coincidences for causes. Thus, one writer "knows decidedly" that dry air prevents mildew, because he saw a few on a hill-top that were quite healthy; while another knows decidedly that moist air prevents it, because he saw "some splendid wild vines, models of health and vigor, in swamps in New Jersey." It seems to us much like the old Sultan's reasoning

"Who knew the world was square,  
Because he'd journeyed fifty miles and found  
No sign that it was circular anywhere."

The following, from "Life in the Backwoods," will help to explain our meaning:—

"A few days ago I was called to a house, on a professional visit, where the inmates have a holy horror of 'calamy and laudamy.' While making my way into the good graces of the mother, by fondling upon my knee a certain breechless brat, I noticed a number of small bones attached to a string and worn by the child as a necklace. Knowing the strange belief in charms that such people sometimes have, I immediately remarked:

"I see your child, madam, has had rheumatism."

"No, sir," says the worthy dame, "them thar are rattlesnake bones, put thar to make Pete have a easy time a cuttin' his teeth. Last spring, when the boys was a plowin' down in the bottom, they plowed up a powerful big rattlesnake, and I jest tuck him and biled him three days and nights, beginnin' on Friday mornin'. I tuck the bones then and put 'em on a string, as you see thar, and made him wear 'em till now. I recon, doctor, he was about as sick a chile as you ever seed when them bones was put on his neck, he begun to git better right off, and nuver has bin sick from that day till now."

**"NOTHING NEW UNDER THE SUN."**—A correspondent writes:—"In a recent number you remarked that even the views of Mr. Darwin, supposed to be so audaciously novel, had been successfully claimed by another English writer, as having been published by him some years before. In looking over an early number of the *Gardener's Magazine*, (Vol. 4,) I find the following, from the pen of Mr. Loudon, which throws back still further the originality of the views. It is not at all impossible that old Gerarde, the "Herbalist," of three hundred years ago, may have given expression to similar views, if one would only take the trouble to search for them. I thought the reference might interest you in your views about *nothing new*, and as the correspondents say, you 'can use it for what it is worth.' The following is the extract:—

"Nature is constantly producing new genera and species, as is in a great measure warranted by the productions of our gardens."

**GRAPE-PRUNING—J. I. W., Jackson, Mich.**—"I do not, after all that is written, know at last what is the most approved plan of grape-pruning—whether the short cane, as Bright says, or otherwise—and I would like something reliable from you, or some such substantial source."

[It is our custom to give most of our views of the practical questions of the day, under the head of our "Monthly Hints." With regard to the short cane system of pruning, it should be remembered that it has not yet been tried very extensively, and should not be adopted without local experiment first, on a small scale. Severe pruning, and especially summer pruning, which the short cane system embraces as a part of its practice, is indisputably injurious to the grape plant—so much so, that it has also been adopted, as part of the practice, to let the vines produce only every other year. The long cane system requires less art to manage successfully, and its operation can be entrusted to less skilful hands. It may not be as productive in the long run as other

systems, but it is a more certain one for beginners, and we would advise you to adopt it. After succeeding with the old plans well, try gradually the newer improvements.—Ed.]

**WHALE OIL SOAP.**—A correspondent asks for a receipt. A friend hands us the following:—

"Render common ley caustic, by boiling it at full strength on quick lime, then take the ley, poured off from the lime, and boil with it as much *whale oil foot* as it will *saponify*, (this is readily seen,) pour off into forms, and when cold it is tolerably hard. That sold by the manufacturers is highly adulterated with common rosin, which remains as a varnish on the trees and is detrimental. *Whale oil foot* is the sediment produced in the refining of whale oil and worth \$2 per barrel.

**NURSERYMEN'S CHARGES FOR PACKING PLANTS**—"Trade."—We have not space for your article on this subject, which is one we have no inclination to discuss. Besides, why not send your communication to the *Horticulturist*, where what you object to first appeared. Its editor is, we well know, at all times ready to hear "both sides of any question."

As you ask our opinion, we will frankly say, that a custom that has endured so long, and has become so universal, as charging extra for packing when plants are sold at a distance, must have had some reason for its foundation, though, like all customs, liable to abuse at times, and when it is understood between buyer and seller, at the time of sale, we do not see where the swindling charge comes in. A florist, perhaps, sells verbenas in his own vicinity for, say \$4 per hundred, and delivers them within ten miles of his place for the same price. They need no packing. They are simply loaded in his wagon, and unloaded at their destination. He sells hundreds this way, and gains a reputation for selling verbenas at \$4 per hundred. But an exceptional case occurs. Amongst the hundreds of home customers comes one from a distance, and then boxes, and labor, and skill of careful packing are called for in addition, that they may safely go a long way by rail or express. Is there any extortion in the extra charge? On the other hand, it is evident that if he found boxes and labor of packing, all for the \$4, and could afford it, the ninety-nine per cent. who needed no boxes and packing, would certainly and with good reason think they were overcharged. The nurseryman would then reduce his rates to these to perhaps \$3.75, but would it still not make the other charge an "extra 25 cents."?

We would thank our friends not to trouble us with such simple questions. Competition and the laws of trade regulate these matters better than we can.

There are other matters bearing on the science and practice of horticulture, that we can advise you better than we can on this.

**STRIKING CUTTINGS**—*J. M. W., Memphis, Tenn.*—"I observe some general hints in regard to striking plants in sand, with bottom heat. Can you not go a little more *into detail*? There is nothing in nature without a reason and a rule. Many succulent plants strike without the smallest difficulty, but the hard-wooded are more difficult. How do you strike Camellias? Where can the seed be had? Why not strike pears, peaches and apples, instead of grafting?"

["Many succulent plants strike without the smallest difficulty, but the hard-wooded are more difficult," as our correspondent says, and it is this difference in the nature of cuttings that renders it impossible to do more than give general hints for general rules of propagation. "There is nothing in nature without a reason and a rule," but the same rule and the same reason for it, that would enable us to strike a currant, would fail when applied to the apple or pear. When our correspondent asks to know how to strike Camellias, the question is definite, and we can answer that if cuttings were taken from healthy, vigorous shoots of the past season, just before new growth commences, and made into lengths of say three eyes, two-thirds of their lengths in pots or boxes of sharp sand, said pots or boxes plunged into tan, leaves, or other material that contains a bottom heat of about 65°, and the atmosphere kept so moist by shading from the sun or keeping sash close, that there is no evaporation from the cutting till it has roots to draw moisture from the soil to sustain itself, it will, in all probability, grow. Or if the cutting be taken off just as the new growth is about maturing, it will also probably grow. But all this has been learned by experience by practical propagators, and their success, in this instance, would afford them nothing but general hints—no certain rule—for proceeding with any other class of plants. The only general rule that we can offer is to heal the cut at the base as soon as possible by calousing or otherwise, in all cases where time is usually required by the cutting to produce roots, in order to aid it against decay, and to so keep the atmosphere about the cuttings that there shall be little or no evaporation from the part of the cutting above ground until time shall have been afforded for the emission of roots. All other proceedings must depend on each individual case.

Camellia seed is produced abundantly in the open air of the Southern States—in the Northern sparingly in greenhouses. Fruit trees could easily be raised from cuttings, but they would not be so good

or so cheap as seedling trees. Root-grafted trees are little more than cuttings, and the great objection to them is, that they abound with small fibrous roots and have few long and strong ones, thereby easily blowing over in a wind, especially when loaded with fruit.]

**SLUGS AND SNAILS**—*Miss S., Philadelphia.*—The insects sent are what gardeners call "slugs." The best mode of destruction is to trap them. Turnips cut in half, hollowed out a little, and placed in the coolest and shadiest part of your garden, will attract them by scores, from whence they may be collected and destroyed and their numbers soon be so lessened considerably.

**ANTS.**—"A subscriber" writes, "I planted some choice roses, and the ants inhabit the earth around the roots and climb the rose bushes. Are they injurious to the plants? and if so, how shall I get rid of them?"

[Hot water—say about 160°, in which flower of sulphur is steeped and poured over, will cause a speedy departure with no disposition, on their part, to return. Lime-water has been said to be effectual, but this we have not seen tried.]

**EGG-PLANTS**—*J. A.*—Egg-plant seed should be sown on a hot-bed, in March, and encouraged to grow as strongly as possible till (in this latitude) the first week in May, when they should be transplanted to a deep, rich soil, in a warm place in the vegetable garden, set about two feet apart each way. The fruit is the part used. It is usually cut into thin strips and fried in lard, and to most tastes, is one of the most delicious vegetables, when properly cooked.

**NAMES OF PLANTS**—*Aubry & Souchet.*—Your specimen is *Staphylea heterophylla*. We have no knowledge of its hardiness or habits, your specimens being the first living ones we have seen, but we believe it to be a Peruvian species, and so not likely to be hardy.

**NEW YORK AND BEN DAVIS APPLE**—*W. M. Allen, Jeffersonstown, Ky.*, writes.—As there has been much said about the identity of the New York Pippin and Ben Davis, I send you a drawing of the Ben Davis, made from a section of the apple, marked around with a pencil. I am growing the trees in the nursery under both names, and their growth and general appearance (which in both is very distinct), are precisely the same. I am also growing the Nickajack and Carolina, with several synonyms of the Nickajack, all of which are, undoubtedly, Carolina.

**ARTICLES HELD OVER.**—Our entomological article, an excellent one from Mr. Woodward, on curved and straight lines in landscape-gardening, and other interesting matters, are held over till next month, to allow us to bring up articles of interest that are growing stale on our hands.

## Obituary.

### J. E. RAUCH, BROOKLYN, N. Y.

PROBABLY there were but few persons better known in this country or in Europe, as a botanist and horticulturist, than the subject of this memoir, John E. Rauch, Esq. He was born in Bremen in the year 1818. His earliest studies were devoted to the science of medicine, with the view of becoming a practicing physician; but it being dissimilar to the taste he had acquired for the promotion of the science of botany, he abandoned his original pursuit, and made this his exclusive study and research. He came to this country in 1839, intending to make horticulture and botany his profession; but as "there is a divinity that shapes our ends," he, after a short residence here, resolved to go on a trading voyage to South America, connected with botanizing in that country. It is to be presumed that it was the latter which led him to the enterprise. He came to Brooklyn with testimonials of character, directed to some of the most distinguished persons in our city, with whom he formed valuable friendships. But notwithstanding, he could not resist the undertaking of this most unfortunate delusion, and with several confederates sailed for Mexico. While pursuing his travels in the way of trade and novelty, he was taken dangerously sick, and in consequence of his continued indisposition, his comrades left him, but provided a Mexican to take charge of him, of whom it was expected he would receive kind and timely treatment. But in this they were mistaken; for he did not prove "the good Samaritan," for he robbed him of all his money and clothes, and not content with this, would have murdered him if it had not been for the timely aid and friendship of an Indian, who devoted his entire time to produce his recovery to health, possessing some medical knowledge in the treatment of diseases that the unacclimated were subject to in that peculiar climate. He was in a short time sufficiently restored to meet his friends; but from this attack his general health had become so impaired, that he was compelled to leave and return to the home of his adoption. In 1849 he returned to his native land; but after a short visit he resolved to return. The vessel in which he sailed was shipwrecked, and he lost all the property

he had with him, including a valuable library. From these untoward incidents, more or less attendant on travellers, he concluded to commence the profession of a botanist and florist. Finding a piece of property of about four acres in this city, well suited for the propagating of most every variety of plants, he made the purchase, and occupied it until the time of his death. He had an extensive correspondence with many of the best botanists on the continent and England, and through these sources was constantly receiving the most rare and new varieties of plants. With his extensive knowledge of the science of culture, they soon assumed an appearance which made them sought after by all that desired rare and curious plants; and it was proverbial, if you want a greenhouse or stove-plant, you must go to Rauch. He was one of the first engaged in the organization of the Brooklyn Horticultural Society, and at its exhibitions his tables were always sought for. This Society has lost one of its best friends, and long will he be missed at these periodical displays. In his intercourse with society he was a gentleman of the most kind bearing, generous to a fault, and confiding to a misfortune. But God, in his wisdom, has called him from his earthly labor in the prime of life, and science has lost one of its most intelligent and distinguished advocates.

## New or Rare Plants.

**CUPHEA JOULLENSIS.**—Under this name it now appears, according to Sir W. Hooker, the plant known as *Cuphea eminens* has been before described. The last name will now, therefore, be dropped, and our friends must be careful not to buy a new name in a plant they have already got.

**CHORIZEMA.**—Seedling raised by Jonathan French, Esq., from *C. Lawrenciana*, which is well known as one of the best. The seedling is superior to its parent, free grower, and very free flowerer; growth slender; flowers, large; color, dark orange, contrasted with purplish. A splendid plant, and one which will prove particularly valuable for bouquets.—*Mr. Rand, in The Homestead.*

**A NEW WINTER-BLOOMING PLANT**—*Heterocentrum roseum.*—It produces thousands of beautiful rosy-pink flowers on plants grown in six-inch pots; will keep in bloom three months. The plant is of the easiest culture, and can be grown to any size in a few months. If the white variety should prove equal to the pink, they will give a new charm to bouquets in winter.

LEE'S NEW WHITE SPROUTING BROCOLI.—This new variety was brought to notice last year, as we noticed in our journal at the time.



We hardly expected it would prove a permanent variety, as it is not uncommon for brocoli to sprout more or less. But recent accounts in the foreign papers speak highly of it, and we have no doubt it will become a standard kind.

SEDUM FABARIA, var. *rubra*.—A rosy lilac-flowered kind, nearly related to the British *S. Telephium*, and a very useful autumn-flowering plant for greenhouse decoration, producing large heads of its star-shaped flowers, emulating the showiness of the well-known *Hydrangea*.

CAMPYLOBOTRYS REGALIS.—The wonderful plant spoken of by Linden, of Brussels, is in perfect health at the Rosedale Nurseries. It is a beauty in the way of variegated plants.

NEW ORNAMENTAL FOLIAGED PLANT.—*Campylobotrys refulgens* is said to be a plant of the most exquisitely ornamental character, vastly superior to any of the other kinds of *Campylobotris*. It was awarded a First-Class Certificate of Merit when exhibited at the Royal Botanic Gardens, Regent's Park.

SOLANUM CABILIENSIS ARGENTUM, a new variety, has three-lobed silvery leaves, yellow fruit of the size of a small apple, and blooms the first year; a very handsome ornamental shrub.

NEW VARIEGATED BEDDING PLANT.—*Agathe celestis fol. variegatis*.—Its habit is neat and dwarf, growing from four to six inches high; it is also very close and compact; quite a gem as a bedding plant, or for the ribbon style of decoration. Its foliage is thick and superbly variegated, somewhat resembling in its marking *Vinca elegantissima* (variegata major.) Flowers bright sky blue, an inch or more across, borne well above the leaves.

CALONYCTION DIVERSIFOLIUM SULPHUREUM is a pretty yellow-flowered *convolvulaceous* plant, with a purple eye. The blossoms are represented of the size of *Convolvulus minor*.

The seed was forwarded to M. Van Houtte, of Ghent, by a cultivator of Hyeres, but of its origin we are not informed. The plants attain a height of about four feet, flowering in the open air very freely during the summer months. It will, no doubt, prove very ornamental as a climber, and appears to possess only one fault, which is that it is found to be difficult to obtain seed from it.

ÆCHIMEA MELINONII.—An ornamental plant, of the pine-apple family, from South America. It has a bunch of rosy pink flowers, resembling, in general form and appearance, at a distance, a spike of scarlet flowered horse-chestnuts. It requires a moist hot-house to grow well.—*Bot. Mag.*

IMPATIENS WALKERI.—A Balsam from Ceylon. The flower, in shape and size, is like the wild species of American woods, but the flower is of a bright scarlet, and the plant but a foot high. Sir W. Hooker does not say, but we suppose it to be a sub-shrubby stove species.

NEW VARIETIES OF PYRUS, or *Cydonia japonica*, have been raised in Belgium, one with fine rose-color flowers, another pale citron-yellow flowers and a border of rose, another red, with crimson veins.

## Domestic Intelligence.

ACCLIMATIZING EVERGREENS.—From *H. W. Sargent's Supplement to the Sixth Edition of Downing's Landscape-Gardening*.—Our usual method of acclimatizing a plant is to select some very protected and

shady spot, as the north side of a thicket, or, what we prefer, the interior of some evergreen wood, and to prepare the holes six feet wide and three deep, with loose but poor soil, well drained, with stones for the lower eight or ten inches, with barely compost enough to assist the tree through the summer. For the first two or three years, in winter, a little mound of earth, eight or ten inches high, is put around the neck of the plant to prevent the effects of thawing and freezing in a most sensitive part, and cedar or hemlock boughs are placed round its branches, this covering diminishing year by year, as the tree obtains size and vigor, until it is omitted altogether. The plant, to insure safety, is moved once or twice within this wood, each time to a more exposed situation, which has also the additional advantage (like root-pruning) of checking all redundancy of growth.

When it exhibits sufficient strength, it is transplanted to its final situation on the lawn—its cedar covering being renewed for a couple of winters—and if it can be reconciled to the climate, it is now supposed to be so.

CERTAINLY AN IDIOT.—A writer in the *Atlantic Monthly*, says a friend's boy was one day asked by his younger brother what the word idiot meant, for somebody in the parlor had been saying that somebody else was an idiot. "Don't you know?" quoth Ben, in his sweet voice: "an idiot is a person who doesn't know an arborvitæ from a pine—he doesn't know any thing." When Ben grows up to maturity, bearing such terrible tests in his unshrinking hands, who of us will be safe?

ACTION OF DROUTH ON SOILS.—In another column we have thrown out some hints on this subject. It will, perhaps, aid an investigation of the subject to give some account of the origin of the opinion that salts rise to the surface in dry weather. We believe it was Professor Higgins who first suggested the idea. It is said he placed a solution of chloride of barium in the bottom of a glass cylinder and then filled it with dry soil. After long exposure to the rays of the sun, the surface of the soil was tested with sulphuric acid and gave a copious precipitate of sulphate of baryta. Chloride of lime, sulphate of soda and carbonate of potash were experimented upon in like manner, and upon the application of proper tests the surface of the soil showed their presence in large quantities, drawn up by the rising of the water from underneath, as in the case of drouth.

OAKS HYBRIDIZING.—Some botanists doubt whether these really do hybridize. S. B. Buckley says, in the

*Country Gentleman*, "The oaks are so much inclined to hybridity, that even botanists have been deceived in forming new species from mere hybrids. Col. Wade Hampden, of Columbia, told me that he planted live oak acorns in Mississippi, which grew and bore fruit, which was again planted. The trees from this planting were hybrids between the live oak and the other surrounding species. At first he thought they might be young forms of *Quercus virens*, but, although several years have elapsed, they still maintain their original hybrid form.

**THE GARDEN CITY.**—The *Country Gentleman* says:—

"Chicago will one day better deserve its name of 'Garden City,' but it must take time. Apropos of the derivation of this name, the Chicago Gardener's Society have appointed a visiting committee, whose duty it is to collect historical facts of our city, new plants, and so on; and they have stumbled upon the following version of its origin—thus: Mr. Brooks, the oldest of greenhouse men here, many years ago built a greenhouse; a prominent man visited it, was so struck with the beauties inside and place generally, as compared to any thing else so far west, that he said this was the 'Garden City.' Being pleasant, the news spread, if any one knows any thing why this was not so, your correspondent would be greatly interested to hear it."

**LATE KEEPING APPLES.**—In 1850, the following apples were on hand, in good condition, in the cellar of Mr. Peters, of Atlanta, so late as April 6th:

Shockley, East Point Greening, Nickajack, Green Crank, Richardson's Winter Seedling of 1858, Meigs, Yates, Faust, Stevenson's Winter, Chattahoochee Greening, Pulaski Seedling, Mangum (over ripe and out of season), Red Limbertwig, Tennessee Limbertwig, Yellow English Crab, Collier Apple, Pryor's Red.

Of these, he kept the Shockley, Yates, East Point Greening and Yellow Crab, until the 10th of June.—*Southern Field and Fireside.*

**PICEA NOBILIS** is from the auriferous regions of California, where it attains the height of two hundred feet, but has not yet been long enough in this country to perform any such gigantic achievement. Its ivy-colored dark shining green, with horizontal outspreading branches, each tier forming complete platforms round the tree, with a surface almost as level as Utrecht velvet, never fails to put the stranger into a state of amazement to contemplate such wonderful arrangement of beauty, elegance and perfection.

**NEW ZEALAND SPINAGE**—*Tetragonia expansa*.—

A correspondent of the *Horticulturist* reminds those fond of good summer vegetables, that this plant is not as much cultivated as it deserves to be.

**SALT FOR TURNIPS.**—A correspondent of the *Farmer and Gardener* finds salt greatly to aid the turnip crop in dry weather.

## Foreign Intelligence.

**THE PANSY.**—Let the ground be well drained and well dressed with decomposed cow-dung; and if too adhesive, fork in a little sand.

Plant nine inches apart, and close the earth well about the roots.

Always take side shoots, springing from the bottom, for propagating, if you can get them. They always root freely, if not rooted when taken off.

Avoid taking hollow, pipey shoots for cuttings. To ensure striking, the bottom of the shoots, when cut up to the base of a leaf, should be solid.

Shade all cuttings, and cover close with a hand or bell-glass, whether they are in frames, boxes, pots, or the open ground.

Continue planting beds of struck cuttings, to succeed one another in flower. It is only from young plants we can get fine blooms.

Shade all blooms for exhibition. An hour's hot sun would destroy the finest flowers in the bed.

Save seed from half-a-dozen of the finest varieties you possess, planted by themselves, away from all others.

Sow as soon as you save it: in May, June, July, and August, as it may happen.

Plant them out as soon as they have four rough leaves; but press the earth to the roots every time the frost and thaw disturbs them.

In winter, if you have convenience, hoop and mat, or otherwise cover the bed—if with nothing else, with litter.

In spring, the beds of seedlings or established plants may have half an inch thickness from an old hot bed, or well decomposed cow-dung.

As fast as any seedlings bloom inferior to those you have, pull them up and throw them away.

Never wait for any particular season for taking off side shoots; take them whenever you can get them without distressing the plants.

Water seldom, but effectually; soak the whole bed to a considerable depth.

Towards October pot all cuttings that you do not want to plant out, and keep them under glass in thumb-pots.

If you bloom any in pots, use seven or eight inch

pots, with a compost of two-thirds loam from rotted turf, and one-third cow-dung, or dung from an old melon-bed.

Never save a seedling that is not better than the varieties we possess already. All novelties that are not improvements are useless.

Whenever the surface of the bed has run together solid, stir the top one or two inches, always closing the earth to the roots.

Never allow a weed to grow in the bed. A little neglect in this matter will give you a world of trouble.

Never remove a good seedling till you have propagated it a little. When you have cuttings struck, you can do as you like with it.

Never remove a plant from heavy soil to light, without washing out all the old soil from the roots.—*Scottish Gardener.*

**SLUGS AND SNAILS.**—The *English Gardener's Chronicle* says:—

"We are assured that if the strings used to tie up vines in the borders are steeped in sulphate of copper, no slugs will come near them. The writer affirms that all such vermin have an incurable aversion for whatever has had this salt applied to it. Another writer, in the *Revue Horticole*, tells us that he can trap snails and slugs to any amount by another way. He left in his garden a jar containing starch saturated with iodine, with a tile loosely put over it; there it remained all the summer, fully exposed to the sun. What was his amazement at finding at the end of the first three weeks that dozens of snails had found their way into the jar from all parts of his garden. What was not less curious, the snails continued to travel to this jar all the summer long. This is supposed to have been brought about by the snails liking the smell of iodine; and it is suggested that if iodine is dissolved in water which is poured upon sawdust, or even upon the earth itself, slugs and snails will enjoy themselves in it, and thus be trapped. Does iodine act then like valerian and ditany of crete on cats?"

**EVERLASTING FLOWERS.**—In one of our back numbers we gave an account of the way to dry flowers so as to preserve them in their natural forms and colors. A lady informs us that she has some permanent bouquets, which she has made by following our directions, that are the admiration of all who see them.

For those, however, who like the artificial looking "Immortelle" flowers, we annex the following list of some annual kinds:—*Acroclinium roseum*, rosy; *Ammobium alatum*, white; *Gnaphalium foetidum*,

light yellow; *Helichrysum bracteatum*, yellow and white; *Helichrysum roseum*, rose colored; *Helichrysum aurantiacum*, orange; *Helichrysum brunneorubrum*, brownish red; *Helichrysum coccineum*, scarlet; *Helichrysum flavum*, yellow; *Helichrysum purpureum*, purple; *Helichrysum macranthum*, large flowered; *Helichrysum speciosissimum*, most showy; *Morna elegans*, yellow; *Stachelina dubia*, pink.

**HOW TO FLOWER CALLA ETHIOPICA** BY CHRISTMAS.—Bring your plants to rest in midsummer, by exposing them to the full sun in a place where they are sheltered from rain. Don't water them. Middle or end of August take them out of pots; clean the root-stock from all decayed matter and from young accretions; re-pot in good, fertile soil, rather heavy, but part sandy; water and expose them to the sun in the open air. Water freely till the season compels you to house them. Take some to the warm-house; put them in a sunny place very near the glass, and they will remain compact. Getting stalky spoils their beauty. The more they got isolated in the summer, nay, the more they got wasted, the sooner will they flower in the warm-house. Now take other plants which you housed in the green-house to the warm-house and you get a constant succession of flowering plants. Carry back to the greenhouse those which have flowered, and they will flower again at the general period of vegetation in the spring. Often they will even flower a third time.

The sun not only elicits plenty of flowers, but is a most necessary agent in opening them. That accounts for stillborn flowers in sunless places.—*W. Schoenborn, in Deutsches Magazin.*

**GEOHERMAL CULTURE.**—The warming of the earth, to advance early vegetables, has long been practised in limited instances. Many years ago at the royal gardens of England, near Windsor, asparagus beds were heated in the open ground by hot water. Some months ago we again introduced the subject in the *Gardener's Monthly*, and M. Naudin, of Paris, has taken up the subject, as we find in recent French papers, and proposes to reduce the whole matter to a system, under the above name, for the growth of many exotic plants that require greenhouse protection, so that our gardens may present a green tropical aspect at all seasons. His views, so far, answer with the idea of warming the soil of plant-houses, rather than the atmosphere.

**LONDON NURSERYMEN.**—There are over three hundred nurserymen, florists and seedsmen in the neighborhood of London.

A FRENCH "LEAF" PLANT.—Our garden rhubarb, in some parts of our country called pie-plant, is not known, or not acknowledged as an eatable dish in Europe, England excepted. On the Continent, however, it is often found on the edge of a lawn, as a specimen plant, and esteemed as a "leaf plant." It looks queer when an American meets with it there in this shape.

HOLLY TEA.—Mr. Forsyth, in the *London Gardener's Chronicle*, says all of this tribe possess the peculiar virtues and the properties of the true tea, and cannot be well distinguished in flavor. The art is in properly drying or roasting them.

## Horticultural Societies.

### PENNSYLVANIA HORTICULTURAL SOCIETY.

The very severe and unexpected weather spoiled the calculations for a fine show at the March meeting. Messrs. Peter Mackenzie & Son had, however, a fine show of Camellias, embracing the following kinds, all of which were of first-class characters.

- SIX CAMELLIAS IN POTS.
1. Camellia Maria Therese,
  2. " General Wayne,
  3. " Henri Favre,
  4. " Miniata,
  5. " Alba imbricata,
  6. " Lorreil.
- FIFTEEN CUT FLOWERS.
1. Camellia Alba pleno,
  2. " Mrs. Cope,
  3. " Ochroleuca,
  4. " Lawrenciana,
  5. " Lady Hume's Blush,
  6. " Maria Therese,
  7. " Towne's Blush,
  8. " Landrethii,
  9. " Alba imbricata,
  10. " Myrtifolia,
  11. " Imbricata,
  12. " Dunlap's White,
  13. " Alexina,
  14. " Miniata,
  15. " Reino de Fleurs.

### MISSOURI FRUIT-GROWERS' ASSOCIATION.

The members of this Association convened at Pomological Hall, on the Fair Grounds, yesterday, at 1 o'clock, P. M., and were called to order by Norman J. Colman, President of the Society.

On motion, Dr. L. D. Morse, of Allentown, was elected Secretary. Mr. Husman, of Herman, exhibited specimens of wine from the Norton's Virginia Seedling, and Heribmont Grapes. A committee was appointed to test the wines exhibited, and reported that the Heribmont was a very delicious wine, and worthy of very high commendation; and that the Norton's Virginia wine, combining the flavor of the Port and Burgundy, being a red, sound, table wine, and the grape being free from rot, is likely to create an important extension in wine manufacture.

Mr. Pettigill, of Bunker Hill, Ill., exhibited a seedling grape called Mead's Seedling, which was highly commended by the Society as a table grape—taking the preference over the Catawba as a table grape.

Mr. C. H. Haven exhibited a delicious white grape received from Lockport, N. Y., said to be hardy. It was recommended as being worthy of trial, and the Secretary was instructed to obtain a history of its origin, &c.

A good deal of discussion was had upon the merits of the different varieties of grapes. A number of distinguished horticulturists were present and contributed to the interest of the meeting. The Presidents of the Cincinnati Horticultural Society and the Illinois Horticultural Society were in attendance.

The Society will meet again to-day at 10 o'clock, A. M., when the subject of grape-growing will be again considered.

### AMERICAN POMOLOGICAL SOCIETY.

#### A NEW CATALOGUE OF FRUITS.

A Special Committee was appointed, to whom the various Local Committees are to make their report during the year 1861; and this Special Committee are charged with the duty of compiling from the Local Catalogues, prepared by the various Local or State Committees, and from the present Catalogue of the Society, full lists of all the fruits therein named, properly classified and arranged, with due regard to nomenclature and terminology, and are to submit the same at the next biennial session of the Society for its consideration and action. The Special Committee are as follows:

P. Barry, *Chairman*. J. A. Warder,  
J. S. Cabot, Chas. Downing,  
L. E. Berckmans, William Reid,  
Marshall P. Wilder, *Pres. Ex-Officio*.

The Special Committee has just issued a circular to the Local Committees, containing the following instruction:

"It is our duty to request you, as Chairman in your State, to organize your Committee and enter upon the work of preparing your Catalogue at once, so that it may be transmitted to us sometime during the ensuing year, 1861, as provided in the resolution. In preparing your Report or Catalogue, you will please observe that the arrangement of the present Catalogue of the Society is to be followed as closely as possible, giving—

1st. A list of varieties suitable for general cultivation in your State, or such other region or district of country as your Committee represents.

2d. A list of such new or newly-introduced varieties as promise well.

3d. A list of such as are known to be valuable for special purposes,—as for marketing, or for particular soils and localities only.

It is the design and aim of the Society to make its Catalogue so comprehensive and accurate that it may become the standard of American Pomology; hence, it is important that Committees exercise the greatest care in preparing their lists, accepting such information only as they know to be perfectly reliable. It will be understood that no varieties are to be classed for 'General Cultivation' within any State or locality, upon brief or partial experiment, but must be generally and successfully cultivated for a considerable period of time. In the case of those classed for particular localities or purposes, the nature of these particulars should in all cases be given, if possible."

### ST. LOUIS VINE AND FRUIT-GROWERS' ASSOCIATION.

The accompanying statement of the objects of the St. Louis Vine and Fruit-Growers' Association may be of interest to you, partaking, as it does, as much of a public and geographical nature as of a private character. The locality selected is in St. Louis County, thirty miles west of the city, and between the Pacific Railroad and Missouri River, where they are but nine miles apart. The plantations of the company all stretch from one to the other with appropriate drives. These, as well as the hills and valleys through which they pass, will, in due season, be hung with the purple and golden fruits of the latitude, and yourself, Mr. Editor, and all like you, animated by a love for horticulture, whether as visitors or seekers after homes in Missouri—the future "Central Flower-land" of the Union, will ever be welcome to the grounds of the Association, which you will find sacredly held as a fair specimen only of tens of thousands of other localities like it throughout the State.

Respectfully yours,

C. H. HAVEN.

### BOTANICAL SOCIETY OF CANADA.

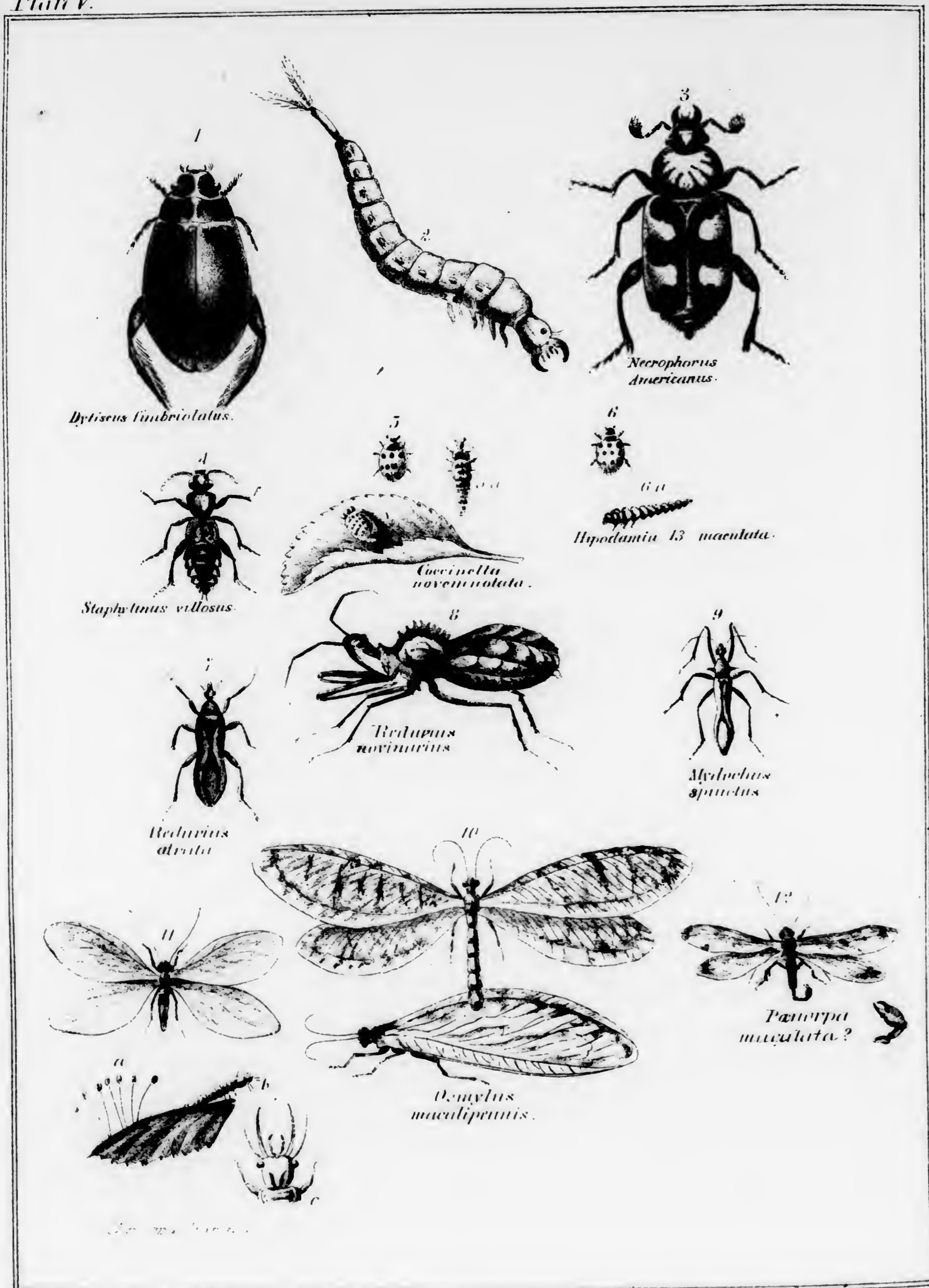
In your number for this month, (March,) page 91, you have made a great mistake in reporting that the Botanical Society of Canada was established in *Montreal*, and owes its origin to Dr. Lawton.

You should have said that the inauguration of the Botanical Society was in *Kingston, C. W.*, (and not *Montreal*), and owes its origin to Professor Lawson, Ph. D. No doubt you will cause this correction to be made in your next issue. For further particulars as to its formation and objects, I beg to refer you to a printed statement, which I forward by mail this day.

Since its formation, very interesting and numerously attended meetings have been held monthly, and its progress is very satisfactory. I believe the members now number over three hundred.

THOMAS BRIGGS, JR.  
Kingston, C. W.

[We should be favored by receiving reports of its proceedings from time to time.—Ed.]



# THE GARDENER'S MONTHLY.

DEVOTED TO  
Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

JUNE, 1861.

VOL. III.--NO 6

## Hints for June.



### FLOWER-GARDEN AND PLEASURE-GROUND.

THE management and care of the lawn is of first importance. It is to the lawn more than to any other part that we owe the highest pleasures of gardening. It is the distinguishing feature between nature and art. With a lawn neglected, the finest garden is little more than a beautiful natural scene; but when the grass is well cared for, it is stamped with the highest refinement of art. Through our past two volumes much has been written upon the subject, and we refer to these articles now because the season has arrived to put them in practice. Weeds should be constantly taken out by hand labor. Any holes thus made filled up with soil; but holes need scarcely be made if weeds are taken out in a proper manner. Mowing should be done as often as the scythe or mowing-machine will "bite" the grass, and frequent rollings after heavy showers, are excellent.

Next to the lawn, the walks are the most striking feature of a well kept garden. Weeds should be taken in time, and the labor of keeping them down will be very slight. The edges or "verges" should be trimmed at every mowing of the grass-bordering; for which purpose a common sheep-shears, or grass-edging shears, made specially for the purpose and sold at most horticultural stores, should be kept on hand. Washing by heavy rains should be guarded against; or when so injured, speedily repaired.

After the walks and lawns, the flower-beds should be a constant source of attention. If the plants appear to suffer by drouth, there is no better remedy than to place a fork around the plant and loosen up the soil deeply, without disturbing the plant more

than can be avoided. After being thus loosened, it will not dry out near as much as before. Above all, keep the surface continually broken by hoeing and raking fine. Nothing is so sure a preventive of soil drying as a loose, porous texture.

Another plan with trailing plants, such as verbenas and those usually employed in masses, is to peg them over the surface as fast as they grow. They thus shade the soil, and so far check evaporation. The best pegs for this purpose are made of any straight twigs about a quarter of an inch or less in diameter, and split in two lengthwise. These will not break when bent in the middle, as unsplit pieces will. There is a little art required even in splitting these twigs properly, so as to get them of equal thickness throughout. The edge of the knife should be watched, and when either half is splitting thinner than the other half, the back of the blade must be pressed against the thin section, which will cause the grain of the wood to run in again toward the pith. And so on, as the splitting progresses, the alternate action of the back and edge of the blade will keep the slit straight through the middle at the pith.

The watering of flower-beds in a dry time should not be done often; but when necessary, done thoroughly.

Many herbaceous plants, such as phloxes, hollyhocks, and similar plants that are scarce and valued, may be propagated now very easily by taking portions of their flower-stems before the flowers open, and inserting them as cuttings in a half-shaded, cool, and not dry situation. Layering of many things, shrubs, half-shrubby perennials, &c., should be done before the young wood becomes too hard, if good plants are required the first year. Most plants root more quickly by having a notch cut in the layered shoot. This should be done on the upper surface, as we first published at page 86 of our first volume, in order to prevent breakage of succulent shoots, as too often occurs by the methods recommended in works prior to the publication of our journal. Good, rich soil, put just about layers, is very important. *Good soil favors an abundance of roots.* One of the greatest mistakes in gardening is



the prevalent notion that plants in a poor soil have a greater proportion of roots than in a rich one.

Herbaceous plants should be staked, to keep from wind-blowing. White Pine stakes, with *their ends charred* by being slightly burned in a furnace, will last for many years,—as long, in fact, as the best painted cedar,—a good hint for bean-poles, trellises, &c.

Many parties have a difficulty in keeping trellises, when covered with a weight of vines, from becoming "top-heavy" and blowing over in a wind. This can be remedied by nailing a cross-piece to the trellis a few inches long, just above the ground, or even two pieces, making four cross-shaped arms. This will effectually prevent "swagging," no matter from what part of the compass the rudest winds may blow.

Dahlias must not be allowed to bloom too early. Keep them growing well till fall, at any cost. If they become stunted by early flowering, a few miserable sun-dried July flowers will be the poor reward.

After bulbous roots have done flowering, they should be at once taken up, carefully dried, and placed away in paper-bags till wanted next fall. If suffered to remain in the ground, the rains we get through the fall keep their activity excited, and is unfavorable to that state of rest necessary to make them bloom finely next year.

The flowers of perpetual roses should be cut off at the earliest moment after the petals wither. If suffered to produce seed, they will flower but sparingly in the fall. In budded roses, carefully watch for and take away the suckers.

#### FRUIT-GARDEN.

In the out-door department the directions and hints we gave last month are still applicable, especially those relating to disbudding and pinching back of strong shoots, checking the flow of sap through excessively luxuriant channels, and directing the flow through weaker ones, equalizing and striking a balance between all parts of the tree. As the weather becomes dryer, and the growth still continues, young and free-growing trees of choice varieties would be much benefitted by occasional syringings from a powerful garden engine, which should be found in all gardens with any pretension to completeness and excellence. Besides the cleanliness so conducive to health this ablutory process achieves, the moist atmosphere and check to excessive evaporation that result from this practice is one of the greatest safeguards against many bad diseases.

In the interior department, peaches that have been slightly forced will be about maturing, and the

atmosphere must be allowed to become dryer by admitting more air and using the syringe less freely. This is necessary, not only to perfect the flavor of the fruit, but to mature the wood properly for next season's fruit. All of this has to be done with caution, as a sudden change from a moist system of culture to a dry one will be certain to injure the tissue and breed disease.

Red spider and other insects closely follow on the heels of a dry atmosphere. They must be watched, and nothing suffered to injure the leaves till by natural maturity the plant has no longer use for them.

Grapes in cold vinerias will now be of a size fit for thinning. In those cases where the bunches are intended to hang long on the vines, they should be thinned out more severely than those expected to be cut early. A close, compact bunch favors mildew and early decay.

Fine, rich color is always esteemed as one of the criterions whereby to judge of the excellence of a fruit. Sun-light is of first importance; but it is not generally known that this is injurious when in excess. In a dry atmosphere, with great sun-heat, where the evaporating process goes on faster than the secretive principle, what should become a rich rosy blush in a fruit is changed to a sickly yellow, and the rich jet black of a grape becomes a foxy red. Some grape-growers of eminence, in view of these facts, shade their vinerias during the coloring process; but others, instead, keep the atmosphere as close and moist as possible. The latter course detracts from the flavor of the fruit. The best plan is that which combines both practices.

In summer-pruning grapes, care must be taken that the leaves from the stopped laterals do not overcrowd or smother the larger leaves of the original cane, on which all your hopes of good sound wood for next season depend. All the use for the leaves on the laterals is to afford outlets for superabundant sap, which otherwise would cause the next season's fruiting-buds to burst now. Always carefully guard the first leaves.

#### GREENHOUSE AND POT PLANTS.

The great difficulty with many greenhouse and frame plants is to keep them over our summers. It is not the heat that so injuriously affects them, as the dry air they are subjected to. Hence sunk pits, canvass shades, and even glazed structures, are very useful in such cases as maintaining a more humid atmosphere about the plants. Heaths, and most Australian and New Holland plants, auriculas, pansies, calceolarias, cinerarias, and similar things belong to this class.

Sunk pits are the best, as under glass insects are

very troublesome, which trouble the heavy rains in the open air somewhat rectifies. All greenhouse plants do best set out in summer under partial shade,—not under trees where drip in heavy rain-storms injuriously harden the soil, though this is better than no shade at all,—but a shade where, with just enough protection to keep off the hottest mid-day suns, those of morning and evening can yet exert some little influence. Canvas-covered sheds, open at the sides, are the best. We gave sketches of some useful contrivances of this character in our last year's volume.

Many summer-flowering plants should be cut down soon after blooming, so as to make bushy plants and be prepared for a renewal for the next season's growth, or they grow leggy and unsightly. The pelargonium, in particular, is to be subjected to this treatment. So beautiful a plant is worthy of all the care and attention we can bestow on it; for, of the easiest culture, it is yet capable of astonishing improvement under superior management.

The following account of summer management, from the *London Journal of Horticulture*, gives such minute details, and can be applied to so many other plants, that we adopt them here entire:

"As soon as the greenhouse becomes too warm for these plants, they should be set out of doors on a bed of coal-ashes, and a shelter contrived for them to keep off the heavy rains. Rather less water should be given, and the syringe hung up in the tool-house, so far as these specimens are concerned; in fact, they do not need it now at all. The grand point to aim at is to get the wood well ripened. It should by the end of July be hard, firm, and woody, and of a dark shining brown color. The leaves should begin to turn yellow, and the older ones drop off; in fact, it is the autumn with the pelargonium. As soon as this state of rest is attained, then set the plants out of doors fully exposed to the sun, and in a short time they will be ready for the operation of

#### PRUNING.

This is an important point, requiring considerable thought and judgment. They should be pruned at two or three seasons. For blooming early, get the plants into the proper condition of ripeness early in August, prune a second lot a month later, and the last the first week in October. As soon as the plants are ready, cut them in according to their strength, and the form you intend them to take the following season. Weak plants should be cut in pretty close to one bud, stronger may have three buds, and very strong ones four or five buds each, and let each shoot when cut be at equal distances from the adjoining ones. When pruned, remove the plants into a frame set on bricks, so as to admit

Fig. 1.

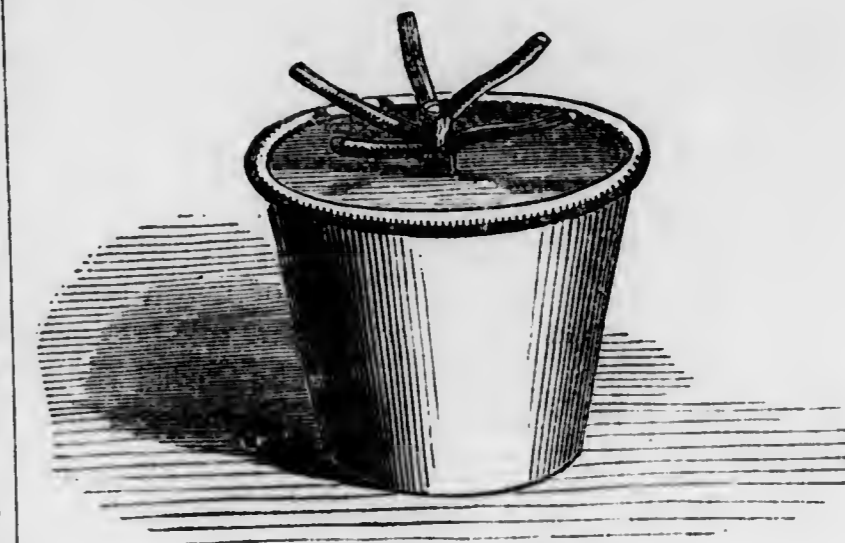


Fig. 1.—One year old Pelargonium, pruned in autumn, and five shoots left to branch out the following year.

Fig. 2.

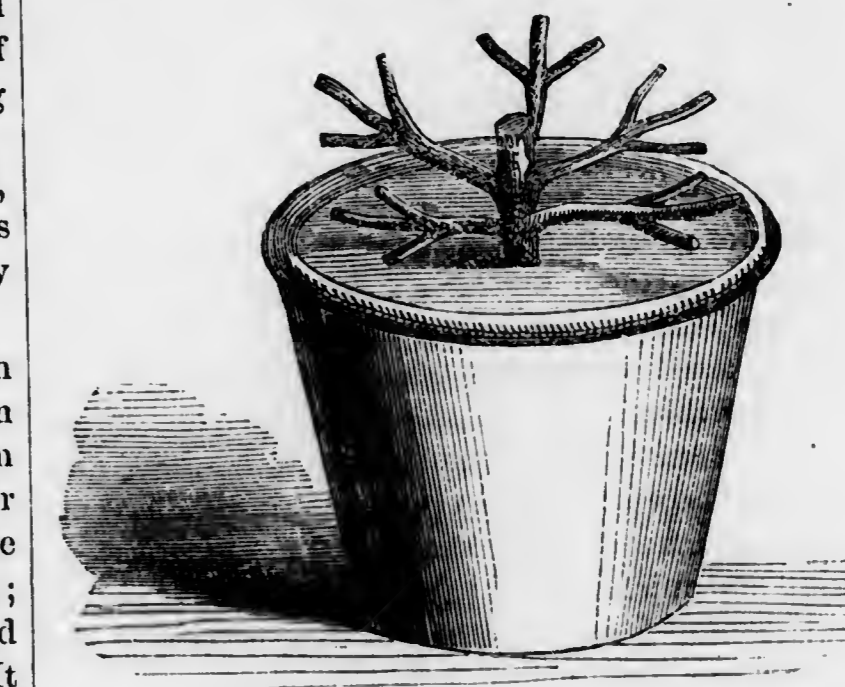


Fig. 2.—Two year old Pelargonium, pruned in autumn, and fifteen shoots left to branch out the following year.

air amongst the pots. Keep the glass on day and night; but shade from hot sun, and give no water till fresh shoots have made their appearance, and the leaves have attained a little size. Then give a little water just to moisten the soil. They are then ready for the autumnal potting."

#### VEGETABLE-GARDEN.

At the end of June some celery may be set out for early crops, though for the main crop a month later will be quite time enough. It was once customary to plant in trenches dug six or more inches below the surface; but the poverty of the soil usually at this depth more than decreases the balance of good points in its favor. Some of our best growers now plant entirely on the surface, and depend on drawing up the soil, or the employment of boards or other artificial methods of blanching.

Last year a correspondent described a mode of

employing charcoal for the purpose, which produces fine, firm and crisp stalks. Sawdust, shavings, and similar matters have also been used with beneficial results. Very rich soil is essential to fine celery, and well-rotted cow-dung is one of the best of manures for this crop.

Cabbages and brocoli may still be set out for fall crops, also requiring an abundance of manure to insure much success. Lettuce, where salads are in much request, may yet be sown. The Curled Indian is a favorite summer kind; but the varieties of Cos, or Plain-leaved kinds, are as good. They take more trouble, having to be tied up to blanch well. Many should not be sown at a time, as they soon run to seed in hot weather.

Beans produce enormous crops in deeply-trenched soils, and are improved as much as any crop by surface-manuring. We hope this method of fertilizing the soil will be extensively adopted for garden crops this season. Those who have not yet tried it will be surprised at the economy and beneficial results of the practice.

Peas for a fall crop may be sown. It is, however, useless to try them, unless in a deeply-trenched soil, and one that is comparatively cool in the hottest weather overhead, or they will certainly mildew and prove worthless. In England, where the atmosphere is so much more humid than ours, they, nevertheless, have great difficulty in getting fall peas to get through free from mildew; and to obviate these drying and mildew-producing influences, they often plant them in deep trenches, made as for celery, and are then much more successful with them.

Cucumbers for pickling may be sown this month, and endive for fall salad set out. Parsley for winter use may be sown now in boxes of rich soil, and set in a cool, shady place till it germinates.

Tomatoes do best when suffered to grow flat on the ground; but in such cases the soil should be covered with a mulch of straw or litter to keep the tomatoes from getting soiled and rotten by dampness. Brush-wood is an excellent material for them to lie on, and they seem to thrive well with it about them.

Asparagus-beds should not be cut after the stalks seem to come up weak, or there will be but a poor crop the next season, and the beds will "run out" in a few years.

Herbs for drying for future use should be cut just about the time they are coming into flower. Dry them in the shade, and after sufficiently dry to put away, tie them in bunches and hang in a cool shed, or place them loosely between paper, and stow away in cupboards or drawers,—the last mode is by far the cleanest and most approved plan with the

best housekeepers. Some, indeed, powder the leaves at once after drying, and put away in bags ready for use.

## Communications.

### REVIEW.

BY AMATEUR, N. Y.

IT has always been my custom to review my magazine at the end of the year, although I read them carefully at first. While reviewing the *Monthly*, I was so forcibly struck with some of the passages, that I was tempted to make notes of what was there. The first that aroused my attention was a piece on the Care of the Greenhouse, page 3, No. 1, Vol. II., where the writer *pities* the lover of flowers who has not a greenhouse. I am one of that number, although I have kept a plant-stand by a sitting-room window these twenty years, and have some plants that have been in my collection from the first, giving me flowers every year, such as the Calla, Cactus, and others; the small kinds of Cactus are well adapted to rooms, as they bear the dry air and dust of a room better than any thing I have, and seldom require repotting, and but little water. "All the gold in California" is not needed to build a greenhouse; but there are other hindrances more formidable than the cost, (for I am a firm believer in the adage, where there is "a will there is a way,") the greatest of which is, opposition from our husbands, for it is well known, that there is but a small number of men among the *real* lovers of flowers; another is the extra trouble in keeping them from freezing. I was examining the plants in a commercial greenhouse a few years ago, and in answer to the question, whether I had a greenhouse, I said I should not know how to take care of it, and was not able to employ a gardener. The owner said, "I should pity you if you had to depend on a gardener." So it seems we get *pity* for not having the luxury of a greenhouse, and *pity* if we are to depend upon a hired gardener. But I am quite sure I could find one that would mind my plants if opposition No 1 was not in the way. I would advise all the girls who *really* love flowers, to marry a *real lover* of flowers, or keep themselves free to build a greenhouse when they please. Of course, this latter clause applies to such as have funds of their own. This advice is rather foreign to our subject.

Page 9 somebody is taking a tour among the gardens; a *man*, I suppose, as he left the first establishment "with a firm determination to make his own little place look better next year." I have made

such determinations more than once, but you gardeners know but little about the inconvenience *wives* have to contend with in the cultivation of flowers.

We will not follow the traveller any further this time, for our sheet is full, and remembering, too, that the editor likes short pieces.

[It is a pleasure to welcome so many ladies amongst our contributors this month. We hope for their continued and increased favors.—Ed.]

### ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(Continued from Page 107.)

#### BENEFICIAL INSECTS.

12th. *Dytiscus* (*Cybister*) *fimbriolatus*, Say. "Large Water Beetle." Plate V. fig. 1. Length, about one inch and a quarter; color, above a dark olive green, beneath a glossy black; thorax and wing-covers laterally margined with yellowish; posterior feet, long and oar-shaped; anterior and intermediate pairs, rather short; head and thorax, wide and short, and uniting with each other and the base of the wing-covers squarely. Fig. 2 is the larva of a water beetle of this genus, and is introduced here to show the general form. I kept alive one of these beetles eight months in an aquarium, during which time he did not disturb the fishes, but assisted them to devour several tadpoles that were put in the tank at different times, and took his daily meal of flies and worms. He seemed, however, to be partial to worms. This insect may be regarded as the representative of about two hundred and fifty species of water beetles which inhabit the United States. All of these are most voracious feeders, in both their larva and perfect states, upon the larva and matured insects of other species. They prevent millions of gnats and other noxious insects coming from the water, in which they pass their larva state. After reaching the mature state their ample wings afford them the means of rising from the water in pursuit of insect prey. They are also charged with destroying young fish, in some instances depleting fish-ponds; but we ought to allow them these, in consequence of their services otherwise rendered.

13th. *Necrophorus Americanus*, Oliv. "Carrion Beetle." Plate V. fig. 3. Length, from an inch and a half to an inch and three-quarters; some individuals of this species are also found less than this measure; a yellowish or light brown spot on the head; and two spots or blotches of the same color on each wing-cover, one near the base and one near the apex; a large yellowish spot on the thorax, nearly covering it, leaving only a narrow margin of black around it; the abdomen extends two or three segments beyond the wing-covers; the antennæ are black, and terminate with a yellowish tuft or club; legs and under body, black; the thoracic portion of the latter covered with yellowish hairs; mandible, black, short and stout; the outer margin of the wing-covers is yellowish when seen from beneath, so that they may be said to be yellowish, with black blotches, as properly as otherwise. This is our largest American species of this genus. There are some eighteen or twenty species belonging to this genus, but there are about one hundred and fifty species allied to it in habits. And although some of them get into hams and fitches of bacon, dried and fifty species allied to it in habits. And although some of them get into hams and fitches of bacon, dried and fifty species allied to it in habits. And although some of them get into hams and fitches of bacon, dried and fifty species allied to it in habits. They assist materially in the decomposition of putrid animal and vegetable matter, but do not attack living vegetation. They must not, however, be confounded with the "blow flies," which perform a similar service.

14th. *Staphylinus villosus*, Grv. "Maculated Rover Beetle." Plate V. fig. 4. Length, from half an inch to three-quarters of an inch; head and thorax, a shining black; wing-covers, dull black, and covered with minute hairs, and short, not more than covering one-third of the abdomen; abdomen, black above and below, with two of the intermediate segments covered with short white hairs, giving the appearance of a whitish band around the abdomen, more distinct below than above; antennæ, thickened towards the end; legs, black, and of moderate length. This insect is the representative of about two hundred and fifty species belonging to the family STAPHYLINIADÆ, which inhabit the United States. They assist greatly in the decomposition of animal and vegetable matter. They are very active on foot, and run with the abdomen turned upwards, giving them a rather formidable appearance. Found in decayed animal and vegetable garbage, also under the bark of rotten wood, and sometimes in old bacon. Although their wing-covers are very short, yet they have a very ample pair of wings folded up beneath them, which, when expanded, are nearly as long as the body. Active from very early in the spring until late in autumn.

15th. *Coccinella novemnotata*, Hbst. "Nine-Spotted Lady-Bird." Plate V. fig. 5. Length, about a quarter of an inch; color of the wing-covers, red or reddish-yellow; four and a half spots on each wing-cover; thorax, black, marked with white, marginal and otherwise; form, hemispherical or tortoise-shaped; legs and antennæ, short. Sometimes also called the "Cow-bug." These insects are decidedly the best friends we have, taking them as a class, especially those which constitute the group called *Aphidiphaga*, from their living upon the common *aphides* or *plant-lice*. There are probably a hundred species or more of the coccinellans, a few of which will also feed upon vegetation in the absence of aphid food, but these are mainly confined to the pollen of flowers, especially the smaller species of them. One large species I have detected cutting holes in the leaf of the cucumber, and I exhibit him in order that he may be distinguished from others—*Epilachna borealis*, Pk. Fig. 6a.

16th. *Hipodamia 13-maculata*, Lin. "Thirteen-spotted Lady-bird." Plate V. fig. 6. About the same in length as the preceding; color, redder; form, a little more long, and not so globose; thirteen spots on the two wing-covers and thorax; found in company with the former. Fig. 6a Larva of a Lady-bird, being a blackish grub, with six feet, marked with reddish or yellowish spots on the back; like the coccinella, it undergoes its transformations upon the leaf, where its larva feeds on aphids. This is one of those that are not so strictly aphidiphagous as those last mentioned, but as they remain hid in clefts and chinks during the winter and come forth in early spring, if they attack vegetation it is because of the absence of their natural food.

17th. *Reduvius novinaris*, Say. Plate V. fig. 8. Length, one inch and three-eighths; color, brownish-liver; antennæ and haustellum, dark rufous; thorax, crested, with eight or nine cylindrical teeth; feet, rather long and simple, the anterior pair raptorial in their structure. Like all *Hemipterous* insects, the Reduvians are active feeders from their exclusion from the egg until their allotted period—which sometimes continues a whole year, even hibernating through a cold winter—is terminated by natural death or some other contingency. The one here referred to is by far the largest species known to exist in this country, and was described and figured by Mr. Thomas Say, many years ago, in his "American Entomology;" but he does not appear to have been acquainted with its habits any more than that the genus is carnivorous. It is quite abundant in localities south of Pennsylvania, and is becoming of more frequent occurrence here I have found them too rarely about Lancaster County to make any reliable observations upon their habits, but Mr. Glover says they are abundant about Washington City, where, "during the summer and autumnal months they are very useful in destroying the disgusting caterpillars which swarm the shade trees." A small specimen experimented upon was placed in a box with ten caterpillars, all of which were destroyed in the space of five hours. It approaches its prey stealthily, and when near enough, it suddenly springs upon it and plunges its piercer into its unfortunate victim, and deliberately sucks out all its juice. Its very organization evinces its raptorial habits.

18th. *Reduvius atrata*. Plate V. fig. 7. Length, about five-eighths of an inch; color, black; thorax and basal portion of the scutel, shining black; a deep longitudinal indentation in the middle of the thorax; legs, rather short and robust; female, apterous, or without wings. I have never seen a description of this insect, although one of such frequent occurrence must have been described long ago; therefore, I have only named it *atrata* approximately. This is a common species, found under logs and stones, and from some observations which I have made upon it, I am satisfied that its habits are similar to fig. 8. Both of these insects have the power of inflicting great pain by their puncture, as I, on one occasion, realized. It produced no swelling, but at first, and for thirty minutes the pain was of considerable intensity, causing sickness of the stomach and feverish perspiration, leaving the finger punctured in a semi-paralyzed state for three or four hours afterwards.

19th. *Reduvius (mydochus)*. Plate V. fig. 9. Length, three-quarters of an inch; color, green or greenish-yellow; form, slender; a tooth or spine projecting from each side of the thorax; antennæ, long and filliform, bending suddenly downward about the middle; legs, long and slender, the anterior pair longest and thickest; exceedingly carnivorous in its habits; and its facilities for flight enables it to capture its prey with ease. It is represented destroying a capricorn beetle (*Tetraopes tomator*.) If it has not already been named, I would suggest *dentata*. This insect I have often caught in the act of destroying various species of moths and beetles. It is also a raptorial insect.

20th. *Osmylus maculipennis*. "Maculated Lace-wing." Plate V. fig. 10. Length of body, about three-quarters of an inch; expansion of the wings, two inches and a quarter; color, brown; thorax, hairy; wings, transparent and speckled with brown; a row of alternate whitish and brown spots around the entire margin of the anterior wings; two longitudinal veins extending the whole length along the costal margin of both pair of wings; eyes, brown and polished; antennæ, filliform and about one-third the length

of the body. This insect seems to be allied to the *Hemeiobians*, and in the absence of a specimen of that genus from which to make a drawing (all of mine having been destroyed), I have caused this to be delineated on account of its approximation to the form of the family aforementioned. I do not know any thing positively about its habits, but reasoning from its analogies, I presume it to be a friend, but the following remarks upon this family have more particular reference to the genera *Hemerobius* and *Chrysopa*. It is only provisionally named. These insects are well known by many observers to be among the greatest friends to vegetation that are to be found in the insect world, and I have often witnessed their havoc among colonies of *Aphides* with the greatest interest. It is not certainly known how the young subsist immediately after they are excluded from the egg,\* but from the fact that Dr. Fitch says he has seen the young larva of the "Lace-wing" with its mandibles inserted in the newly-laid eggs of other insects; the inference is that it feeds upon this kind of food, and also upon the young larva of some species, until it acquires sufficient strength to manage a full-grown *Aphide*. We may also infer that this is the reason why the female Lace-wing deposits her eggs on the end of long foot-stalks, namely, in order to prevent their destruction by the young subjects of her own family.

21st. *Chrysopa Harrisii*, Fitch, or "Golden-eyed Lace-wing." Plate V. fig. 11. This insect is by far the most common in this locality of any other member of the family *Hemerobiadae*, and was formerly included in the former genus. Dr. Fitch describes twenty-two species of the "Golden-eyes" and eleven species of the Lace-wings as inhabiting the United States, and there are probably many more than these. The genus *Myrmelion* or "Ant Lion," the "Woolly Weaver" of our boyhood, is allied to this family. For a more extended notice of *Chrysopa Harrisii* see an article prepared by me, giving some account of the insect in its larva, pupa, and perfect states, with illustrations of the same, to be published in a future number of the *Gardener's Monthly*.

22nd. *Panorpa maculata*, or "Scorpion Fly," from its striking with the end of its abdomen after the manner of a scorpion. I have seen this fly attack much larger insects than itself, and despatch them in a very short time. Plate V. fig. 12. Length of body, one-fourth of an inch; wings expand about one inch; color, light brown; legs and antennæ, moderately long and slender; wings, transparent and numerous; maculated with light brown; rostrum, prolonged into a snout pointing downwards. I have given this insect the above name only provisionally, never having seen a description or figure of it anywhere, and yet it is quite common, and the scorpion-like appendage at the end of the abdomen, which is usually carried with an upward turn, renders it formidable in appearance, although it does not inflict a wound with it. When it seizes an insect, it immediately penetrates it with its rostrum and sucks out its juices.

\* I have seen quite young larva-destroying Aphides within the month of July.

### STANDARD ROSES.

BY MAPLE DELL, ALTON, ILLS.

IN glancing over the pages of your valuable *Monthly*, my eyes fell upon the remarks made by J. C., with reference to standard roses.

Being well aware that roses have, when budded, their merits, as well as demerits, I will endeavor to say a few words in their favor, preferring budded roses to roses upon their own roots, simply because they succeed best with me. And my favorite stock is the Dog Rose, and the Cabbage Rose my next, as they grow more free and sucker less upon these stocks than any other, the Manetti I have not tested sufficiently to judge of its good or bad qualities as a stock.

My reasons for preferring these stocks will be given in the following note, permitting others to judge for themselves.

About nine years ago, when hybrid perpetuals were scarce in the west, my father had a number of annuals, perhaps twenty, budded with monthlies; of this number at least ten remain to-day, looking as healthy as any one could wish, bidding fair to produce another fine crop of roses.

Among the standards: Prince Albert budded 2 feet high upon the Dog Rose, is 1½ inches in diameter, 6 inches below the bud. 1 La Reine budded 4 feet high, is one inch in diameter. Another, Melina Carna budded 18 inches from the ground, is 2½ inches through, about 6 inches high from the ground.

These roses are annually pruned back to within 6 inches of the old bud, making an entirely new growth every year, blooming profusely at stated periods during summer and fall. The soil of this garden is a fine sandy loam, resting upon a strong lime-clay sub-soil.

Before closing, I will make a remark upon the proper culture of standard roses, viz.: cut them in severely every spring, use decayed chips or straw in preference to strong manures, and you will have less rank growth and finer flowers.

#### LINNÆUS AND LINNÆA BOREALIS.

BY L., HADDONFIELD, N. J.

(Continued from page 133.)

LINNÆUS appears to have enjoyed a happy faculty of communicating his ideas to his pupils, and to have possessed great influence with them. It was one of his customs to take summer excursions at the head of the students, to the number of two hundred, exploring the country, and whenever a remarkable plant or other natural curiosity was discovered, a signal was given by horn or trumpet, which gathered the whole corps around their chief to hear his demonstration and remarks. In a few years the most enthusiastic and persevering among these were distributed over the whole world, and their various histories would alone form a volume of deep interest. Many of them fell victims to the elements and pestilential climates, but many returned fully compensated for the hardships they had endured, and have had their names handed down to science in tribute, bestowed upon them by their venerable preceptor, commemorated in the genera *Osbeckia*, *Kalmia*, *Solundea*, *Alstroemeria*, *Læflingia*, *Hussequista*, *Sparmannia*, *Thunbergia*, &c.

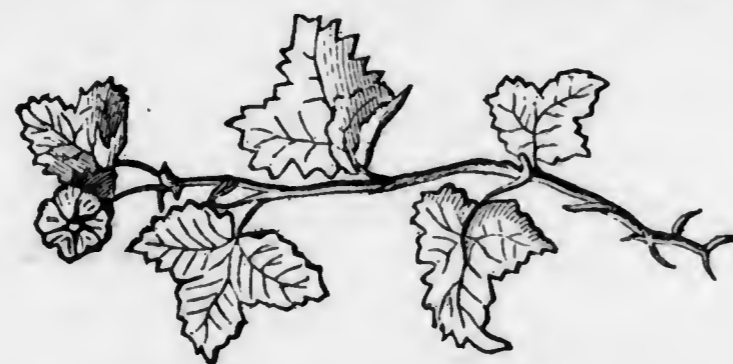
Every branch of natural history was revised or re-modelled by him, and his life was one of increasing fame and prosperity. In 1757, he was raised to the nobility by the title of Von Linné, and purchased estates with the proceeds of his incessant toil as a physician and teacher. His closing years were burdened with ill health and he ceased from his labors in 1778, in his 71st year. His remains were interred in the cathedral; a general mourning took place on the occasion at Upsal. King Gustavus III. caused a medal to be struck expressive of the public loss, and in a speech from the throne, described the death of Linnæus a public calamity.

And—for his own little flower—raised to eminence by his name, it was adopted as a part of his crest; the helmet which surmounts the arms of his family being adorned with a sprig of Linnæa. One of his pupils who visited China, sent to his mother a service of porcelain, manufactured purposely for him, having a representation of the plant as its only decoration, and the Cardinal de Noilles erected a cenotaph in his garden to the memory of the Naturalist, and planted the Linnæa by its side as its most appropriate ornament.

Thompson, the author of "Life in Russia," remarking on the love shown to this little flower by the Swedes, says:

"To have produced one man whose reputation has become the property of the universe, is their boast and pride to this day; and, as if to prove what the force of example of one great mind can effect, the love of botany is among the Swedes a ruling passion. The *Linnæa borealis*, a little creeping plant of delicious fragrance, growing wild in the woods, and first discovered by Linnæus, and with which they crowned his bust, is perfectly venerated. In one of my rambles in the country, some school-boys who were following the same path, came running to me, stranger as I was, exclaiming, 'See, sir, we have found some of the *Linnæa borealis*!'"

"In Sweden," says Prof. Smith, when recommending Natural Science to the rising generation, "Natural history is the study of the schools by which men rise to preferments." And Dr. Clarke has borne testimony to the zeal with which this branch of science is pursued by men of various classes in that country." He relates a pleasing anecdote in point which may perhaps be not inappropriate here as illustrating also the influence of the Swedish sage. "Arrived at Tornea, at the northern extremity of the Gulf of Bothnia bordering the Arctic zone, Dr. Clarke sent to the apothecary of the place for a few jars of the Conserved Dwarf Arctic Raspberry.\*



He had observed this "rare plant" in the woods near the shore where he had landed and found it bearing fruit as large as the common raspberry, though so diminutive that an entire tree with all its branches, leaves and fruit was placed in a phial holding about six ounces of alcohol."

The fruit was brought to the Doctor by a boy without shoes or stockings, who, having executed

\**Rubus Arcticus*, the Arctic bramble or raspberry, may be thus described: It has three glabrous obtusely-serrated leaflets, no runners, stem bearing only one flower, and without prickles, the petals notched. It is a native of the mountainous and colder regions of Europe, and has been found also in Labrador. Its stem never attains a greater height than six inches and is furnished with from three to four leaves, with a single large deep rose-colored flower, which is succeeded by a purplish-red fruit, highly prized for its flavor among the Swedes.

his errand, was observed to cast a longing eye towards some books of specimen plants which lay on the table ready for arrangement. To their surprise, he named every one of them as fast as they were shown him, giving to each its appropriate Linnæan appellation. The doctor found, on inquiry, that this extraordinary youth was the son of a poor widow who had placed him as apprentice under the apothecary. His master had himself a turn for natural history; nevertheless he did not choose that his pupil should leave the pestle and mortar to run after botanical specimens. The lad had, however, carried on his studies secretly, snatching every hour he could spare to ramble barefooted in search of a new plant or insect, which he carefully concealed from his master, who at length discovered his boxes of insects, and unscrupulously appropriated them to his own use, and exhibited them in his shop window as of his own collecting! These facts interested Dr. Clarke and his companions so much in behalf of poor little Pyphon (for that was his name), that they showed him much kindness, procuring him some hours of relaxation from his toils and giving him some English needles for his insects and a few similar trifles, to him an invaluable treasure. Not unfrequently during their short stay they had recourse to him for what they required, and on one occasion told him that a rather rare plant was said to grow in that neighborhood, but that they had failed to discover it. Scarcely were the words uttered, when he ran off, fast as his legs could carry him, and soon returned, bringing in his hand two or three specimens of the plant. But the hour of separation from the kind strange friends came all too soon to the little naturalist who, shedding abundance of tears, bade them farewell—making this touching request at parting: "If you should remember me when you arrive in your own country, send me *Drosera longifolia*; I am told it is a common plant in England!"

#### RESTORING HEAT TO HOTBEDS.

BY S., MONTMORENCI FALLS, CANADA.

THERE are occasionally some instructions in your periodical which are exceedingly valuable to an amateur like myself. This spring, finding my first hotbed show no symptoms of heating, the thermometer therein standing at 30° after it had been eight days made, I gave it a dose of strong ley with lime; next morning, though still as frosty out of doors, the thermometer showed 45° and gradually increased to 80° after a few days. My next hotbed I heated in the same way with similar success. My garden roses have been very shy of flowering, but as I intend to put in practice your hints about root-pruning, I hope for a better result this season.

#### NOTES ON SOME NEWER GRAPES.

BY W. TOMPKINS, GERMANTOWN, N. Y.

*Concord Grape.*

THIS new grape has fruited here for several years, and although it is not quite so early or good as its originators claimed, yet, beyond doubt, it is a very great acquisition, and is fast working into public favor, and is destined to occupy an important position in the future vineyards of this country; vine exceedingly hardy, vigorous and robust; foliage large and thick; fruit never mildews, or rots, or drops off.

To the market-grower especially it is invaluable, being so easy to propagate, and so quick to get in a bearing condition, and will then bear more ill-treatment and continue to thrive and produce fruit of fair quality than any other grape that we are acquainted with.

It is not quite so productive as the Isabella, or so early a bearer; yet, when of proper age and size, always sets just as much fruit as the vine has the capacity to ripen well, and at the same time make the requisite quantity of wood for the next season's crop. Now, this is just what the market-grower wants; after tying the vines to the trellis in the spring, he need not bother about thinning the fruit, summer-pruning or pinching laterals; the vines having just the right quantity of fruit, will ripen it with a certainty and uniformity that is truly surprising. All he need do is to work the ground enough to keep down the grass and weeds, and perhaps tie a few straggling shoots to the trellis. When the vine is tied to the trellis, (after it has been properly pruned,) the branches should be brought down to a horizontal line as near as practicable, as that position holds the natural vigor of the vine in check, and makes it the more fruitful; and the side shoots as they grow should not be tied up to the trellis, but suffered to spend their strength by growing downwards; the clusters will not then be robbed of their share of the fruit-producing principle, and will be larger and sweeter for it.

Although last season was one of the most unfavorable, probably, that we have in this latitude, yet, notwithstanding, the *Concord* began to color early in September, and by the middle of the month was ripe enough to send to market, and samples sent at that date sold quickly at 13 cts. per pound. But to have this grape in its perfection, it should hang on the vine until the latter end of the month, when it will be found exceedingly sweet and luscious, having much more saccharine matter than the Isabella or Catawba in their best condition.

Some persons complain that it is apt to drop from the bunch when fully ripe, but I have found no

trouble of that sort, and should think it must have been caused by bad pruning, or no pruning at all. From the report of the *Massachusetts Horticultural Society* for 1860, it appears that it did not, as a general thing, ripen that year, and what is true of the Concord is true of all other varieties of good quality. A few Diana, Delaware, Hartford Prolific, and other grapes were shown of very satisfactory appearance. But in the State of New York, I believe, it ripened well, although some vineyards of Isabella and Catawba on the banks of the Hudson River, which are planted as close as 3 or 4 feet in the row, failed to mature their fruit, which I think pretty convincing proof that a vineyard should not be planted after the European method in America. Most of the grapes grown on the Hudson are planted 12 feet apart in the rows, and the rows about 12 feet from each other, and the mildew of the fruit and leaf is almost unknown here, and the fruit in such vineyards, if well managed, ripens with as much certainty as apples or pears.

#### *Raabe Grape.*

This grape has fruited here for the last three years, and, in my humble opinion, it is destined to become one of the most popular grapes for the garden or vineyard that we are acquainted with.

The vine is a good grower, hardy, very productive, never suffers from leaf blight or mildew; always ripens its wood to the extremities of the branches, and is short-jointed and firm, which is a sure indication of fruitfulness.

Ripens about the middle of September, and like the Concord, ripens uniformly, and for excellence rivals the Delaware, and the fruit, when well grown, is nearly or quite as large, and resembles the latter so much that it will sell in the market for that variety, and but few persons be able to tell the difference; and what is of more importance, the foliage and fruit has never been known to suffer from mildew, which is so injurious to the Delaware in this locality.

It has been called a grape of foreign origin; but this, I think, is a mistake, as any one can soon see by comparing the foliage, fruit, and general appearance of the vine with the Catawba, that it must be in some way related to that variety, but will be found of much more value in all localities where the Catawba does not ripen, or is much subject to the "rot."

The fruit, when fully ripe, is so charged with saccharine matter that it attracts more bees and other insects than any grape that we grow, and it is not uncommon to find dried clusters on the vine late in November that are as good as raisins.

#### *Emily Grape.*

We received this from a noted collector of grapes,

not 100 miles from Lebanon, Pa.; it is a most luxuriant grower, and the wood very firm, and short-jointed; foliage resembles the Clinton.

It fruited last fall for the first time with me, and you may be sure that I felt no little anxiety while it was ripening.

Well, after waiting patiently until the 20th of September I had the gratification of picking and eating one of the vilest frost grapes in America. In the meantime I very industriously propagated about 100 fine, vigorous plants, which I will distribute gratuitously to any one who desires a specimen.

Now, Mr. Editor, I think this almost too bad to be treated in this way, and I hold that when a mistake of this kind occurs, the person sending out the spurious article should make restitution, no matter whether it was done through mistake or otherwise. The writer is not the only one who has suffered, but knows of others that are in the same fix.

If there is a grape called the Emily that is worth cultivating, I hope that when this meets the notice of the person I allude to, he will send a plant or two hitherward.

[By reference to page 25 of the *Gardener's Monthly* report of the Pomological Society, the following notice of a "spurious Emily" reads:

"MR. MILLER—I am charged with sending out a spurious Emily extensively. I got it from headquarters, Mr. Raabe himself, from whom others also received it."

Another gentleman of our acquaintance also says he got his spurious Emily from Mr. Raabe. It is but justice to Mr. Raabe to say that he denies that he ever sent it out, and so the matter stands. Unquestionably the "counterfeit" is one of the vilest kind.—Ed.]

### GARDENING IN LANDSCAPE.

BY J. W., OGDENSBURG, N. Y.

It is plain that they who would imitate nature in gardens, must do so in another way than by copying her piecemeal. They ought, indeed, to be imitators, but not painters, transcribing her spirit, and not her individual expressions,—her general countenance or aspect, and not her particular features. An artist, to be a painter, or a landscape artist, or an amateur in either branch, should go to nature to study principles, gathering up snatches of scenery, and storing them up in his memory or his portfolio for future use. He should note all that pleases him, and endeavor to understand how and why it influences his mind. By thus filling his brain with numberless beautiful little pictures or images, and his intellect with the foundations and sources of pleasure in his art, he will come from

nature doubly primed to give practical utterance to his imaginings, and prepared to embody in a composition the fine touches, and a more artistic and spiritual element which he has collected from such a variety of sources. All this is his "duty." Nature is the great school of gardening in landscape. It is in her broader teachings and general promptings, that materials should be gathered for practical use. And these, be it remembered, will be solely available in idealizing and exalting art, in "landscape and picturesque gardens." This he "acquires" by industry!

To regard a garden otherwise than as a work of art, would tend to a radical perversion of its nature. A garden is for comfort and convenience, luxury and use, as well as for making a beautiful picture. It is to express civilization, and care, and design, and refinement. It is a blending of art with nature, an attempt to interfuse the two, or to produce something intermediate between the pure state of either, which shall combine the vagaries of the one with the regularity of the other. That beauty should be the ultimate aim of every operation in gardening in landscape. There may be different opinions as to what constitutes beauty, and of what ingredients it is made up,—some affirming that its chief elements are those of form; others that it consists solely in association. We may assume that it is to be found in both. Beauty in gardens is not by cultivating only a few particular species of plants, and not merely harboring, but cherishing, a dislike to all others. A garden denuded of half or three-fourths of its proper ornaments is much in the same predicament as an individual with only a portion of his ordinary garments. It is imperfectly clothed—insufficiently finished—weak in expression of the beautiful. And should be pretty obviously expressed in that part of every garden which is in the intermediate vicinity of the house, terraces, straight lines of walks, avenues of trees or shrubs, rows of flower-beds, and geometrical figures, with all kinds of architectural ornaments. The artist's taste will be shown in his "acquirements" in concealing all its manifestations in the little arts, and ingenious contrivances, and kindly cares, which embellish gardens, as they do life, without ever revealing the machinery of their action, and of which the effect is seen and felt in their results, rather than their process,—in the whole, rather than the detail. A beautiful, quiet-looking garden, like a well educated individual, presents no particular feature that can attract special notice; all is smooth, easy, agreeable. And perhaps this quietness of expression is the truest index of "duties, acquirements, and abilities," refinement and taste.

The artist's "abilities" assist him in the greatest

of practical difficulties, which an artist in landscape has to contend,—his "acquirements" in dealing with the picturesque. Smoothness and regularity of treatment are so thoroughly what an ordinary gardener is accustomed to, that it requires no small effort to enlighten him as to the mode of achievement, of any thing really beautiful in the way of curved lines and undulations. But when ruggedness and the appearance of rude naturalness are sought, it is indeed hard to obtain a practical operator in either architect, surveyor, civil engineer, or draughtsman, and "landscape-painter."

The practical gardener in landscape knows, nothing imparts a greater air of refinement and gentility to a garden than a certain amount of richness and polish. His "acquirements" teach him the first of these may be attained by means of a tasteful selection of plants and flowers, and by the sparing use of appropriate architectural decorations. Every thing straggling or ragged, all that produces confusion, and, as a rule, all angularity and harshness, are completely opposed to it.

Modern tendencies in gardening have been too much away from its character as an art, and the more it is restored to its legitimate position, the more nearly will it be brought into kindred with architecture. All architects endeavor to extend their business; for as a house and a garden are naturally and intimately associated, and it is a law of the universe, that boundaries of each domain in the natural kingdom should insensibly mingle and be lost in each other, so it is plain that an unvitiated taste would be most gratified when the province of architecture is extended so as to embrace lightly and harmoniously such parts of the garden also, in these parts, rises in character to meet the requirements of architecture, until either art is so refined and attenuated, that it would be almost difficult to say what belongs exclusively to each.

Still, there is that about gardening, which, in the nature of things, and apart from the difference of materials with which it has to deal with, constitutes it a distinctive art. And garden architecture has lineaments of its own decidedly removed from those of house architecture, and so seldom studied, that the ordinary architectural practitioner is at sea the moment he enters the region of the garden. It is less a matter of rule and measurement. Its effects are more to be judged of by the eye. It comprehends a far greater variety of combinations. It requires a man to be as much an artist (at least in feeling) as an architect, and to be familiar with natural groupings and tones,—to take in an entire landscape in the range of his design, and not merely isolated or detached objects. In fact, the garden architect has to

make a general picture, and not simply to set a work of art, as it were, on a solitary pedestal.

The province of garden architecture is, primarily, to supply fitting appendages and accompaniments to a house, so that the latter may not appear naked, alone, and unsupported. If judiciously applied, it will be effective in helping to produce a good outline or group; to carry down the lines of the house to connect it with other buildings, such as a conservatory, arbor, &c.; to provide a proper basement for the house; to afford shelter and privacy to a flower-garden; to extend the facade or frontage of a house; to shut out back yards, offices, &c.; to enrich, vary, and enliven the garden; to supply conveniences, such as shelter, receptacles for birds, plants, sculpture, &c., with museums for works of art or specimens of natural history, and supports for climbing plants; to indicate refinement, wealth, and a love of art; and otherwise to blend the two by communicating a more artistic tone to the garden.

But in addition to expatiating upon the political and physical relations of gardening in landscape to mankind, it is not unusual for authors or editors, in order to excite, on the part of gardeners and the community in general, an increased interest in the cause of gardening in landscape, as well as to commend their own labors to public favor,—to indulge in elaborate encomiums on the moral dignity of rural pursuits, and their adaptedness to ennoble the lives and characters of those who engage in them. Such encomiums are just, and, in their proper place, useful and gratifying. No reflective mind, however, whether that of a gardener or a tradesman, needs to be informed of the tendency of constant communication with the works and phenomena of nature to purify the thoughts, and thus exert a largely restraining influence upon the dark passions of the human soul. No man works more in the immediate presence of his Creator than the gardener. He sees Him not only "in the cool of the day," but in every waking moment,—in the purity and fragrance of the circumambient atmosphere,—in the untamed grandeur of nature's mountains, rocks, fields, forests, and gushing waters,—in the germination of every seed,—in the growth of every leaf and of every blade of grass; by these, and numberless objects besides, is he impressed, not only with the power, wisdom and goodness of Him who "causeth the grass to grow for the cattle, and herb for the service of man," but with the gracious course of His providence, which rewards every discovery of His laws, and every act of obedience to them. It is uttering no harsh judgment, then, when we say, briefly, that the man who can live and labor, surrounded by so many and so palpable attestations of a beneficent and controlling

Power above, without realizing the nearness of his relations to that Power, or without hymning in his heart devout ascriptions to praise and gratitude, is a sad example of the derangement which sometimes characterizes man's moral machinery. And if, with the Book of Nature thus unfolded so luminously before him, his feelings fail to be voluntarily awakened to a just sense of the honorableness of his employment, and of his "duty" to improve every means and facility that will enable him to become skilful and thrifty in his calling, no words of rhetoric, however eloquent, will be able to arouse them.

#### DROUTH, UNDERDRAINING, SCIENCE AND PRACTICE.

BY J. N. R., INDIANAPOLIS, IND.

IN the May number of the *Gardener's Monthly*, you seem to set the "teachings of science" at war with the "results of experience." You misapprehend the author quoted, or I misapprehend the point in your article. The author quoted intended to teach that, in an undrained field, the rains which fall on the surface and sink through the surface soil, filter the soluble plant food down into the subsoil, and that dry weather, in that it draws this water to the surface again, compensates that evil.

The "scientific author" declares three facts:

1st. When it rains, the water filters through the surface into the subsoil. 2d. The water in the soil contains soluble mineral plant food in solution. 3d. Soil water in very dry weather ascends by capillary attraction from the subsoil to the surface, and is there evaporated, and whatever it holds in solution is left in the soil at that point where the water becomes vapor. I understand these three facts to be established, beyond all doubt, alike by science and experience.

If in this the author has assumed that drouths were really *desirable*, his position might be doubted; but it is still true that soil water is drawn from a depth of five, six, and perhaps sometimes even ten feet to supply the demands of a dry, hot air, and it is mathematically certain that the quantity of mineral plant food brought to the surface by evaporation must correspond with the quantity of water evaporated, the depth from whence it ascends, and the supply of such minerals in the soil, in a soluble state. It is better, in my opinion, that short "dry spells" should evaporate the water of brief rains than that protracted dry weather should ever occur.

But if it be true, as you say, that a *deep drouth* lets the vital air *deep in the ground*, and that *insoluble minerals are thus rendered soluble and capable of becoming plant food*, (a fact which I most heartily endorse,) it is a "chemical fact" which "experience"

cannot deny, that the deepest drouth on underdrained soils is a real blessing. In this way, a severe drouth is a "deep tiller," running far below the range of subsoil ploughs.

If, then, I apprehend the matter correctly, the scientific chemist says truthfully, that "whatever of mineral plant food is dissolved in the soil water is left on the surface by its evaporation in dry weather," whilst the practical gardener, with equal truth, says, "when dry weather evaporates the water out of the ground, the air enters into it, and by oxidizing its minerals, renders them soluble, and thus fit to become plant food." The only fault I find with the agricultural chemist is that he confined himself to one idea, when two bright jewels lay side by side. The hot sun draws the water out of the ground and incidentally conveys the dissolved mineral plant food from below to the surface. As the water comes out of the ground, the air rushes in, and the oxygen of the air, by combining with insoluble minerals, renders them soluble, ready to be drawn up by the next drouth. The agricultural chemist told half the truth, and the practical gardener told the other half.

But what about draining? If I understand the matter correctly, thorough drainage doubles the quantity of water evaporated from the surface, because it keeps up an inexhaustible supply of water in the soil. It is not generally known that in underdrained and deeply tilled soils, the deposit of dew in the subsoil at the depth of ten or twelve inches is continued all day under the direct rays of the hottest sun and the driest air; and the more rapid the evaporation from the surface, the more copious is the deposit of dew in the subsoil. Thus we find that, in an underdrained and deeply tilled soil the water descends only during and soon after a saturating rain, but ascends at all other times. The surface soil and vegetable foliage condense the vapor of the air during the night, because they are colder than the air. Now, the subsoil is always colder than the surface of the earth in summer, and to continue the dew deposit all day, it is only necessary to let the air freely into the subsoil. From experiments which I have made, by digging into the soil, smoothing up the south wall of the pit, and placing a piece of glass against it, and noting the quantity of water deposited upon its outer surface, in a given space of time, I have no doubt that drainage and deep tillage will supply more water to a farm or garden, during summer, than the entire rain fall. And then this dew-water never descends, but always tends upwards to supply evaporation. And by this means, too, air is always present in the soil, ready to decompose minerals and manures, thereby to sustain vitality in the soil.

But how does underdraining "cool the soil?"

The statement is only true in reference to the *surface*; the subsoil is rendered warmer. The following is a true statement of the fact: If enough atmospheric vapor is condensed in the subsoil to make one ounce of water, there is thereby heat enough set free in the soil to heat three ounces of iron red hot. If, on the other hand, an ounce of water is evaporated from the surface, a corresponding amount of heat is wrapped up or rendered insensible. During a hot summer day the surface is cooled and the subsoil is warmed. During the night, radiation eliminates this heat from the subsoil to the surface, and then into space. Thus heat, as well as water, ascends from the subsoil to the surface in all underdrained, deeply tilled soils.

There is one idea in this connection which demands a separate paragraph. When the atmospheric vapor is condensed in the cool subsoil, and its insensible heat is thus rendered sensible, that heat is just so much *electric force*, and it cannot reach the surface to be rendered again insensible by evaporation without traversing the root-fibres of the growing crop; and this electric force (electricity in motion) is *vegetable vitality*, and consequently, the strongest possible stimulant to growing crops. This is, in my view, the richest field of agricultural chemistry, and a point of inquiry destined to cast a clearer light upon the *mode* by which fertilizers act upon the soil and its products than any other. It will teach that alkalies operate as fertilizers, not so much by rendering mineral plant food soluble, as by setting electricity in motion by combining with and decomposing other minerals, that the decomposition of vegetable substances within the soil does more good by the development of electric motion than by supplying plant food in the soil. And if this position is correct, it will follow that green manures are far better than the best guano, as experience teaches us.

[Soil water is certainly drawn to the surface in a drouth, and water, *under certain circumstances*, holds "salts in solution." When water comes in contact with alumina, the latter's absorbent power is greater than the solvent power of water, and *filtration* commences. Water no longer "holds salts in solution," and after passing through soils containing alumina in good proportion, is as nearly pure of all extraneous matters as it is possible to be, as water from the mouths of underdrains abundantly testifies.

As, then, soil, or rather, the alumina in the soil, absorbs the salts which were held in solution by the water passing through it, it is a question how far the water possesses the power of abstracting them again from the particles of soil, and bringing them to the surface during evaporation. The probability is that a given particle of soil can only absorb a certain

quantity of a soluble salt, and that then water may take up the overplus and carry it to a near particle that is deficient in quantity, and thus equalize the material through surrounding matter. In this way, drouth might be a slight benefit in exceptional cases, but would not support the rule. So far as we know, no experiments but those of Prof. Higgins have been made with direct reference to solving the important inquiry, and though we do not believe in the doctrine ourselves, our "point" was rather to question than to controvert it.

We hope experiments will be tried. It is so easy. Take a six-inch flower pot, for instance, fill in an inch of soil, place a quantity of common salt on this, and then fill with soil to the brim. Set the pot then in a pan of water, and never, under any circumstances, let any water flow through the surface, but as fast as the water evaporates from the surface let water be added to the saucer below.

"If water, by capillary attraction from the subsoil to the surface, is there evaporated, and whatever it holds in solution is left in the soil at the point where the water becomes vapor"—if it really does hold any thing in solution when it reaches that point—the salt ought to be brought entirely to the surface by a long-continued evaporation. The other matters touched on by our correspondent, especially those in connection with electric force, vegetable vitality, &c., are highly interesting, and we trust will receive attention from scientific and practical cultivators.—Ed.]

#### RUSTIC BASKETS.

BY B. R. MITCHELL, KINGSTON, MASS.

I SEND you some drawings of my "rustic work" for the *Monthly*, should you think them worthy of a place there.

The "Table for Flowers" is made with small baskets fastened on the small branches that grow out from the trunk of the tree which forms the standard, as you will see in the drawing. These

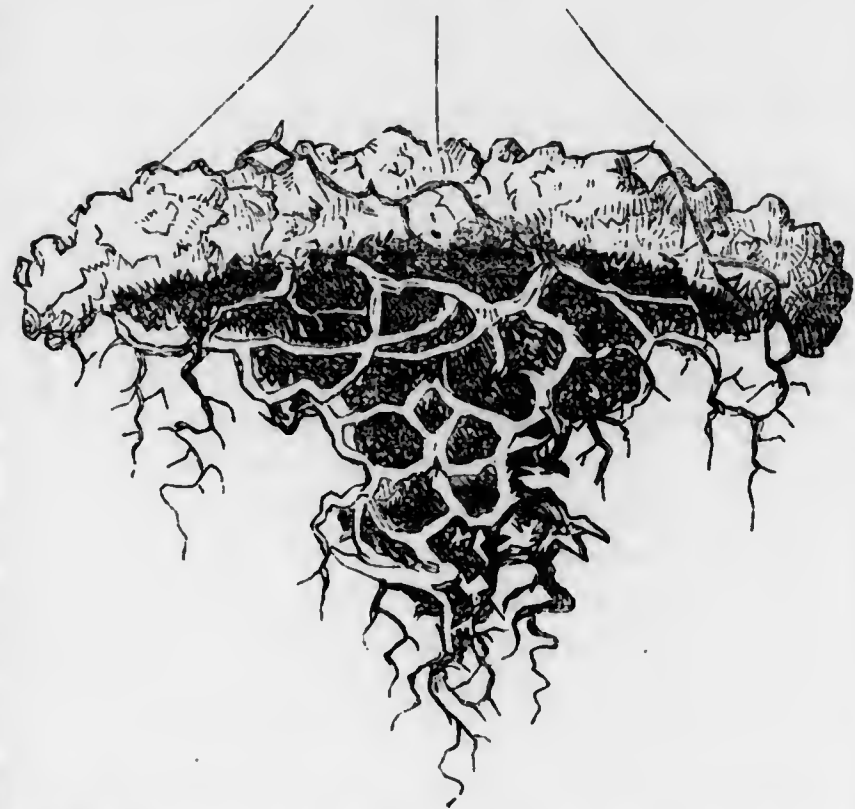
Fig. 1.



little baskets look much prettier than shelves, as the "rustic" sides come up and hide the flower-pots.

The Flower Basket (Fig. 1.) is much the same, with the addition of foot and handle.

Fig. 2.



The Hanging Basket (Fig. 2.) is made of one solid knarl or knot, made hollow to receive the earth or pot, and is hung with cords or strings of acorns.

The other stand is very pretty to set parlor ornaments on, such as flower-baskets, vases, statuary, &c. This work is all made of the gnarls and peaks of the oak, the bark being all taken off and the wood then varnished, which makes it resemble the most unique and ancient carved work. I will say I was awarded a Diploma and Medal at the Massachusetts Charitable Mechanic Association in Boston, September, 1860, for this work.

[In our last, we gave the two larger sketches by Mr. Mitchell, as a frontispiece, and now the others with Mr. M.'s own description of them.—Ed.]

#### FUNGUS AMONGST CUTTINGS.

BY A GARDENER, PHILADELPHIA.

LAST year I read in the *Gardener's Monthly* several articles on the cutting fungus, from which I have always had much trouble in my striking. I tried most of the things recommended, but did not find much good from them. One of your contributors spoke of powdered charcoal, which I had heard of before, but never tried; but since reading, put up a box of it; but I thought if any better, it was not much, as I lost a great many cuttings in it also.

When the spring was nearly over, and I was about to throw out my sand-boxes, something brought to

my mind that funguses of all kinds run out in time, as we know with mushroom-beds,—after the crop has exhausted itself in the bed, the spawn seems to run entirely out, and no more mushrooms come till new spawn or a new bed is made, and even in the old bed it is next to impossible to get new spawn to run it. Thinking on this, I saved my sand till this year in the boxes as they were, and used it again, and all through winter and spring have seen no sign of fungus. It is the first time that I have been quite free from it for some years. Both in the sand and in the charcoal there has been no sign of fungus.

My theory of fungus is, that there is something in the sand that is just fit for fungus to grow on, and that the seeds of the fungus are, perhaps, always in the air ready to grow on this matter whenever it finds it. As soon as it eats it all out and goes through its course, it must then disappear.

I had a laugh at your story about rattlesnake-bones giving Pete a good time in cutting his teeth, and thought you might say the absence of fungus this year in the old sand was only a chance, and that if I had tried new sand I might chanced to have no fungus this season in it either; but, on second thought, it seems to me reasonable, and so I send it to you to do what you please with it.

[It is reasonable—the best theory yet offered, and we may add that the experience of our own propagators this season partially confirms your views.—Ed.]

#### PACKING PLANTS.

BY X. NASHVILLE, TENN.

THOUGH you express a disinclination to go into the subject, it has, I think, some aspects that you would not object to my offering a few suggestions on. In my experience of getting plants from a distance, I have learned to estimate at its full value good packing, and I never object to a reasonable charge for it. In fact, oftener than not, I append as a P. S. to my orders, "am willing to pay double-extra for extra good packing. In fact, I should be sorry to see the rule established making packing a part of the price, as I should fear it would lead to its being too often carelessly done, as is now the case with digging up of trees, when, according to my experience, the roots are frequently badly cut.

But what I wish to say now more particularly is, that you Eastern men often make us pay heavy express charges for heavy packing cases. I have just received a case from near your city which contains by actual measurement three and one third feet only, but which weighs forty pounds. In my freight bill I am charged for sixty pounds at ten cents per pound, so that for the six dollars I have paid, four of them were for the case. I have a case by me of the

same dimensions weighing but ten pounds, strong and well made; if such an one had been employed, I should have been saved three dollars of express charges.

I have often received things in heavy cases that would have done just as well in light mats, saving much thereby of useless lumber freight.

I hope you will not deem this idle "carping" at the "cheats" of nurserymen. I know that there is by far too much of this foolish creation of ill feeling between buyers and sellers, whose real interests, I am sure, are identical; but I think there is room for a reasonable reformation of a bad practice, which has, I am certain, its origin only in a want of thought.

["Trade's" communication, referred to in our last, was of a different stamp to the one above,—merely objecting in general terms to views expressed in another journal. "X." presents something tangible, and we cheerfully give his piece insertion.—Ed.]

#### PRUNING HOTHOUSE GRAPES.

BY J. H., NATCHEZ, MISS.

MR. CHITTY's remarks are very sensible, and come to the point at once. Mr. Bright's system is very good in some cases; if, for instance, the rafters are short and the vines not forced. But I would like to ask how he could make these strong buds, that are not ripe till October, break well and have a heavy crop on next March and April? I have had old grapes myself, in Massachusetts, eleven months of the year, and I have cut a Black Hamburg bunch off a twenty year old vine, five pounds weight, highly colored.

Mr. B. talks about the rafters on trellises half covered with grapes; but a gardener that has a good border, and knows how to use his knife, can keep grapes from top to bottom, covering nearly every square foot of space every year, have his vines healthy and keep them from getting unsightly with spurs for twenty successive years or more. This I have seen done in splendid style at the late *Sir Wm. Engilby's* extensive forcing range of hothouses at Ripley Castle, near Harrogate, Yorkshire, by Mr. Henderson.

They talk about the grapes at some large places near London. There are grapes in Yorkshire far ahead of any thing I ever saw about there—earlier and larger. About fifteen years ago, my brother exhibited peaches in London, in March, from Eatington Park, in Warwickshire. Dr. Lindley referred to them in a leading article in the *Chronicle*. They were sold for five shillings apiece the first time, and sold again to the Royal Family for seven shillings and sixpence apiece. I mention this to show you

that the "crack" places around London, to which reference is so often made, have long been behind the times, as compared with more local places.

#### INDIGENOUS GRAPES.

BY WILLIAM A. WOODWARD, MORTONVILLE, N. Y.

Is it not remarkable that while the desire to produce and introduce new and valuable varieties of grapes suited to our soil and climate has increased until it has become a mania; that so little attention has been given to the vines which the God of nature has planted so profusely around us? and which bring forth fruit in abundance, so that we, like those of the fabled golden age, have only to put forth our hands and partake, as our wants require.

The truth is, we are too much led away in our pursuit of the *summum bonum*, to seek for something that has its origin afar off. I will not say that it has more merit for being "dear bought," though with many that has its influence; no one can introduce a new American seedling grape without great expense, although it can ultimately be cultivated and propagated for mere nothing.

One reason for this unwillingness to believe that a native grape has any good qualities is the too common offensive and repulsive application of the term "Fox" to every one of the native species. An incipient step in putting down "humbug in grape culture" is to define the terms we use, and I call upon intelligent cultivators to unite in frowning down the use of this term altogether, it has no meaning when applied to the grape beyond that of sour. The fox who could not get the grapes he coveted, pretended he did not want them, alleging that they were *sour*. Hence, when we see a disappointed office-seeker, who tells us that he would not accept the appointment if offered to him, we say "sour grapes." The phrase fox or foxy, then, applies only to unripe grapes; beer that is turned sour is said to be foxed. The term has no reference to aroma or flavor, which many of our wild vines possess in an eminent degree. Among wine-makers it is desirable to obtain the rich aromatic flavor of the wild grape to give that indescribable taste to wine known as *bouquet*.<sup>\*</sup> I know that some persons pretend that all native grapes have an aroma (stink) which reminds them of a fox; this is arrant humbuggery. I am a cultivator of flowers, and during the season my rooms are constantly decorated with the choicest from my garden, both for their external beauty and for their delicious perfume. Early in September I gather ripe grapes from a wild vine growing on my farm, and place them in my parlor for a similar reason. They perfume the house, the odor is delicious—is this foxy? is this the smell

of an offensive animal? Bah! if so, commend me to foxy grapes.† Acidity (all American grapes have a larger proportion of acid than those of Europe,) is the proper term to apply to unripe fruit. The *Vitis labrusca* is called foxy when it makes the mouth sore, and is caused by unripeness; when fully ripe it never produces that effect. I suffered extremely from this cause last fall, by eating a single bunch of unripe Concord, voted at the head of the list by the Fruit-Growers' Society of Eastern Pa., and justly considered one of the best indigenous grapes.

I will conclude this paper with an anecdote. Having found, in my rambles about the mountains of the Highland terrace, a wild grape, producing bunches resembling in appearance the Black Hamburg, which were ripe and luscious the first week in September, I showed them to several grape cultivators, who admired them very much, they supposing them to be from my grape-house, grown under glass. One gentleman, who raises grapevines for sale, in particular, ate them with great gusto, and remarked, that "if we could only get such a grape to grow in the open air, it would be worth millions of dollars to our country." Not wishing to mortify him before other persons, I proposed to show him something on the following day, which I thought would suit his fancy, and he brought several friends to examine the new native grape. They all pronounced it good—very good, but, my friend of the day before had only one objection, and that was, he said, peculiar to all native grapes, viz., *its foxy flavor*.

I appeal to all sensible grape cultivators to abolish the use of the word from henceforth.

#### LANDSCAPE-GARDENING.

No. 5.

BY GEORGE E. WOODWARD, NEW YORK.

To prevent any misapprehension of our meaning in these articles, we may as well state that we do not intend to advocate the superior claims of any one profession to practice that of landscape-gardening. We have not said, nor do we intend to say, that the artist, the architect, the civil engineer, sur-

<sup>\*</sup>This is the *Bouquet Oenanthique* of the French. A chemist could make a fortune by preserving the bouquet of our early native grapes. The difficulty with us is that these highly odoriferous grapes ripen five or six weeks earlier than the wine grapes of these mountains, and we are ignorant of the process of preserving this delicious fragrance.

†We have one vine known as the *Vitis Odoratissima*, which is full of flowers, and emits a fragrance like the Mignonette. I have never observed any vine of this species which bears fruit; the flowers are staminate.

veyor, or draughtsman is any more capable of successfully pursuing it, than the gardener himself. But we draw a wide distinction between gardening and landscape-gardening, and classify the latter under two separate and distinct heads, one of which has nothing more to do with vegetable physiology than the practice of law, while the other requires an intimate knowledge of all that comes within the gardener's profession.

We propose to show that the finished practitioner of a high order of landscape adornment requires a thorough knowledge of art, architecture, civil engineering and gardening; that one is as essential as the other; that landscape-gardening is not a gift, but can be acquired by those who have the ambition, energy and determination to succeed; that it is one of the refined and cultivated arts, requiring an educated taste and ability, and does not admit of a medium amount of information of any of the pursuits which it embraces. "Knowledge is easy to him that understandeth." With this explanation of our views, we solicit the most rigid criticism.

In treating the subject of landscape adornment in this manner, we advance no new theories, nor assume any new position; we are simply investigating and illustrating its theory and practice. But to our subject.

It is by no means possible to introduce utility as the one distinct and controlling feature in improving a country place, and it is just as absurd to carry utility to an extreme as it is to carry the ornamental; thus extreme utility in a road or carriage-drive indicates a straight line and a regular ascending grade.

In the natural style of landscape adornment this would be sacrificing both taste and economy, violating the principles of the beautiful, and destroying the harmony of natural lines and surfaces. If we sacrifice utility to economy, we should keep the grade line near the surface, or undulate with it, presenting a straight direction. Now, if we introduce absolute economy and utility in the location and construction of drives and walks, we have admitted an increase of length by rising and falling with the undulating surface of the ground, and this increase will be more or less as we range between a plane surface and one of a very rolling character. Two points of location indicate the position of a straight line, and whatever difficulties in grade, excavation, removal of trees, &c., exist between or beyond those points must be encountered; they cannot be avoided without breaking up the line. Therefore, unless we have a plane surface to deal with, neither utility nor economy, nor both combined, are arguments in favor of the use of a straight line. Now, if the element of beauty be combined with those of economy and

utility, we shall have the principles of a thoroughly practical road, as well as a thoroughly tasteful and inviting one.

It would hardly be deemed advisable to build a road without considering its cost, and if economy be a condition, then the same required increase of length would permit the use of the beautiful and make a really better road, by substituting a single gradient for the undulating grades necessary in the economical construction of a straight avenue. Practically considered, neither an undulating grade nor a curved line adds to the length of a road,—any thing that should enter into a computation between utility and taste. Unless carried to an extreme, the entire loss of distance over an air line need not exceed five per cent., and may be, in long approaches, as low as three per cent.; this is compensated for in the selection of the best ground that shall give uniform grade with the least possible amount of excavation or filling, and that shall avoid the necessity of destroying a tree or a single natural feature, and whose alignment shall be strictly in keeping with the lines of the beautiful. Considered as a matter of utility, economy, or taste, a curved line of road, properly located and adjusted, expresses each quality in a high degree, and the most perfect combination of them all.

The arguments against curved roads are based only on theory, and without a due consideration of all the facts that belong to the subject, and we are not willing to ignore a disposition to express the beautiful, nor in this intelligent and appreciative age do we wish to spend money to express utility.

In the right line style of landscape-gardening, a straight line and uniform grade would be in perfect taste and keeping—it being a rigid demonstration of architectural rules and forms, and utterly at variance with all illustrations to be found in the teachings of nature, as there is nothing, not even a solitary example in the whole range of the picturesque or the beautiful, from which a single conclusion can be drawn justifying the use of the right line or the right angle in any department of landscape embellishment. It is strictly an artificial form, and belongs to one particular school of landscape art, possesses its own rules of taste, beauty and utility, and is fast receding from the position it once held in controlling the entire design and arrangements of the grounds; but it must ever have a recognizable existence as the graduating link between the architectural lines of the house and the high order of beauty so successfully illustrated in the natural school of landscape adornment.

The position is entirely false that presumes upon a higher standard of beauty than that derived from



the study of natural forms, and this is just as applicable to any of the arts of design as it is to landscape-gardening. Any attempt to go beyond the limit of natural beauty meets with a certain failure, and we therefore conclude that any style or school of landscape adornment, founded upon a natural model, must be eminently successful, and that all others must take a secondary position.

#### AN OLD BOTANY AND OLDER BOTANISTS.

BY L.

FRIEND EDITOR, were you ever overcome with the mania for collecting antiquarian treasures in the shape of coins, autographs, manuscripts or books? Did you ever enter heartily into the spirit of a friend who, when he discovered a dilapidated, rusty old volume on the stall of a dealer in second-hand books, clasped it to his bosom with the suppressed exclamation, "It's worth its weight in gold!" If you sympathize with this venial weakness of poor human nature thus longing to commit oneself with the past and realize antiquity, you can appreciate my delight on coming into possession of a tall old folio, in good preservation, bearing the title of "Caspari Bavhini Theatri Botanici Sive Historiæ Plantarum," etc., Basilea, 1658. The work is in Latin, the first of a series of volumes and the only one published, in which the author intended to describe and delineate all the plants at that time known, and to reduce them to their natural order, &c. It is esteemed a very important work, and contains descriptions and numerous well-executed wood-cuts of the grapes, sedges and some liliaceous plants.

The Botanical Theatre, or a History of Plants, of Casper or Gaspard Bauhin, exhibits unwearied industry, great zeal and learning, and in connection with the other publications of the author and his brother John, largely contributed to the progress of botany. In all the qualities that conduce to the advancement of science and render the student of nature the benefactor of his species, the brothers Bauhin were surpassed by none, unless by Linnæus, in their own department. They do not appear to have been men of much originality of mind, and can only be considered useful pioneers; but as such they are entitled to the gratitude of posterity, for as De Candolle has well remarked: "If they did not succeed in discovering any sufficiently methodical manner of classifying their knowledge, they at least rendered the want of some good classification more apparent than it had ever been before."

The illustrations with which this work abounds were designed and painted by Gesner, a century before, and engraved under his supervision. This ex-

traordinary man prepared fifteen hundred figures for his "History of Plants," and at his death they passed into the hands of booksellers who appear to have esteemed them the *sine qua non* for illustrating botanical books. A large portion of them appear to have done duty in an edition of the Epitome of Mathiolus in 1586 and 1590; again in the German Herbal in 1609 and 1678, and adorn the present Theatrum Botanicum of 1658, to re-appear finally in a more recent edition of 1744. The publisher, Joannes Konig, of Basle, true to the ruling desire among the trade to present his works as novelties, does not inform his readers that these pictures have graced a half-dozen publications through two-thirds of a century. Though his readers may not have thanked him for palming old plates upon them, we will ever prize them the more highly as the work of that most eminent scholar and naturalist who was so shining an example of the truth of the remark, that those who have most to do and are willing to work, find most time.

Conrad Gesner, one of the most learned and industrious of men, projected a Historia Animalium, in which he had for his object nothing less than a general history of animated nature, concentrating and critically revising all that had been done before his time, enriched with his own knowledge. Four well-filled folios of this work were published. This might have been considered an evidence of the most persevering and praise worthy industry if it had been the production of a recluse whose whole life had been entirely spent in the task; whereas, it was only one of many books written by a man who gained his subsistence by perhaps the most harassing and time-consuming of all professions, and who died in harness when he was not forty-nine years old.

Zurich was the field of his practice, which enabled him to cultivate his tastes for natural history. He founded and supported a botanic garden, collected a fine library, made numerous drawings, and gave constant employment to a painter and an engraver on wood. In the most of his laborious profession, the astonishing industry of the man found time for the principle works on which his fame rests. He lived honored and respected for his talents and benevolence in his native town, until an attack of the pestilence, which he had successfully combated in others, carried him off in the prime of his strength and usefulness. On the approach of death, he desired to be carried to his museum, where, amidst the treasures he had collected, and surrounded by the old familiar objects of his study, he breathed his last in the arms of his affectionate wife, for whose conjugal love and piety contagion and death had no terrors, with the calmness of a Christian philosopher.

The cuts in this old "Bauhin" are from the hand

of this devoted student of nature. They will not, however, compare favorably with a wood-cut of Bauhinia upon the page before me. This name was applied by Linnæus, very happily, to commemorate the merits of the two Bauhins, for the genus is remarkable for its leaves, being generally divided into two twin lobes. The species are usually twining plants, found in the woods of hot countries, often stretching from tree to tree like living cables, forming with other plants an almost insurmountable obstacle to the traveller who would penetrate the recesses of a tropical forest. The flowers are often very beautiful, and the plant has long been cultivated in the hothouses of Europe, but is too impatient of the treatment received to flourish and produce its noble blossoms. Nor will these cuts of our old folio bear comparison with a beautiful cut of the Gesnera grandis, now before us. The Gesneraceæ inhabit the damp, hot parts of South America; in many cases overrunning trees with their rooting stems in the manner of the ivy. The Gloxinias belong to this order.

Well deserving was Gesner, the Pliny of Germany, of the honor of an order of botany higher than any order of knighthood; he also first suggested that there existed in the vegetable kingdom groups or genera, each composed of many species, united by similar characteristics of the flower and fruit. Taught by him, botanists began to understand that the different families of plants have among themselves natural relations, founded upon resemblances and affinities, and that the most obvious are not always the most important. The distinction of species, the establishment of genera and of natural families seemed to follow, of course, after these principles were once established. Clusius was, however, the first to describe plants with precision and accuracy, neither faulty from superfluous terms, nor from omission of important circumstances.

The common tulip of our gardens, the Tulipa Gesneriana, was named from Gesner, and the S. Clusiana, an allied species, from Clusius.

Carolus Clusius, or Charles de l'Ecluse, was another devoted botanist, most laborious and useful, and ranks among the most celebrated of the 16th century. He was born at Antwaht, 1526, resided and travelled in France, Germany, Spain and England, studying the plants of these countries, and became curator of the botanical garden at Vienna, by invitation of the Emperor Maximilian II. He afterwards became Professor of Botany at Leyden, and died in 1609.

Few men suffered more in following a favorite pursuit than Clusius. He has on this account been called "the martyr of botany." As early as his twenty-fourth year, through excessive fatigue, he contracted a dropsical complaint; at thirty-nine, he broke his right thigh during one of his botanical

rambles, and a short time thereafter, his right arm. Whilst at Vienna, he dislocated his ankle, and eight years afterward dislocated his right hip. For this he was treated unskillfully, and ever afterwards was obliged to wear crutches. Want of exercise brought on other diseases, and to crown all, through over-exertions in early life, he had contracted a hernia which troubled him to the end of his days. But his bodily infirmities never diminished his mental activity, and he continued teaching and writing to the very last. Not a very encouraging experience for the young botanist, the reader may remark, but still an example of the pursuit of science under adverse circumstances, highly creditable.

Clusia, a genus of plants of the natural order Guttifera (balsam trees) was named after Clusius. They are trees and shrubs, usually parasites, and yielding a viscid juice of a balsamic flavor. The Clusia rosea is a native of Guiana, St. Domingo, and other parts of tropical America. The whole tree is very handsome, and but "few fruits offer so beautiful a piece of mechanism," says Loudon. It grows on rocks and frequently on the trunks of trees, where its glutinous seeds, deposited by birds, take root as does the miseltoe. If they do not find sufficient nourishment, they spread on the surface of the tree till they find a decayed hole or other lodgement wherein is deposited a small portion of soil; the fertility of this being exhausted, a root is discharged from the hole till it reaches the ground, where it fixes itself, and the stem becomes a large tree. Why this genus was selected to honor Clusius, we know not, unless in its reliance upon others for assistance to aid its growth. It may be thought to resemble the botanist, who, in his late years became so infirm and dependent. Perhaps the nomenclator thought that a tree producing balsam should be selected to commemorate him who suffered so much in the preservation of his favorite science, and so often needed its healing aid.

Cæsalpinus, who was contemporary with Clusius and Gesner, proposed to form species into classes, though his method proved imperfect, having neither simplicity nor unity. Cæsalpina brasiliensis, the Brazil wood so largely used in dyeing, commemorated this Florentine lover of nature.

John Bauhin, the elder brother of Gaspard, a friend and pupil of Gesner, composed a history of plants, evincing great learning and accurate investigation. Clusius and John Bauhin had imagined something like a genus of plants formed by the grouping of similar species, but Gaspard Bauhin expressed this more decidedly in remarks upon generic descriptions. His work, the old folio before me, the result of forty years' labor, was thus of great importance to Linnæus, in preparing his system of botany, and leading the way to the vantage ground on which we now stand. I prize this old volume.

## The Gardener's Monthly.

PHILADELPHIA, JUNE 1, 1861.

✍ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

✍ Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

✍ Our Subscription list for Rathvon's Entomological Essay is fast filling up, and as we have only intended publishing a limited number, we would desire all those who may wish to have the work, to send their name and address as early as possible.

## INFLUENCE OF CLIMATIC CHANGES ON FRUIT CULTURE.

It is a well-known fact that near all our older settled towns, and in long cultivated districts, it is much more difficult to raise fruit than it was at a remoter period. Not only is the crop annually more uncertain, but many diseases affect trees that were unknown years ago. This fact naturally suggests the inquiry whether more favorable circumstances for the general health of fruit trees formerly existed than now do; and, if so, what were they?

The popularity that has been obtained for chemical studies, has led most students of Pomology to look to the soil for a solution of our difficulties, and has led to a pretty general belief that in old and long cultivated districts disease and unfruitfulness arise from the exhaustion of some specific matters in the soil; but when we see, as we often do, tracts of land which have till our time retained their virgin forests, newly broken up and brought into cultivation in those districts, and when planted with fruit, precisely as the successful orchards of the past age were, and yet fail,—although we may admit that the absence of some particular element may produce disease in some instances, we cannot agree that the reason is sufficient to cover the whole ground of inquiry, and we have to look beyond this for some more wide-spread and general principle of evil, and it proves, in most, perhaps all cases, that no explanation is offered, but some facts can be adduced to show it not universally applicable.

The most remarkable instance of freedom from disease in fruits, is when they are under orchard-house cultivation. So far as general experience goes, the peach is free here from the yellows, the blister, and the curl; the plum produces no knots; the apricot gum; or the grape suffer much from mildew or

rot; and all of this results from the single fact of the trees being enclosed in a glass house. If we ask ourselves what is the difference between trees grown in a house and others grown in the open air, we can only answer that the house necessitates a moist atmosphere, while the external air is much dryer. Some might say the house is guarded against sudden extremes of temperature, but it is not so. In true orchard-houses, where no artificial heat is applied, the mid-day temperature is often, in April, 80°, and the night temperature but a degree or so above freezing point; an extreme, and with greater rapidity of change, that is seldom or never experienced by trees in their natural season of leafing, as the instance is supposed to be; so that we have still no alternative but to refer to the moist atmosphere for their preservation from disease. It has been recently suggested by an experienced writer in the *Gardener's Monthly*, that it was not so much the regularity of moisture in a graperly that enabled a grape to resist mildew, which would be thus destroyed in the open air, as it was the absence of dew under such circumstances; but it amounts to the same thing, as those who are acquainted with the theory of dews know that there can be no such deposit, until a comparative atmospheric dryness has previously existed. Look at the subject in what manner we may, we can at last attribute the superior health and freedom from disease of orchard-house trees only to the fact that they are grown in an atmosphere more saturated with moisture than are trees grown in the open air. Horticultural science supports the practical inferences.

It is scarcely credible what an amount of moisture a plant exhales or perspires. If a healthy grape vine, in a twelve-inch pot, be taken from a vineyard in July, rather dry, watered and weighed, then set in the open air, and the pot surrounded by non-conducting material, so that what moisture evaporates shall be through the foliage, we shall find on re-weighing at night that for every five hundred square-inches of foliage-surface, there has been a loss of about *two pounds* of water, more or less, according to the state of the weather. All of this moisture passes through small pores, or stomata, on the surface of the leaf, and as if nature herself would teach us the importance of studying the effects of evaporation, we find that those plants naturally adapted to moist, shady places, have their leaves with an abundance of small stomata, while plants she has formed for hot, dry places of growth are furnished with thick leathery leaves, and few stomata to admit of evaporation.

As in animals, so with plants, it is well known that while a moderate perspiration is conducive to health, and, in fact, necessary to the system, excess-

ive and long-continued perspiration, though the system be continually and regularly supplied with liquid to make up the deficiency, is, nevertheless, exhaustive of vital energy, and ultimately destructive to life; and the perpetual object is rather "not to drink too much," and to check evaporation by coolness and shade.

In the vegetable family, where light and heat are so essential to health, the moister the atmosphere, when plants are in active growth, the more is evaporation checked, and the system loses no more than is just necessary to keep the vital forces in proper action; but the moment exhaustion commences from over-perspiration, fungi and the other destructive agencies of nature stand ready to commence their dissolving duties, and the diseases we lament are the natural result.

On a large continent like ours, where most of our fruit districts are removed from contiguity to large bodies of water, agricultural progress must, necessarily, render the atmosphere dryer in the course of time, and fruit-growing be less successful in a corresponding ratio, unless precautions be taken to adapt practice to the changed circumstances. The most vigorous, luxuriant and healthy vegetation is always in swamps and tropical countries, where rains and a moist atmosphere are particularly characteristic, and the climate it produces almost unfitted for human life.

There is the same mutual action between heat and moisture in the earth and atmosphere as in other branches of creation; the degree of one is regulated by the condition of the other, and there is no doubt that the failure to render meteorology a real science—in other words, to find the fixed laws that regulate the changes we experience, arises from the overlooking of this fact. Records of atmospheric facts have been carefully kept for years, but the condition of the earth at the same time has been neglected.

The moisture in the atmosphere is regulated by the heat of the latitude, but, on the other hand, the heat of the atmosphere is in a great measure tempered by the quantity of water evaporated from the soil. The drier the air the colder is the climate; and, of course, the drier the soil, the drier the air becomes. Records of many years show how great is the difference between the moisture in the air of cold climates and that of tropical ones. About twenty-four inches of rain per annum is a fair average for London. Approaching the tropics nearer, say Algiers, about twenty-seven; the middle of Arkansas, fifty inches; until, reaching the equator, about one-hundred inches per annum becomes the average fall. Such a large amount of moisture could not exist in the atmosphere without the aid of excessive luxuriance in the vegetation of the equatorial region,

which by its millions of vegetable pores, fed by strong and rapid-growing roots, brings up water from many feet below the surface, and gives it out to the atmosphere freely, under the influence of the tropical sun. If the trees were removed from such a region, the surface of the soil would become strongly heated, and all the moisture the air would receive would have to come from the few inches beneath the surface, drawn up by the slow process of attraction as the surface dried; and as evaporation is well known to favor coolness, such a process would, necessarily, soon show a marked effect on the climate.

That it is really the moisture of the atmosphere that regulates climate is also shown by a reference to other countries; London, though near 50° north latitude, seldom has the thermometer below 10°, while Philadelphia, in 40°, at 10° nearer the equator, ranges about zero. Surrounded by the sea and other moistening influences, less evaporation, and consequent loss of heat from the soil and its vegetation, takes place than with us. Even when the thermometer does fall very low, such aid does the moist atmosphere afford the vegetation of that region, that it is rendered capable of resisting the loss of heat, that vegetation in our dry climate would certainly suffer. The *London Gardener's Chronicle* has recently stated, that although the thermometer fell there, last year, to 4° below zero, the *Camellia japonica* stood out, unprotected, without injury. In Philadelphia it is killed just below the freezing point,—even the hardier *Euonymus japonica* cannot struggle through.

We have said that a moist climate favors a vigorous, luxuriant, and healthy vegetation; and shown that such a vegetation reciprocates by rendering a climate moister, in turn, than it otherwise would be; and the inference is palpable that with the progress of draining, cleaning off of forests with its vast amount of perspiring foliage, agricultural improvement, and wise sanitary regulations, the growth and vigor of such vegetation as prosper best in a moister climate must, in some degree, decline,—and what is the remedy? We must endeavor to suit varieties to the altered conditions, selecting such as have fewer pores, harder leaves, a firmer texture of wood, and are less liable to over-perspiration; choose shadier places, protect exposed spots by shelter, either of fences, buildings, or trees; keep soil deeply stirred on which the trees are to grow, that a good supply of moisture may be always in reserve; plant near the sides of water-courses, dams, running streams, springs, &c., which favor a moist atmosphere, for choice fruits; and where the expense of care is not so much an object, syringe freely, and employ the garden engine about the trees, when dry weather is "the order of the day;" look after kinds

that ripen their wood early in the season, so that they have not a profusion of soft, succulent wood and leaves when our summer season brings its dry time; mulch freely about trees, and occasionally water the mulch, so that the sun, by drying the mulching surface, keeps a continual vapor arising about and through the branches of the tree above it. These, and many other matters that will readily suggest themselves to such reflecting minds as most good gardeners possess, will do much towards bringing fruit-culture back to the successful times of our forefathers, and compare with the good times all those of our present day enjoy in the newer soil and *climate* of the far-west territories.

If any thing more were necessary to carry conviction to the minds of our readers that the interruption or obstruction of the proper processes connected with the respiration of plants is the main cause of most of our modern difficulty of raising fruit to the perfection that our forefathers did, we could produce special illustrations in abundance, but we will refer to one—the grape-vine. A cubic-foot of the ripe wood of the *foreign* grape weighs about four pounds; but the same bulk of the wood of the native grape weighs nearly *six pounds*. With different varieties the results vary, but the average relative proportion is about the same. One would suppose from this, without any knowledge of the fact, that the large, coarse cells of which such wood must be composed, would perspire, or evaporate moisture much more easily than the smaller-celled and more compact wood of the native vine, and that the liability to disease in a dry atmosphere would be much greater in the foreign than in the native variety. Experience shows that it is just so. Side by side, the tender-celled foreigner "wilts" on a dry day, and in an exhausted soil, before its hardier neighbor, and mildew, rot, and other diseases follow with proportionate speed. But remove the said vine to a vinery where a moister atmosphere prevails, or suffer it to run over a tree where the ten thousand pores of neighboring friendly leaves perspire and make a sort of artificial vapor about the vine that it never knows on a trellis, stake, or frame; and the extra vigor, health, and luxuriance is striking and complete.

We have occupied more space with the subject than we usually devote to this department, from a sense of its great importance, and hope the scientific pomologist will give it the attention we think it well deserves.

#### THE OREGON SYCAMORE MAPLE.

Of all trees for general purposes, the maple class seems best adapted to our climate. As shade trees, the Red, Silver, Sycamore, Norway and Sugar are deservedly popular. Very few of the

newer ones are likely to interfere with their reputation, unless, perhaps, it be the Oregon Maple, *Acer macrophyllum*. In England it is merging out of



the class of "new and rare plants," and becoming well known and appreciated. For avenues it is said to be very much esteemed, and extensively planted.

In our own country it is not yet much known, and has not been planted to any extent, principally through its high price, and again from a mistaken idea that it is not hardy. Newly introduced or sickly plants of even the hardiest general character, frequently get killed, and we have no doubt that when plants of the Oregon Maple die, it is from this cause. The tree from which we made the above sketch last summer had been growing near Philadelphia the past three seasons in an exposed situation, and unprotected.

The leaves are very large,—our cut is but one fourth the width of the leaf from which it was taken; but it will serve to show the general form sufficiently to distinguish it. The whole habit and appearance, both of leaves and tree, give the appearance of a very luxuriant form of the English Sycamore Maple, *Acer Pseudo-platanus*.

It is a native of the whole Pacific Coast, from upper California to Frazer's River. It is said to have been first described by Pursh, though Menzies

and the expedition of Lewis and Clark are said to have also discovered it.

In its native country it is found in the alluvial soil of river bottoms, and ranges from fifty to ninety feet high.

It grows readily by layers of the strong summer shoots, and there is no reason why it should not soon become plenty and cheap.

### Scraps and Queries.

Communications for this department must reach the Editor on or before the 10th of the month.  
The Editor cannot answer letters for this department privately.

**DRYING SPECIMENS OF PLANTS.**—A "Subscriber" says: "Please inform me through the *Monthly*, which are the best and most convenient magnifying-glasses or microscopes to be used in botanical analysis, and cost of same. Also if there is any cheap form of press manufactured convenient for applying pressure to drying specimens."

[A pocket lens, magnifying four or six times, is commonly used for field examinations, costing from one to three dollars, and may be obtained in all large towns where optical instruments are sold.

As we are sure in these days of revival of botanical studies there must be many besides a "subscriber," who are interested in the subject, we extract details in full from Balfour's Manual, an English work:

"The *Vasculum* is a japanned tin box, which should be of such a length as to receive a plant the full size of the herbarium paper; it ought to be convex on both sides; its capacity may vary according to the fancy of the collector, but one about 20 inches long, by 8 or 9 inches

wide, and 5 deep, will not be found too large; it should be furnished with a handle at one end, and a couple of rings, through which a leather strap can pass to attach it to the shoulders; the lid should be large and fasten with a little catch.

"The *Trowel, or Digger*, should be about 7 or 8 inches long; the spud  $2\frac{1}{2}$  inches long,  $2\frac{1}{2}$  inches wide at the top, narrowing gradually to 2 inches at the bottom. It should be provided with a leather sheath, fastened to the waist by a strap, and the trowel also attached by a long string.

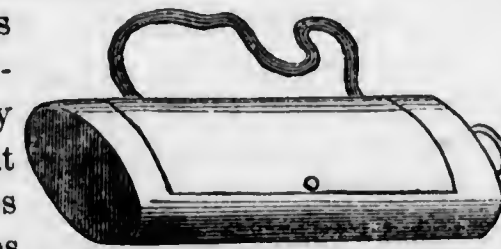
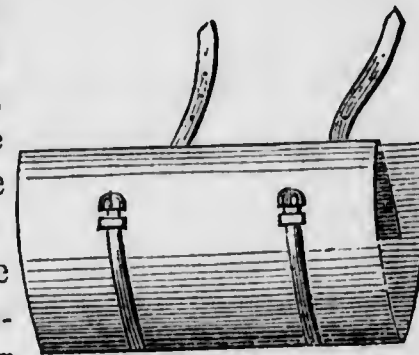
"The *Field-book* is intended to press such specimens as will not carry home without undergoing injury. Its outer cover may be formed of two very thin boards, and secured by straps so as to

give pressure. It should be inclosed in an oilskin case to protect from wet; and may be carried in the pocket, or attached to the neck by a string.

"*Drying Paper.*—We have found Benthall's paper to be excellent for this purpose, and always employ it. A sufficient stock should be provided, so as to have one set of papers drying whilst the rest are in use. A convenient size for general purposes is about 18 or 20 inches long, and 11 or 12 broad. It is as well, however, to be provided with more than one size.

"The *Wooden Boards* should be the exact size of the paper; twelve should be three-eighths of an inch thick, and two, which are to be employed on the outside, three-fourths of an inch. Some prefer sheets of tin to the use of boards on the inside, and they are certainly lighter and more convenient for carrying when on an excursion.

"The *Collection* should always be performed during fine, dry weather, as plants never keep well when collected wet with either rain or dew. When practicable the entire plant should be collected, and the roots be carefully washed to remove any dirt that may adhere to them, and then dried. In cases where the entire plant is too large for collection, such portions as best illustrate its *generic* and *specific* characters should be gathered. In most cases it is unnecessary to have specimens of both flowers and fruit, particularly in the orders Leguminosae, Umbelliferae, Compositae, and others. In cases where the flowers appear before the leaves, it will be necessary to preserve the young twigs bearing the fully-developed leaves as well as the flowers; and when the sexes exist in separate flowers, both male and female flowers should be collected. When bulbs or tubers are abundant in mucilaginous matter, it will be found advantageous to enclose them in a little paper, so as to keep the drying paper free from dirt. In the collection of Ferns two fronds should be selected,—one to exhibit the under surface with the re-productive organs, and the other to show the upper surface; a portion of the rhizome should also be preserved. Grasses and sedges are generally easy of preservation; the entire plant should be collected, and when it exceeds the length of the paper it may be bent and rebent without injury. If on returning from an excursion, circumstances do not admit of immediate pressing, avoid putting the plants in water, *they will keep much better in the vasculum*; and should the weather be dry and sultry, they may be sprinkled with a small quantity of water. When portions of shrubs or plants of woody texture are required to be



preserved, the bark should be slit up and the woody portion removed.

"The Pressing.—In reference to the best means of effecting this branch of the process, the greatest difference of opinion exists. The pressure however ought not to be less than one hundred pounds, and heavy weights should be used to effect it. A rope, tightened by a rack-pin, instead of leather straps, attached to the boards used as a press when on excursions, will be found very serviceable, as in case of an accident the straps may be difficult of replacement. Withering considers the pressure should be gradual, and this accords with our own experience. Some make use of a press, and obtain the requisite degree of pressure by the employment of screws or wedges; others adopt the more simple contrivance of a flat board and some books, which we have found to answer very well. We have even heard of a gentleman acting the part of a press himself, by reposing at night on the plants he had collected during the day.

"In our opinion, one of the simplest and best methods consists in the use of a box exactly the same size as the paper and board employed; the requisite degree of pressure being obtained by the gradual addition of pebbles or sand, and of these we have found the former to be the more convenient.

"Arranging and Drying.—First place a parcel of four sheets of the drying paper upon one of the two thicker boards; then take a sheet of the drying paper and lay it evenly upon it; and having selected a plant for preservation, place it on the inside of the right-hand sheet, and arrange the different parts of the plant so as to illustrate its principal generic and specific characters, imitating as much as possible the natural appearance of the plant; as each part is arranged, retain it in its assigned position by means of small pieces of paper about four inches square, upon which a small weight may be placed. Having completed the arrangement of the plant, remove the weights one by one, and allow the fly-sheet to cover it; upon this place another parcel of four sheets, and proceed as before to lay out another plant. When as many as a dozen plants have been arranged in this manner, place one of the thin pieces of wood or tin upon them, and proceed as before until a sufficient number have been prepared for pressure; now place upon this one of the thick outer boards and the box containing the pebbles, which should be added to from time to time that the pressure may be gradual. After twelve hours' pressure, remove each plant with the forceps to dry paper, and proceed in exactly the same manner as before described, taking care to open out all crumples and rectify previous mistakes, arranging the plant as much as practicable in imitation of nature. After intervals

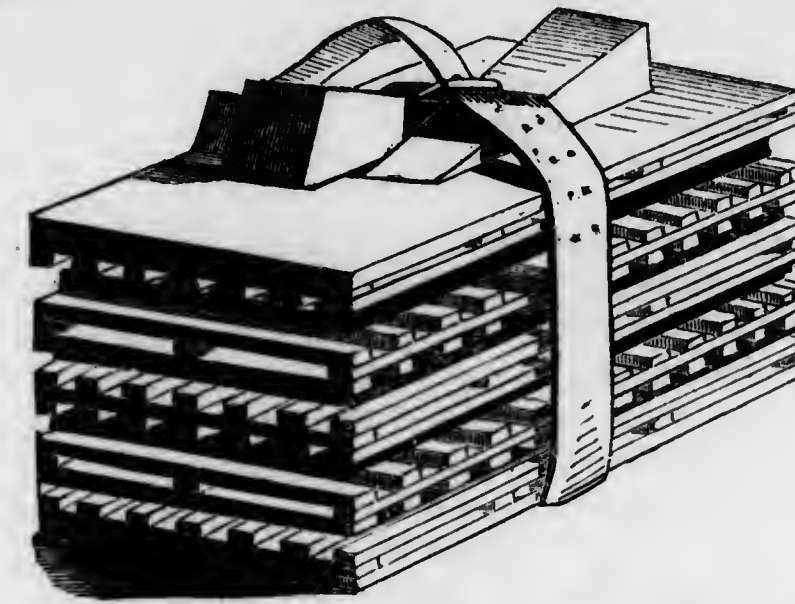
of twelve hours, the same process should be repeated, gradually increasing the pressure until the plants are dry, which will generally be the case in a week or ten days, but varies with different plants. Some will dry with only one or two changings, whilst others occupy a long time; and some, as Orchids, Sedums, and Sempervivum, are exceedingly difficult to dry at all. To accomplish the drying of these, heat is generally employed; and they are submitted to a process of ironing with much success. Some speak very highly of this mode of proceeding in general, being of opinion that it preserves the colors of the flowers better than the ordinary process. From our own experience it seems highly probable that different flowers require particular temperatures to succeed well in preserving their colors; and the method of treatment peculiar to each case is only to be acquired by practical experience. Some succeed in preserving the colors very well by the use of heated sand.

Preservation.—When the specimens have been sufficiently dried, they should be carefully transferred with the forceps to a sheet of good thick white paper, in which they may either be preserved loose, or fastened to the right-hand sheet of the paper by means of thread, glue, or gum. Of these we prefer the former, as the two latter are apt to attract insects, which will in a very short time completely destroy an herbarium; to guard against their attacks, it is as well to brush the plants over with a spirituous solution of bichloride of mercury, consisting of 3 ij. to the Oj. Some prefer keeping the plant loose in the paper; they are certainly easy of examination under these circumstances. The botanical name, natural order, habitat, and date of collection, together with any other note of interest, should be written on the right-hand corner of the inner side of the sheet."

To make the article complete, we subjoin the following from a recent number of Dr. Lindley's *Gardener's Chronicle*:

"The specimens are first placed between sheets of paper (any will do, Benthall's is best), until all their moisture is expelled. In this process they lose their color, but retain their structure, and often the form of even delicate parts. When they are thin they dry quickly in a room, but when fleshy they are difficult. This difficulty is much diminished by steeping them for an hour in a strong solution of corrosive sublimate before they are first pressed. The same process may be advantageously adopted with all plants in damp weather, when it is difficult to prevent specimens from rotting; it will also destroy the disposition to throw off their leaves, which is uniformly shown by some plants, especially conifers and heaths. The drying process by shifting plants

from sheet to sheet being tedious, a ventilating apparatus, of which the following is a representation,



is now very commonly used. You may make it yourself, with a couple of boards and a bundle of laths; and you can use a piece of rope instead of a strap. At the time of drying, a plant should be accompanied by a written label, stating its name, when and where it was gathered, and any other particulars which are not discoverable by an examination of it. A collection of dried plants, if carefully formed, perfectly kept, and correctly named, is invaluable to a student. The mode of keeping a herbarium is this: having formed a collection of species thoroughly dried, let them be washed with a large camel-hair pencil, dipped in spirits-of-wine, half saturated with corrosive sublimate, unless they had been dipped in a solution of it previous to drying. When parts are fleshy, or flowers are collected in heads, such parts should be soaked with the tincture.

Having glued down as many specimens as may be convenient, take them carefully out of the waste paper, and look them over to see that none of the parts are loose; if they are, fasten them down with the slips above-mentioned, which are so adhesive that it is merely necessary to moisten and apply them. In all cases, too, strap down the main stem, unless it is covered with hairs, in which case straps are superfluous. The next operation is to write near the lower right-hand corner of the half-sheet the name of the plant, and in some convenient spot near the specimen itself the place in which it was gathered, or any other particulars connected with it. In small local herbaria printed forms or tickets are sometimes used, in which the name and all other particulars are included; such tickets should be pasted (not glued) upon the lower right-hand corner. The next point is to arrange the half-sheets in genera. Sheets of stout brown paper, cut a little larger than the half-sheets, must be provided as covers. At the lower left-hand corner of each paste a slip of white paper, and write upon it the name of the genus, to

which some add that of the natural order. Then put into each generic cover all the half-sheets belonging to it, and the operation is complete. The right-hand tickets or names on the half-sheets give the species, and the left-hand names on the whole sheets give the genera; and either can be rapidly referred to without the one interfering with the other. To receive the covers of genera, wooden cabinets are constructed, with shelves, on which the covers can be placed according to their natural orders.

ADVERTISEMENTS—Henry Kohly, Greenville, Ill. writes:—"I feel called upon to give you the particulars of a very unpleasant thing that happened to me with one of your advertisers. I will state it as briefly as possible and leave you to decide what is best to be done. Induced by the cheapness of grape cuttings in the card of J. B. Good, page 19 of the February number of the *Monthly*, 1861, and besides, encouraged by his Essay on the "Marion Port Grape," in the same issue, where he kindly offered, free of charge, a few cuttings of the same to applicants, I concluded, from the whole, that he was an honest man, and sent him, the 11th of February, \$2 in bills, one on a Canadian bank, requesting him to send me for the same, cuttings of five or six of the varieties quoted in the same card at \$2 per hundred, at the same time asking for one of his catalogues, and prices of other articles he might have for sale. Well, I waited for an answer (which you will find enclosed)—to the last part, but without any allusion to the cuttings nor to the money sent. At first I did not notice it, and expecting every day to receive the parcel, I wrote him a letter mailed the 11th of March, enclosing one dollar again for 1 Delaware, 1 Franklin, and a few Delaware cuttings in accordance with his card on page 3, January issue, requesting him to send them along with the first order if not already sent. I waited long and had no answer, and nothing came. Now, I thought something was wrong somewhere, and wrote to him on the 28th of March for an explanation—whether he had received the money or not; or whether, if he had received it (as I think he did, since he received and answered my letter), he intended to swindle me out of it, and requested an immediate answer. To this again there was no reply, though there has been time enough for it. Now, Mr. Editor, I apply to you to see his answer and handwriting; certainly you have some specimens of his "genuine" in your possession. Compare them. Has there been a forgery in the answer, or is the man a swindler? If such is the case, he ought to be denounced to the readers of your valuable paper. One dupe is enough, without letting others fall into the same snare. But then, as is the case with me, it has a tendency to weaken our

Western liberality and confidence towards Eastern nurserymen; and for one swindler, many honest and upright men will suffer from our want of confidence.

By the way, I would just observe to you, that our esteemed friend, J. Smith, when talking of Highland (twenty miles from here) as of a "village," is rather funny; for, as compared with the place where he and I hail from (Greenville), though it is a county-seat and incorporated as a town, might well be called a hamlet. Highland being in wealth, population, commerce, industry, about thrice as much as Greenville, and more enterprising, to boot. But I fear my letter is too long already, so I conclude to stop now and present you my respects and well wishes as the editor of a very useful paper, to all interested generally and to me in particular.

You will notice the date of my first letter was February 11th, 1861, based on his February's card; and his answer to my letter says, "Yours of January 30th,"—an impossible thing, as the card alluded to did appear but in February's issue. This discordance of dates might, perhaps, lead to a clue, as I never wrote him—in fact never noticed his name before that time."

[The following is the letter referred to, and accompanying the above communication:

"York, Pa., February 16th, 1861.

MR. H. KOHL: Dear Sir.—Yours of January 30th was duly received. My circulars are all sent out, and I have no new ones printed yet, but the prices of grape-vines as per notice in *Gardener's Monthly*, are the lowest that I can furnish them at.

Yours truly, JOHN B. GOOD."

We have, as our readers know, hitherto declined to interfere between advertisers and their customers, principally because there are often faults on both sides, or at least each party generally thinks the other in fault, and it is impossible for a journal like ours, without a knowledge of all the facts, to decide justly. Moreover, we think that in dealing with a stranger who advertises in any paper, it is not necessary to lay aside the ordinary rules of caution that we certainly should employ in dealing with any other stranger whose sign we might see in a public street. Under no circumstances is it prudent to send money to a party with whose general reputation we are unacquainted. While thus placing our advertising columns on the freest basis, and denying the right of complaint through the reading pages of our journal when, disregarding proper caution, parties find themselves deceived, there is no reason why we should continue to insert advertisements from parties who do a general business on dishonest principles. It is our duty thus far to protect our readers. We have

received many letters from parties all over the Union, similar to this one, and we select it for publication because it seems to tell a straight-forward story, and to have just grounds for it. If Mr. Good has any defence to make, brief and to the point, we shall do him the justice to insert it.]

VERBENAS THROUGH WINTER—*S., Montmorenci Falls.*—Verbenas are the most coquettish of garden flowers. When in the right humor they will strike roots into almost any soil with genuine affection; but many with yourself find them too often heartlessly unreliable. We believe the best way to bring them to terms is to layer a few into pots of rich soil in June or July. About the first of August, cut them off and *cut down* the layered plants so as to make them send out a new young growth, which will usually strike root well and make plants that will keep over the winter without much difficulty.

HANGING BASKETS—*J. S., Neosha, Dodge Co., Wis.* writes:—"I am a new subscriber to your valuable paper. I would like to know the process of raising and managing plants and vines in baskets in a greenhouse, as I would like to practice on them but do not understand the mode of treatment. If you would give me the process through the columns of the *Gardener's Monthly*, you would oblige me very much, and perhaps some others that are as verdant as I am."

[Hanging baskets, when made of open work, should first have a layer of moss, with the green-face outermost, placed as a lining all around on the inside of the basket, and any light, porous soil filled inside, in which to set the plants.

The only peculiar after-treatment in a room or greenhouse is not to keep them in any very dry, sunny place, but yet in a spot where they will have all the light possible. They will generally require a daily syringing, and about once a week should be taken down, and for a few minutes entirely immersed in water. Insects are troublesome at times, and soon disfigure basket plants, especially the minute red spider; these should be looked after on their first appearance and destroyed at once.]

THE WEATHER AND THE CROPS.—We owe our thanks to many friends who have kept us posted on the state of the crops; but as most of these generally favorable notes were before May 1st and 2d, we presume the frost of those dates will tell a different tale in most localities. Here, strawberry, cherry and all fruit blossoms which expanded were totally destroyed.

NOMENCLATURE OF FRUITS.—A respected correspondent writes, inquiring whether the *Gardener's Monthly* does not commit the same fault it objects to in "works of standard authority," namely, "admitting descriptions of fruits from irresponsible sources" into its pages; and refers to our notice of the Missouri Janet, at page 143, where the source is not named, as an illustration.

The aims of a newspaper or magazine are different from those of such a work as we had reference to. It is the duty of a journal to give its readers every bit of "rumor," "gossip," "stray waifs," or items that *may possibly* have an influence on horticulture. An opportunity is then afforded to "compare notes," and in a few weeks the *exact facts* can be ascertained and corrections made if necessary. But in such a work of "standard authority" as we think pomology ought to possess, if it now has not, nothing doubtful should be admitted. Its duties should commence where those of a magazine end. Certainly, if we were editing a work on fruits, two-thirds of what we think perfectly right to publish in the *Gardener's Monthly* would be excluded from its pages. It should be emphatically a work of reference, not a mere receptacle for stray news.

Our friend says, "while writing, I make the suggestion, though not for publication;" but as others may entertain the same idea as he has, it is but right that we make allusion to it.

Since writing the above, we have received a note from Mr. Downer, inquiring whether our regret that "descriptions from irresponsible sources should be admitted into works of standard authority," was intended for him. We never write by inuendoes, and mean only what we say. Mr. Downer has no cause of complaint, or we do not understand the object of a descriptive book of fruits. A party may be perfectly competent to describe a fruit, and his honesty and credit in the matter of its being a seedling, and, in his opinion, a distinct fruit, be of the highest standing; but that it is *certainly* distinct from all others, and distinct enough to be embraced in a standard work of reference on fruits, should, we think, rest, in a great degree—some little at all events—on the "responsibility" of the author, and we consider all other parties "irresponsible."

The mere fact of a reference to the authority from whence a description is taken, does not remove the responsibility, unless we are to understand the writer to be a mere "compiler" of the opinions of others, and not the "author" of an original work. The works we allude to are not viewed as "compilations." At any rate, nine-tenths of the community receive a fact as such in "Fruits of America," not "because it was contributed by Mr. Downer," or any other party, but "because it is in Downing."

This is as it should be, and it is with the best intentions of adding weight to such excellent authority that we have thought it our duty to suggest to pomological authors, that the public look to them for a reasonable amount of responsibility, and very little to their contributors, however excellent they may be.

GRAPE TRELLIS—*B. F. B., Cleveland, O.*—"Being one of your subscribers, I take the liberty to ask whether it is necessary, when a grape vine is planted against a house, to have the trellis some inches from it? Is six inches enough, or how much?"

[Grape vines seem to thrive best when they are growing between the wall and the trellis; but they are seldom trained this way, as it is so often desirable to take the whole vine down from the trellis for various purposes, and the rule is to grow them on the outside; in which case, the trellis may be as close to the wall as convenient, to tie the shoots to.]

GAZANIA SPLENDENS—*P. W. P.*—Is the *Gazania splendens* half hardy? Can *any* out-of-door protection keep it through the winter?

[The least frost destroys it, but it does not require much heat above freezing point to keep it through the winter.]

INSECTS—*J. H., Madison, Iowa.*—Your insects from an apple tree were crushed to a paste when they reached us. Insects should never be sent loose in a letter, but be enclosed in a pill-box.

GRAPES—*Wm. Young, Hookstown.*—Will you please to tell me, through your valuable journal, what causes those specks on my grape-vine leaves? They done exceedingly well last year. They are four years old,—bore a few bunches last year.

[There is no trace of disease in your grape leaves. The spots must originate from some external cause, probably a hot burst of sun on a too dry atmosphere. Keep the syringe going amongst them frequently.]

WINE FROM THE HAMMONDSPORT (N. Y.) WINE COMPANY.—*From Mr. Weber*, the manager of this prosperous concern, we have received a case of their "Isabella," which, though only one year old, our friends, who are good judges, pronounce excellent. At many fairs, horticultural meetings, and other assemblages of parties interested in wine manufacture, this season, we have been honored as an outside member of many "tasting" committees, with opportunities of judging the state of the "latest offerings," which, to our taste, have so varied between vinegar, cider and the fashionable summer syrups, that we were getting "out of conceit" of the ability of

Eastern manufacturers to cope with Western wine. But Mr. Weber's superior samples of the genuine article warms up our faith again.

GRAPE HOUSES—*W. T. H., Lexington, Ky.*—We will give an answer in detail to your inquiries next month. They got in our wrong drawer, and we did not observe them till the last moment.

PLANTS—*A. B. K., Roxbury, Mass.*—*Tradescantia zebrina.*

### New and Rare Fruits.

APPLES FROM BUCKS COUNTY, PA.—Last December we received from Mr. Wilson Dennis, of Applebackville, a set of apples little known in other sections of the country, but which Mr. Dennis advises us are very popular in that district. The following notes were made of them at the time:

*Winter Maiden's Blush.*—Fruit, medium, oblong-conic, angular; skin, yellow, covered with large distinct carmine dots; stem, short (half an inch); cavity, narrow, deep, irregular, and colored with carmine; calyx, closed; basin, shallow; flesh, white, crisp, tender, juicy, sub-acid, "very good;" seed, large, brown, flat; core, large. This variety was the best of the lot, but "not of the apple family."

*Water.*—Fruit, medium, conical, irregular; skin, smooth, greenish-yellow, covered with deep blush; stem, short (half an inch), very slender, inserted in a deep, regular russetted cavity; calyx, nearly closed in a shallow basin; core, small; seed, small, plump and dark; flesh, white, tender, crisp, sub-acid, "very good." This we have described before.

*Stackyard.*—Very like Rambo, but not as good. Fruit, medium, oblate; skin, greenish-yellow, covered and marbled with yellow and red, and speckled with small spots and patches of russet; stalk, three-fourths of an inch in a deep, regular cavity; calyx, partly closed in a wide, deep, irregular basin; flesh, white, crisp, tender and juicy; seed and core, small; "very good."

*Wine Apple.*—Not our Hays's, sometimes called Wine. Fruit, large, oblate-conic; skin, yellowish-green, marked with streaks of pale red and blotches of russet; stem, long (one inch) in a deep, wide, russetted cavity; calyx, closed in a wide, shallow basin; core, large; seed, small and black.

### New or Rare Plants.

NEW JAPAN TREES.—Mr. Veitch, of London, as our readers know, started some time ago for Japan, where he is now collecting for the English gardens. The *London Gardener's Chronicle* describes the following novelties from specimens Mr. Veitch has sent home:

*SCIADOPITYS VERTICILLATA. Zuccarini.* Kanagawa. Tree, 120 to 140 feet. Habit, pyramidal, distinct and fine. J. G. V.

This is, perhaps, the most remarkable coniferous plant yet described. It is erroneously described by Siebold as a mere bush, twelve to fifteen feet high. It has stout whorled, yellowish-green leaves, resembling that of an ordinary cedar, related to Wellingtonia as this is. Its name is derived from two Greek words signifying a parasol and a fir tree; its spreading whorled leaves looking like the ribs of a tiny parasol. Judging from Mr. Veitch's specimens, it must be a plant of extraordinary beauty.

It assumes a pyramidal habit, and retains the same form when a tree of one hundred to one hundred and thirty feet, clothed to the bottom with branches. This tree is certain to be appreciated at home, and will, doubtless, prove hardy in Great Britain.

*ABIES MICROSPERMA. Lindley.*—Leaves, ten lines long, three-quarters of an inch wide; cones, two and a quarter inches long, pale cinnamon color, two and a half inches round; seeds, pale cinnamon, one line; wing, two inches long, nearly ovate, and occasionally notched. Hakodadi. Tree, 40 to 50 feet high; under side of the foliage very glaucous. Its foliage resembles spruce in point of color, but the leaves are as long as *Picea amabilis*, and perfectly silvered underneath.

A beautiful thing, quite unlike any other spruce, with slender, delicately-toothed cones, as broad at one end as the other, and the smallest seeds of the genus.

*ABIES TSUGA. Zuccarini.* Mount Fusi Yama.—Tree, 100 feet. Trees are much used by the Japanese. 6000 feet. J. G. V.

A kind of Hemlock spruce, much like that plant, and growing twenty-five feet high. Its wood is described as excellent, yellowish-brown, and employed for the manufacture of various small ware articles.

This species was also found at an elevation of 6000 feet, growing just below the larch, and in company with the oak, lime, beech, &c.

*ABIES VEITCHII. Lindley.*—Leaves, varying in length six to twelve lines, three-quarters of a line broad; cones, two and a quarter to two and three-quarters inches in circumference; seeds, testaceous, two lines long; wing, blackish, two lines long, with a very narrow curved crest at the base of the wing.

Mount Fusi Yama. Tree, 120 to 140 feet high, between *A. nobilis* and *A. Nordmaniana*. J. G. V.

This most remarkable species looks like a small-coned Silver Fir, and is wholly different from any thing previously described. It is named after Mr. J. G. Veitch, whose great merit, as a very energetic explorer of the vegetation of Japan, it gracefully records. As to the pine called by the same name by Mr. Roezel, whether or not it is the same as *P. Bonapartea*, as the writer of the *Pinetum* surmises, is unimportant, since names so published can have no place in systematical botany.

*ABIES ALCOQUIANA. J. G. Veitch in litt.*—Leaves, six inches long, half an inch wide; cones, rather more than two inches long, four inches in circumference; seeds, cinnamon-colored, two lines; ring, four lines long.

Mount Fusi Yama. Tree 100 to 120 feet. Wood used for light house-work. 6000 to 7000 feet.

A noble Spruce Fir, in some respects resembling the *Abies polita* of *Zuccarini*, from which it differs in having much smaller cones, with scales of a different form, very small, leaves glaucous on the under side, blunt or emarginate, not mucronate, and flat, not four-sided.

*ABIES LEPTOLEPIS? Zuccarini.* Mount Fusi Yama. Tree, 40 feet. The tree which grows at the highest elevation on the mountain, 8500 feet. J. G. V.

*THUJIOPSIS DOLABRATA. Zuccarini.*—Hakodadi. Tree, 40 to 50 feet. Habit, drooping; prefers shady places. J. G. V.

A very few plants of this glorious evergreen tree have already been raised in Europe from cuttings taken from one or two imported specimens; and now we shall have seedlings, Mr. Veitch having been so fortunate as to meet with the tree just when the cones were ripened. The tree looks like a huge arborvite, with magnified leaves of a black-green color, glaucous beneath. The wood is excellent, the aspect of the plant superb.

All who have seen the beautiful *Thujiopsis borealis* can appreciate the above description, though the *T. dolabrata* is still more beautiful. That it will prove hardy there can be little doubt; and if so, what a treasure to our gardens. Mr. Veitch says it appears to prefer shady situations, the foliage being more

luxuriant than when exposed to the sun. It grows where snow covers the ground for five months together, and where the thermometer is often below zero. At Messima, on the route to Mount Fusi Yama, the woods were composed of this *Thujiopsis*, which were among the finest trees.

*TORBEYA NUCIFERA. Zuccarini.*—Kanagawa. Tree, 20 feet; foliage, sharp. J. G. V.

The specimens sent home are identical with those in Lindley's herbarium from *Zuccarini* himself.

*CEPHALOTAXUS DRAPACEA. Siebold.*—Kanagawa. Tree, 20 to 30 feet. J. G. V.

Mr. Veitch's specimens are very much more glaucous on the under side of the leaves than the plants now in cultivation.

*JUNIPERUS RIGIDA. Siebold.*—Atame. Tree, 12 to 15 feet. J. G. V.

The specimens sent home have the leaves very narrow, exactly like the figure in the *Flora japonica*.

### Domestic Intelligence.

THE CALIFORNIAN MAMMOTH TREES AGAIN.—In a recent number, we gave sketches of two of the most remarkable of the Sequoias or Wellingtonia





John Humphreys, corner of DeKalb and Washington Avenues, Wellingtonia gigantea, or Mammoth Pine of California, 2 Golden Arborvitae, this and the Pine are hardy; Aucuba Japonica, variegated Holly, very beautiful; variegated Pittosporum, Dracena spectabilis, 2 new seedling Camellias, very fine; 6 cut Camellias, 6 choice Azaleas, variegated Fuchsia, Begonias, 8 new Fuchsias, 1 American Pitcher Plant in flower, 1 new Pelargonium, 1 India Rubber Tree, 2 Wardian Cases, or Parlor Conservatories, 1 basket of Cut Flowers, 2 Hand Bouquets, stand of Cut Flowers, stand of Pansies.

Poynter & Foddy, Smith Street, 20 choice Verbenas, very fine; 14 choice Roses, splendid.

Dalliedowze, & Zeller, Myrtle Avenue, corner of Yates,—4 new Monthly Carnations, extra fine; 20 choice do. do. beautiful,—(all new imported seedlings;) 12 Auriculas, double White Wisteria, very scarce and rare; 4 Clematis, Cut Roses and Pansies.

James Wier, Bay Ridge—3 choice Roses, Basket Cut Flowers, 1 Table Bouquet.

Harry Hudson, Congress Street—2 Hand Bouquets.

John Friend, Fulton Street—Callas, Roses and Verbenas.

D. Saul, Brooklyn—Collection of Rhubarb, Lettuce and Radishes.

Thomas Prosser, Jr., Bedford—Collection of Rhubarb and Water Cresses.

O. Eberhardt, 213 Grand Street, New York—New Style of Flower Pots, Hanging Baskets, Fern and Wardian Cases, Bouquet Stands, all made of zinc by a patent process, and beautifully ornamented like china.

W. V. Bloom, 364 Atlantic Street, Brooklyn—Forcing Glasses, with ventilators.

Persons not familiar with plants and flowers, have no idea of their variety and beauty, except by visiting such a collection of the choicest and rarest kinds as are here brought together, and there is no Society more worthy of encouragement than this, with its softening and refining influences on the public taste.

## CINCINNATI HORTICULTURAL SOCIETY.

APRIL 13.

At this meeting the subject of discussion was Roses.

Mr. Wm. Heaver read the following paper:

### THE ROSE AND ITS CULTIVATION.

Of all the flowers in the garden, none excel, in universal admiration, the rose. Ages ago regal honors were bestowed on her, and the title of Queen of Flowers universally accorded to this lovely ornament of our gardens, and this, long before such truly royal flowers as La Reine, Geant des Batailles, or the tenderly expressive Souvenir de la Malmaison, had challenged the admiration of all lovers of Nature's most beautiful works.

If in the earlier ages of floral gardening, the beauties of our favorite should have called forth such rapturous expressions of delight and admiration, what wonder that in our day, when, by the art and skill of the florist, those beauties have not only been so greatly enhanced, but the season for enjoying those beauties so much extended, that, instead of being restricted to a few short weeks of the early summer, we have now the pleasure of their beautiful presence more than half the year. What wonder, we say, then, that this universal favorite still retains her proud title of Queen of Flowers?

Instead of being confined in our admiration, or divided in our preference, by the White Rose of York, or the Red Rose of Lancaster, we may gratify our tastes in the selection of every shade of color, from the purest white to the darkest purple, through the intermediate tints of Blue, Pink, Pale Rose, Deep Rose, Rosy Crimson, Purplish Crimson, to Deep Purple; and from Golden Yellow, through all the intermediate shades of Apricot, Fawn, Buff, Creamy White, to spotless Purity itself.

To enable my fellow-members to enjoy those beauties in perfection is the object of the present communication.

### PREPARING THE SOIL.

The character of the soil is one of the most important particulars for the perfect growth of plant and full development of flower. Decomposed turfy loam, mixed with one-fourth part old rotted stable manure, with a small portion of sharp sand, is the best compost for Roses.

When designed to be planted in beds, (which is decidedly the best way of having them in perfection,) the sub-soil, if clay, should be trenched to the depth of twenty or twenty-four inches, of which the lower six inches should be thrown out, and the compost of turfy loam and manure be incorporated into the surface soil of the bed. Should the lower strata be of a very tenacious character, and retentive of water, some drainage of brickbats, broken rock, or brushwood to the depth of four or five inches, should be placed

at the bottom, and a drain to lead off the water, and thus prevent the ill effects resulting from stagnant water or excessive moisture at the roots.

The fall is the best time for performing this work, and if the roses are to be transplanted from the ground, it is the best season for planting, but if the work of preparing the bud has been left till spring, and the intention is to plant out such as have been grown in pots, it should be done as early in the spring as possible, after the dangers from killing frosts has passed. In our climate it is a matter of much importance for the future welfare and the vigorous growth of the plants, that planting should be done before the great heat and drought of summer sets in.

In planting, care should be taken not to set the plants too deep in the ground; much injury to the plants and disappointment frequently results from this cause.

In planting in beds, they should be set from two to four feet apart, varying according to the habit and character of the variety, the stronger and more rampant growers requiring the most room.

On some future occasion I may present you information with regard to summer management, pruning, winter protection for the more tender kinds, also the best modes of massing and grouping, with descriptive lists of the best varieties, their habits, &c.

Respectfully submitted,

WM. HEAVER.

Ordered to be entered upon the minutes.

### REPORT OF FRUIT COMMITTEE.

From Dr. H. J. Bower, Moore's Hill, Ind.—Apples for name—Committee call this apple the Bower's Seedling, an excellent long-keeping apple, equal and much resembling Newtown Pippin.

Flamen Ball's Seedling; a small, sweet apple, not worthy of cultivation.

By Geo. L. Frankenstein, from C. Cadwallader, near Springfield, Ohio—apple for name: pronounced the Michael Henry Pippin.

By A. A. Mullett, from Jos. Cooper—apples for name; probably seedlings—not worthy of cultivation.

J. E. MOTTIER, } Committee.  
S. MOSHER. }

Report of Flower Committee laid over.

## PHILADELPHIA PROGRESSIVE GARDENER'S SOCIETY.

A correspondent sends us a note, from which we extract the following:

"You have given offence to several members of the *Progressive Gardener's Society*, Philadelphia, by publishing in this month's number, that William Saunders is President, and R. R. Scott, Secretary. Not so. John Pollock is President, and W. Saunders is Secretary, James Eadie is Vice President. You should acknowledge the error, and make the correction in your June number."

To which we have to reply that though our experience with this journal has taught us particularly the art of offending, it is much easier of accomplishment than we ever supposed, judging by this specimen. For a whole year past we have had it standing that Mr. Saunders was President, and Mr. Scott was Secretary. If it was not the fact, or if the officers have been changed since, notification thereof has never reached this office. The members of this society know that we have offered them the use of our columns to advance their interests whenever they think fit; see page 128 of last volume. If they do not see proper to avail themselves of our offer as other societies do, it can be no fault of ours.

## KEOKUK HORTICULTURAL SOCIETY.

The monthly meeting of this Society, held on the 7th ult., was well attended, and an interesting discussion sprang up on the report of the Committee on Apple Trees for Orchard Culture.

The Society has recently been obtaining the opinions of nurserymen and fruit-growers as to the twelve most profitable varieties of apples for orchard cultivation in this section of Iowa and the contiguous portions of Illinois and Missouri. Experience has proved that a variety that bears well in one locality does not succeed as well in another locality even within the distance of a mile. Some varieties do not exhibit good bearing traits until the trees has age. The Society adopted the following as the list of twelve varieties that have been proved to be the most hardy sorts, the best bearers, and as producing the most marketable fruit.

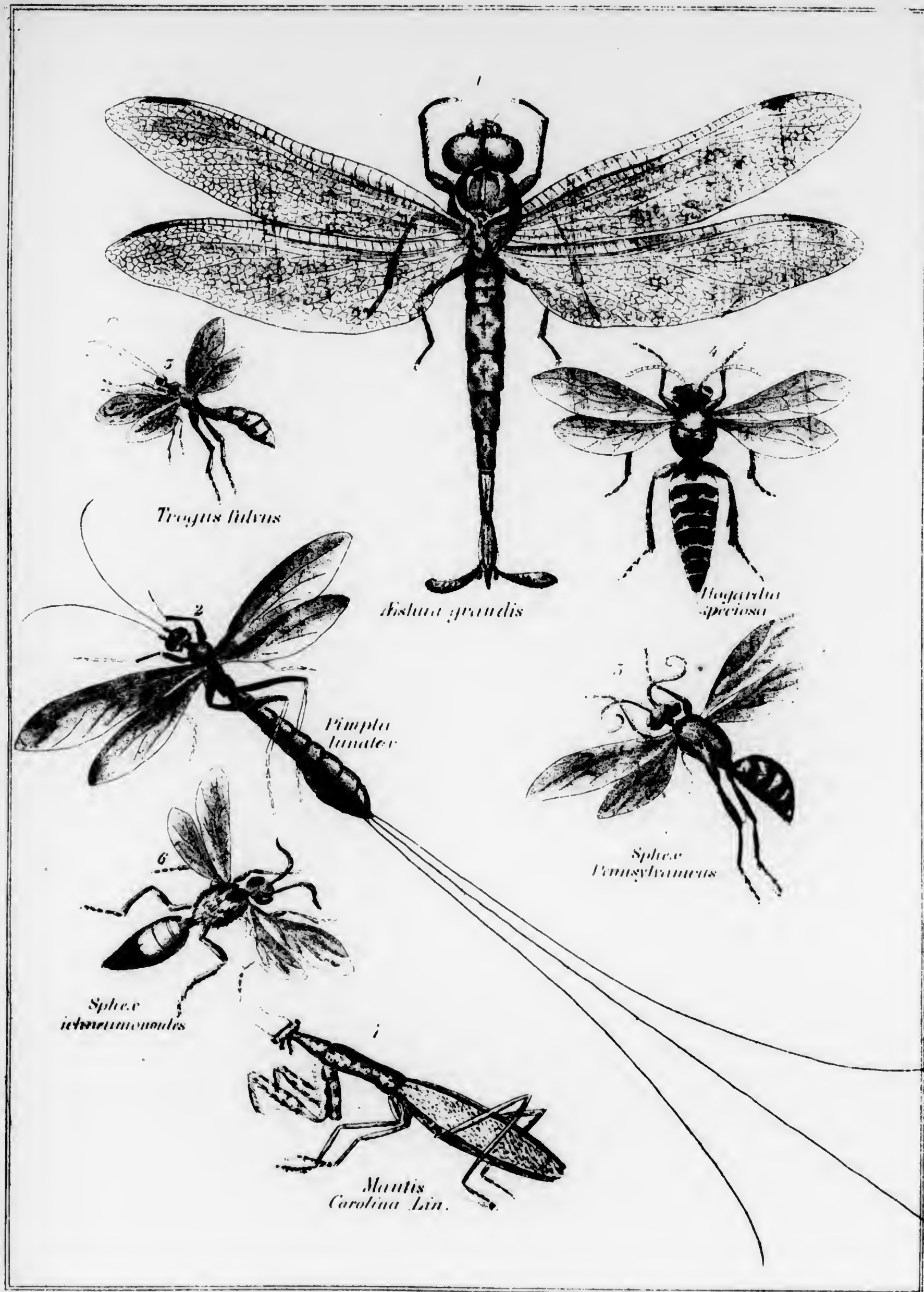
Winesap, Yellow Bellflower, Rawles' Janet, Grimes' Golden Pippin, Rome Beauty, Maiden's Blush, Red Pippin, Red June, Small Romanite, Rambo, Willow Twig, and Early Harvest.

The following varieties are also known to succeed well. Dominie (or Winter Rambo), Smith Cider, Northern Spy, Vandevere, Spitzenburg, and Summer Queen.

Subject for discussion at the next meeting, "Preparation of Soil for Spring Planting."

Adjourned to meet Thursday, April 4th, at 2½ P. M.  
J. R. TEWKSBURY, Secretary.





# THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

JULY, 1861.

VOL. III.—NO 7.

## Hints for July.



### FLOWER-GARDEN AND PLEASURE-GROUND.

It is a household proverb, that a "woman's work is never done," and the life of a gardener shares the truth of the same remark. And there is, after all, a closer analogy between the life of women and a gardener's profession than would strike one at first thought. Neither receive from the "rest of mankind" the full credit for refining influences which is so justly their due; and both have to fall back on their work as labors of love, and in its own pursuit derive pleasure and profit as a part of their just reward.

And so if when we took up our pen to trace out a few hints for our *Monthly* reader's benefit, under this burning July sun, and a passing thought tempted us to wish we had not the labor to perform,—that it was not, perhaps, appreciated as the effort should be,—that it brought to us no pecuniary reward,—and that we might as well persuade ourselves and our readers that there was nothing worth doing in a garden in July, and that the best advice would be to hitch up our hammocks in the branches of the nearest linden, and languidly live in lazy contemplation of what we have done for Flora and Pomona the past eleven months, and ponder on the victory we have enabled them to achieve over nature, and the rewards they have in store for us by the success,—a moment's wandering of our mind's eye through our garden grounds dispelled the illusion, and convinced us that there was not only work to be done and plenty of it, but that it was only in its pursuit that our real pleasure lay; and that, though the idea of rest to the weary was a pleasant one enough in its way, philosophy taught us that it was only in order that we might gain renewed strength

for the chase, and that in this activity alone all our real gratification lived.

The lawns, walks, and flower-beds will still require the constant care suggested in our last, and attention can be bestowed at this season on improving the form of trees and shrubs. In some parts of a large garden, trees are in better keeping with surrounding scenery when suffered to grow wild and pretty much to themselves; but near buildings, or in any part of a garden which is to denote high keeping, symmetry will ever be considered a chief element in beauty, and the aim be, what after all is the true object of gardening, an improvement, or a triumph, in fact, over the prettiest natural scenes. Trees and shrubs can be made as regular as we wish, by training a shoot here and tying one there—now using a stake, and at another time employing a string. After a few weeks they will grow as you have placed them, and exemplify the adage, that "as the twig is bent the tree's inclined." The most malformed or ugliest specimen of an evergreen may be made an exquisite "thing of beauty" by such trifling care.

Ornamental flowering shrubs, too, are in the same category. A few very strong, vigorous shoots will sometimes push, to the extreme jealousy of weaker members of the confederation. You will have to play the emperor—maintain the balance of power, and by a few vigorous attacks of the pruning-knife at the base of such arrogant pretension, end the causes of trouble by taking them completely away from the scene of strife.

And the hedges—do not forget them. The tops have been already trimmed, or ought to be, and the shoots at the base beginning to push with great vigor. If it is not done,—as from the many new subscribers the *Monthly* is receiving daily, and who may not have as yet received the back numbers of our paper, may possibly be the case,—no time should be lost in the operation. Remember to train your hedge conically; prune severely while growing towards the apex, and very little at the base; and in winter cut very vigorously at the base, and but very little at the apex. That is the rule of success.

The ladies cannot exercise themselves or better aid their gardeners in keeping up a display of

flowers, than in considering it their task to go over the flower-garden and shrubbery occasionally with basket and scissors, taking off dead and fading flowers. It strengthens the plants, prolongs the flowering season, and favors order and neatness.

Plants set against walls and piazzas frequently suffer from want of water at this season, when even ground near them is quite wet. Draw away the soil around each plant so as to form a basin; fill in with a bucket full of water, allowing it time to soak gradually away, and when the surface has dried a little draw in loosely the soil over it, and it will do without water for some weeks. This applies to all plants wanting water through the season. If water is merely poured on the surface, it is made more compact by the weight of water, and the harder the soil becomes, the easier it dries; and the result is, the more water you give the more is wanted.

Whenever the bark of any plants separates easily from the wood, and plants have ripened their wood enough to form prominent eyes in the axils of the new growth of leaves—budding may commence, and may continue with different things till September. It is an easy way to change trees we already possess into others more desirable; choosing closely allied species for the operation. Thus a common ash might be transformed in one season to a fine specimen of a Weeping Ash, or the new Oregon Maple be budded into large trees of sycamore. Sometimes advantage may be taken of working mere bushes into the heads of large-growing trees,—transforming shrubs into nobles of the forest. Many trailing and meagre-growing willows, cherries, maples, &c., are rendered very vigorous growers by being budded on strong growing kinds. Budding also affords room for tasteful combinations. Trees with different shades of foliage, hues of leaves, habits of growth, or color of flowers, may be worked on one common stock,—fancies of which kinds add much to the interest of a place when judiciously executed.

Many things do not take well by budding; in which case inarching may be employed. This is done by bringing together two half-ripened shoots of different varieties, just shaving the bark at an opposite point in each, making the two faces of the shaved parts meet, and then tying the two branches together at the junction, lapping the tying material (bast bark is the best,) so that the whole cut part is encircled by it. Most parties who intend to inarch, keep some of the kinds they wish to use as scions in pots, so as to bring them at the proper season in contact with the stock. Shelvings and other contrivances are resorted to to support such pots, in and amongst the branches, when the operation is to be performed at a height from the ground. A plan,

however, which obviates all this trouble, and is generally successful, is to hang bottles of water near the points to be inarched, and the scion is placed in this, from which it derives enough water to carry on its vital functions, until the union with the stock takes place.

The time is coming when transplanted trees of the past fall and spring will suffer more than during any other part of the season. If they show a vigorous growth of young wood, no danger need be apprehended, as it indicates that the roots are active, and can supply all the moisture the foliage calls for; but if no growth has been made, no roots have been formed, and the leaves are living for the most part on the sap in the wood and bark, and hot, drying weather will tell with injurious effect on such trees. This is generally first shown by the peeling off of the bark on the south-western side of the tree,—the most drying aspect; and where such exhaustion appears probable, much relief may be afforded by cutting back some of the branches, syringing with water occasionally, shading the trees where practicable, or wrapping the trunk in hay-bands, or shading the south-west with boughs or boards.

#### VEGETABLE GARDEN.

Our hints for the last month will, in a great measure, bear a re-perusal at the commencement of this.

Sow endive, and towards the end of the month transplant in rows. They should be set out in rows eighteen inches apart, and one foot from each other. The soil can scarcely be too rich for them. Seed may yet be sown for a later crop.

If brocoli is a desirable vegetable, it may be had all through the winter by being sown now. In about four weeks plant out into rich garden soil. On the approach of frost, take up the plants, with a portion of soil adhering, and pack them closely in a warm and somewhat damp cellar. They will continue to grow, and produce nice heads.

Beans may be sown up to the end of the month. For winter use, the White Kidney is very popular, although other kinds are very extensively grown for the same purpose.

In some families, large, full-grown carrots are objectionable. Seeds of the Long Orange sown now on rich sandy soils, form neat and desirable roots before winter. The same may be said of beets.

Cucumbers for pickles are also sown about this time. They usually produce a greater number, and consequently smaller fruit, than when sown earlier. The Short Prickly is the kind to employ.

The main crop of winter cabbage is often planted the first or second week in July. In planting, if the weather be dry, it is a good plan to make the holes before planting and fill up with water; after soaking

away, the plants may be set in, and they seldom wither afterwards, though without rain for a month. Another and more expeditious plan is to have the plants ready with their roots in a pan of water. They are then set into the hole at the time it is made. The water adhering to the roots then gives to the set out plants the advantages of puddling.

Celery we have spoken of last month. The remarks are yet applicable.

#### GREENHOUSE.

An important point just now is to prepare winter-flowering plants. Cinerarias, Chinese Primrose, and Calceolarias should be sown about the end of the month; and cuttings made of most kinds of plants that are desirable. It is a great mistake, often made, to store up and treasure year after year, old and even grown specimens, when younger ones would bloom more vigorously, and give better satisfaction. Propagation of plants will go on. It is one of the pleasures of the gardening art; and where old treasures are prized, the greenhouse soon becomes a crowded mass of ugliness, with credit to neither gardener nor owner.

Most of the plants are set out for the summer, as formerly recommended,—little care will be required beyond seeing that they are not over or under watered. Some will be yet growing, and may be full of roots. If growth will probably continue for a while longer, pots a size larger may be furnished such. Whenever a shoot appears to grow stronger than the rest, so as to endanger compactness or any desired shape, pinch it back, and any climbing vines should receive due regulation as they grow over the trellis, or they will speedily become naked below. A good stiff trellis is a desideratum hard to be obtained by the uninitiated. In another column is a simple way to make them, often used by good gardeners.

In training vines, so manage that there shall be a due proportion of branches hanging loosely about the trellis,—as it is this flowing gracefulness that adds half the charms to this tribe of plants which they so profusely possess.

### Communications.

#### LANDSCAPE-GARDENING.

No. 6.

BY GEORGE E. WOODWARD, NEW YORK.

TASTE, good taste, has generally been considered the one all-important qualification or gift that will transform mechanical attainments into artistic skill,

and fit those of a low order of education and associations, to become practitioners of the elegant art of landscape embellishment. That a refined and educated taste is necessary to successfully pursue an art, which by universal consent ranks high among the cultivated arts, we do not deny; that it is the one thing needful to make an artist, is simply an absurdity.

It can readily be shown that landscape-gardening requires a knowledge of many of the leading arts and sciences,—that it is not only an art by itself, but a combination of other arts, and that good taste is no compensation for ignorance. Nature rarely bestows her gifts so freely, as to make any one master of the resources of a simple art,—much less does she confer such unlimited favors, as to make one master of several. Thus we see a capital draughtsman, an indifferent colorist, a good colorist with no eye for form; one excels in portraits, another in animals, and a third in marine views, and so on.

But we do not propose to discuss the subject of natural gifts, or add another word to what has been written about them. Those who think they can accomplish nothing but what they are naturally qualified to undertake, may think so; we take an entirely different view of the subject, and our experience has taught us that when we have fully resolved to master any thing before us, we have been successful.

Those who lack natural ability, must supply its place by an educated ability, and where there is a will to acquire a proficiency in the whole or any part of landscape-gardening, the way is broad and inviting. There is no art but what can be attained in a very great degree by a persistent course of study. We have repeatedly seen an energetic, unconquerable spirit of determination override and outstrip every thing before it; and those who have reached a high position in any pursuit have done it by industry and perseverance. As Ike Marvel says, "There is no genius in life like the genius of energy and industry, and there are no rivals so formidable as those earnest, determined minds which reckon the value of every hour, and achieve eminence by persistent application."

Landscape-gardening, in all its varied forms and applications, is nothing more than a plain, practical, straightforward possibility,—no man possesses it, nor can possess it without a price, and that price is nothing more nor less than years of hard study and hard work; it is the same price that every successful professional man pays for his profession. There is no other way to accomplish it. No short cuts,—no royal roads to learning.

Those who rely upon natural taste or natural

gifts to supply a deficient knowledge, will meet with many disappointments. You cannot discard the established rules and principles of art, any more than you can discard its mechanical details; and until they are acquired, crude natural gifts are scarcely available. Thus, one's natural taste would lead him to embellish a place by constructing each feature separately, and without an absolute knowledge of the result. The fancied idea of beauty held in the brain at the beginning, would yield at every stage of progress to some new suggestion. It, in fact, would be but little else than experimenting for those forms or combinations productive of the most beauty; the same degree of taste that arranges a bouquet by trying the harmony of form or color, is inadmissible in landscape work. The expense and annoyance attending every change is such as to require that all forms be beautiful in harmony with each other, and that they be thoroughly comprehended in every detail of combination and construction, before their creation is commenced. An educated taste and ability adopts the same means of arriving at positive results as are sanctioned by all the arts of design, embellishment and construction, and without which, success is a mere matter of chance.

The folly that supposes there is no step between conception and execution, may practice landscape-gardening under the belief that it is only a gift united to a trade, and that pretends to hold in the mind a perfect conception of an elaborate plan of improvement that can be executed in its minutest details with the most undeviating accuracy.

There is nothing so grossly false, or so inconsistent with all experience in both the polite and mechanical arts, as the power to originate, elaborate, harmonize and perfect in the train, a plan so finished in all its details, so complete in its principles of construction, and so impressive and effective in its proportion, as to admit of no further improvements. The observations made in all departments of art, whether it be architecture, painting, sculpture, music, poetry, or any of the less important arts and sciences, show no exception to this statement. The first expression of a thought on paper, whether it be written, drawn or colored, is but the nucleus around which the artist gathers and works up the elements which compose the useful, the ornamental, or the beautiful. Every consideration of success, and more particularly of *economy*, dictates the studied plan in the creation or embellishment of landscape scenery. These can only be reached by systematic approaches, and by close and careful investigation. It is not in real ground or real objects that combinations or effects should be worked out. Execution should not begin until the design be perfected, and then with the

clear knowledge of what you want; with a positive assurance of an absolute result, the end is certain, and, both artistically and financially, is precisely what was contemplated. To state the contrary, is to pronounce the established medium to excellence in any artistical or mechanical pursuit a sheer fiction.

[Mr. Woodward's articles provoked an interest, which, judging by the great number of communications we have received, was as wide-spread as any subject that has been originated in our pages. Out of respect to this sentiment, we selected a few of these which to our mind presented the most divergent views, and have published them. Had not the subject seemed to interest our readers so profoundly, we should not have thought it worth while to accept them, as it has ever seemed so clear a proposition, as to be unworthy of an argument, that natural taste and capacity, united with untiring zeal and industrious study of collateral arts and sciences, would alone enable a man to make his mark as a master in the art of landscape-gardening. There are natural geniuses and natural fools in every profession, and it is useless discussing where one class begins or the other ends.

It seems necessary that Mr. Woodward should be allowed a brief space for reply to the various suggestions his remarks have brought forward, which he has well filled,—and we hope this will close the chapter. We can afford little space for abstract discussions, however valuable; and hope the thousands of practical matters which the wide field of landscape-gardening affords will, in future, claim the attention of our numerous correspondents' pens, which the many articles alluded to, show that they can well employ when they like, notwithstanding their usual excuse, that they can "handle the spade and pruning-knife better than the pen."—ED.]

#### PROTECTING ROSES IN WINTER.

BY BARTHOLD F. BOHMER, CLEVELAND, O.

I WOULD like to communicate an experience I have made these last two years to you, that is—how to keep tender roses through the winter safe and in a small place. I take my roses up in the fall, trim them considerably back, and hell them in a frame. I kept over a hundred roses under one sash and found them all alive and in good order, even though my ground is very wet. I found not only that I kept them well, but they flowered very fine in the whole of last summer. I found this idea stated in the *Ohio Farmer*, some years ago, by Mr. Elliott. In speaking of it, he says: "I have yet to learn that it is not the best way to keep them." If you feel disposed and consider it worthy, you may make use of it.

#### ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(Continued from Page 167.)

#### BENEFICIAL INSECTS.

23d. *Aeshna grandis*, commonly called "Dragon-fly," "Snake Doctor," and "Devil's Darning-needle." Plate VI. fig. 1. Length, from three to four inches; expansion of the wings, from four to five inches; body, cylindrical, and terminated at the caudal extremity with flattened appendages, that open out like a fan; wings, all transparent, and finely reticulated; color, dark brown, with black and green bands on each segment; head, large, and almost entirely occupied by the eyes. The larva and the pupa are both aquatic in their habits and economy. This insect belongs to a large class, the greater number of which are entirely harmless, or are decidedly the friends of vegetation, and therefore of man.—This insect is so perfect in its general organization, that it is regarded by many entomologists as typical of the class *Insecta*. Its sight and flight are remarkable, and also the organization of its mouth, which gives it facilities for capturing its prey that no other insect possesses. It is active both in its larva and pupa states, which are passed in the water, feeding in that element upon worms and grubs, or whatever else it can lay hold of; and when it assumes the winged state, it is constantly on the alert from morning till night, in pursuit of insect prey, and daily destroys an incredible number of moths and flies; and the only objection to it is, that it is rather indiscriminate in its choice of insect food, destroying our friends as well as our enemies.

The four preceding insects belong to the order *Neuroptera*, having four wings each, of a uniform texture, in many species of which the posterior pair are as large as the anterior pair, and especially is this the case with the dragon-flies. These are all that my limited time and space will permit me to submit in this paper, although there are many other species that are either harmless or beneficial. These will be followed by a few examples from the order *Hymenoptera* in further illustrating the subject of these remarks.

24th. *Pimpla lunator*, "Long-tailed Pimpla." Plate VI. fig. 2. Length, from two and a quarter to three inches; ovipositor, from three to four inches in length; expansion of the wings, from two and a half to three inches; color, a glossy black, with yellowish legs and antennæ; also yellow markings upon the head, the thorax, and the abdomen. The male is something less than the female, and is destitute of the ovipositor. This insect is one of our largest species of parasitic insects, and deposits its eggs in the bodies of woodworms, and is capable of reaching a grub as far from the surface as their ovipositor will reach. Some individuals can reach to the centre of a piece of wood at least eight inches in diameter. I have frequently captured them in the act of depositing their eggs. It takes them some time to withdraw their instrument from the wood, and in that way they become an easy prey to their enemies. They are quite abundant some seasons about Lancaster, and their long ovipositor is by the uninformed regarded as a sting, or something with which the animal can inflict a painful wound. This is all imagination, however; for the progress which the insect makes by sawing into the wood is slow, indeed, and the work of withdrawing it again is almost as slow.

25th. *Trogus fulvus*, the "Fox-colored Ichneumon." Plate VI. fig. 3. Length of body, from three-quarters to seven-eighths of an inch; expansion of the wings, one inch and a quarter; eyes and wings, dark brown or blackish; all the remaining parts of the insect, a fulvus or fox-color. Very abundant in Pennsylvania. Visits flowering plants in July and August. This insect confines its operations principally to the larva of *Papilio asterias*, which is found on parsley and umbeliferous plants in general. Blanchard, a French author, says that out of two hundred caterpillars which were taken to ascertain how many would become butterflies, only three produced them; the remaining one hundred and ninety-seven were destroyed by parasitic *Hymenoptera*. This may convey some idea of their benefit to vegetation.

26th. *Hogardia speciosa*, "Tiger Wasp." Plate VI. fig. 4. Length, from an inch and a quarter to an inch and a half; expansion of the wings, from two inches and a half to three inches; color of the abdomen, black, with three interrupted yellowish bands; color of the head and thorax, brown, with light brown markings; wings, transparent yellowish-brown; antennæ, somewhat thickened from the base to the ends. The largest species of *Hymenoptera* known to me inhabiting the United States. This insect builds its cell in the hard ground, and fills it with caterpillars, and also the common *cicada* or summer locust. I saw one carry off a large tobacco-worm (*Sphex carolina*). These worms are in some manner paralyzed and stowed away in their cells for food for their young.

27th. *Sphex pennsylvanica*? "Blue Mason-wasp." Plate VI. fig. 5. About the same in size and shape as fig. 7, but of a uniform bluish color. It, however, must not be confounded with the blue "mud wasp" so common among us, which also does us some service. This insect also builds its cell in the hard ground, and fills it with caterpillars, cockroaches, and other insects.

28th. *Sphex ichneumonoides*, Dej. "Yellow Mason-wasp." Plate VI. fig. 6. Length, about three-quarters of an inch; expansion of the wings, about one inch and a quarter; thorax, covered with yellowish hairs; wings and body, light brown, except the terminal half of the abdomen, which is black; eyes, black; abdomen, pedunculated. These are not, strictly speaking, the true *mason-wasps*, which build their nests in old walls, out of a sort of cement, similar to the "mud-wasps." They may rather be regarded as "diggers," but at the same time their cells are lined with a cement that is impervious to water, and the whole thing may be dug out of the ground without breaking, in the form of a rough tube closed at the ends. These tubes or cells are filled with caterpillars usually. I have seen this species have caterpillars in its possession that it could scarcely bear off, but had to stop every ten yards or so and readjust its burden, moving along in a series of short flights or bounds.

29th. *Mantis carolina*, Lin. otherwise called "Camel Cricket," "Soothsayers," "Praying Mantis," and "Rear Horse," in different localities. Plate VI. fig. 7. Length, about two inches; color, from greenish to brownish, mottled according to age; thorax, nearly half the length of the body; eyes, very prominent; antennæ, filiform; the posterior and intermediate legs are long and rather slender, but the anterior pair are very large and toothed along the outer margin of the tibia; in sitting, the insect holds the thorax erected, and folds the anterior legs up as if in a praying posture, hence a foreign species has been named *Mantis religiosus*. In the absence of its *real* specific name, I have introduced it as the Northern Mantis, to distinguish it from the Southern.\* Doubtless it has been named before, and if so, this name must fall, but it is singular that so common and so *useful* an insect should not have been made more familiar to the *people*, both in regard to its name and its general history. The species may be the same as those found in the south. This insect belongs to the order *Orthoptera*, and the *species* belonging to this *genus* are the only ones to my knowledge that are raptorial in their habits. Although they abound in the Southern States, and are quite common in Maryland and the District of Columbia, yet in Pennsylvania they are comparatively strangers; and from the fact that Dr. Harris and Dr. Fitch say nothing about them in their works, the inference is, that they had never been found in New York or Massachusetts. It gives me pleasure, however, that I am able to inform the Society that a number of them were found upon the banks of the Conestoga within the last year or two. They are known to be most voracious feeders, destroying daily a large number of plant-lice, moths, caterpillars, flies, or any thing living that may fall in their way when hungry. They are also capable of domestication. Mr. Glover says that a lady in Washington City had them in her garden, and so tame as to approach her and receive flies and other insects from her hands. Their development is the same as that of the grasshoppers in general, there being no intermediate or quiescent state, but an activity that begins soon after they are excluded from the eggs, and continues until their career is terminated by cold and the absence of their natural food in the autumn. The females then lay from fifty to a hundred oblong eggs, that are longitudinally cemented together and fastened to a branch, having the appearance of a miniature honey-comb. These eggs are capable of bearing a considerable degree of cold, and are hatched the following spring.

#### CONCLUSION.

Many more examples of useful, friendly and beneficial insects, and also many more of the noxious kinds, might have been exhibited in addition to the foregoing, but these must suffice for the present. Although nothing new may have been presented, yet there may be some persons who have not heretofore been impressed with the necessity of discriminating between our friends and our foes in the insect world, and who may not have been sufficiently acquainted with them in order to be able to make that discrimination. Insect *friends* have not occupied as much space in history as their importance entitles them to, and hence

\* Not having a Southern specimen for comparison when this essay was written, I was under the impression that my Lancaster County specimen was a distinct species, and therefore I had suggested the trivial name of *borealis*, in contradistinction from the former. I, however, subsequently learned that a living male and female mantis had been brought into this country from the Southern part of Maryland by a gentleman from this city, and that quite a family had sprung from them in a subsequent season, one of which I obtained. Comparing them, I found them identical, and that it is the *Mantis carolina* of Linnæus. This experiment, however, evinces the practicability of their localization and colonization in the southern counties of Pennsylvania.

nearly all that is written upon entomology outside of the proceedings of scientific institutions or scientific books, has reference to the *noxious* or *hurtful* kinds; when it must become evident that both kinds ought to gain the especial attention of the husbandman.

Our motives for destroying noxious insects are only incidental ones, and come and go in spasms as we happen to be under the influence of favorable or adverse feelings, caused by insect injuries or depredations; but parasitic and carnivorous insects are guided and governed by no such transient or incidental motives; a single and ever-pervading instinct, which has for its object the preservation and perpetuation of their species, and thus fulfilling the fiat of that power which brought them into being, seems to be the impulse by which *they* are moved; and under the conditions of this state of being they go to work, as mechanically as if they had been regularly educated to it, to carry into execution the behests of their creation. One generation succeeds another in the same perfect order, performing the same amount of labor, in the same manner and with the same results; nor is there a greater state of perfection attained *now* than there was hundreds of years ago, or than there will be hundreds of years hence. I have watched insects through all their stages of transformation, and when they have evolved from the pupa into perfect being, they seemed to look at me with a knowing leer, as much as to say, "You need not trouble yourself about showing me how to get along in this new world, for I know all about it myself." Under these circumstances it must be apparent that some of them are performing a great work for the human family, with greater efficiency than man himself can perform it; and that although much of their labor is silent and unseen, and therefore unappreciated and unknown, yet it is, nevertheless, constant and effectual; and being based upon ever-existing *necessities*, it is far more beneficial in its general results than any work which man has hitherto been able to accomplish or conceive.

#### IMPOSSIBILITY.

BY JOSEPH AMRAM.

I HAVE cornered you, Mr. Editor. I hold you by the imaginary button. You must not budge, but listen. It is impossible to paint the rose rosier,—it is impossible to raise wheat on granite rock,—it is impossible to make a horse eat. Granted? Very well; I am coming to it. It is no less impossible to learn landscaping. It is out now, and you can make the most of it. You say nothing to this proposition? Very well, I will explain.

Of the thousand and one topics your ten thousands of readers get treated with in the course of the *Monthly's* year, none gets handled with less satisfaction to them than the noble art of landscape-gardening. Every other number brings an article. I generally see a good name, or smell an able pen; but when I turn that article over,—when I sift it, boil it down, and prepare to use it practically,—it slips through my mental fingers and will not get into shape. Finding John, the other evening, poring over such an article, "Well, John," said I, (and he is an intelligent and practical boy,) "what do you think of the article?" "Sir," said he, "what's the use of all such. *Nix kummerouse?*" That was drastic criticism.

Now for a few generalities which I want to serve up by your leave. Like every other art,—say like poetry, painting, sculpture, composition of music, and the like,—landscaping cannot be taught. Creating exacts two functions of the soul: conception and execution. None but genius conceives, none but talent executes. Of course, I mean properly. It, therefore, takes a man of genius and inspiration to conceive the design of a landscape, or of its concentrated form the *landscape-garden*, and it takes a man of talent and skill, be otherwise than a very rare bird? Is it not a natural thing, under the circumstances, that the bad and indifferent work must abound,—that gardens, as a general thing, are failures and eyesores?

But talent, you tell me, can get along without genius, and run its useful course. Talent can draw inspiration and borrow the reflection of genius from the study of models; talent can imitate and adapt such models,—models which genius has created. So you say, Mr. Editor, and you say well.

The question, however, is, Can landscape-gardening (or, short and sweet, landscaping) be taught? It, plainly, cannot. See how this leads the direct way to Jansenism! The limits are soon reached where our soul loses her will, keeping only her wishes. I may study hard, and try to awake and develop faculties which may be slumbering within one, I may get skilled to a certain point,—by Jupiter! if the real grit is not in me, that point I cannot pass, and there I stick.

That point, you kindly reason with me, Mr. Editor, that point may be a respectable one. May be, I reply, it is a respectable one. And so much of it may be learned, that little of it is acquired by seeing good models,—and lucky is the man who has good gardens near to study the art by,—and, further, by getting schooled by a proficient master. In that way I may get to know the practical parts, and make a "profession" of them. As to the divine region, though, I still, like Moses, stand and see the Holy Land; but never, never am I allowed to reach it.

**GREENHOUSE BOILERS.**

BY J. C. R., LIMERICK, MAINE.

SOME difficulties exist among gentlemen gardeners and others, in the management of boilers in greenhouses. Thinking that some of your correspondents, like those of other journals, would like to know how to rid themselves of such troubles, I write you the following. There are allusions made by various writers, that all these troubles arise from the non-experience of gardeners. I say no; but it arises from the non-experience of boiler manufacturers; although I admit that in this country men are employed to take charge of greenhouses who had never served one year in the garden. It would be likely in this case to see those boilers exploding and frightening the natives. Because those men can be employed for a few dollars less in a month, they will take a gardener's situation. The last winter proved these facts to me. Having advertised (the first time in twenty-one years) for a situation, I was offered by extensive firms twenty-five dollars per month,—not a working-man's pay. How can such firms be without such difficulties, for they can hire none other than second-rate workmen for this pay? I do not here pretend to say that those gentlemen who have had those difficulties are not gardeners in all its arts, as gardeners are not boiler-manufacturers. I say they are not all to blame.

Returning to my remedy on boilers, I will give the whole in a few words; but I know there will be differences of opinion, and even objections to my remedy; so that I will state the whole particulars of its discovery. In 1842 I succeeded a brother gardener near Liverpool, England, who then had charge of one of the first boilers in the heating of greenhouses in that vicinity. He told me the reason of his leaving was that he could not get his boiler to work, and that he had lost his whole crop of grapes and pines through it. I asked him the cause. He said that whenever he would attempt to fire up the water forced into the feed-tank and then flowed over, and that he could not get his houses up to any degree of heat. So before I would proceed any further, I made a fire to see what it would do, and found it to be as represented. In ten minutes there was not one drop of water in the boiler. We made out to draw the fire, and through that stopped its roaring. I proceeded to the vinery, then a desolate house, handled all the flow-pipe, and found that behind one of the elbows the pipe was as cold as if no hot water had ever been in it. I perceived that the pipes were stopped by some process or other, and that the water did not circulate through the pipes. At this time there was water in the feed-tank, while

it was evident there could be none in the boiler. I sent immediately for the manufacturer, and told him the trouble. He looked in the feed-tank. Perceiving nothing wrong, he ordered to fire up. Again very soon the little water left began roaring in the feed-tank.

Orders were given to pull down the boiler and replace it with another. I told him I thought I could get rid of the difficulties without taking the boiler down. His answer was, what could I know about it? Still he asked my opinion. I asked him into the vinery, and requested him to drill a small hole in the pipe at the point where I perceived the pipe was hot and cold. He said there could be no harm in doing so. The hole was drilled, and it was two minutes before any water had made its appearance. Immediately the water left the feed-tank. I commenced putting water into the boiler, until I supplied twenty-six gallons. During this time no water was coming through the hole made in the pipe. Then boring two more the whole length, it was all of five minutes before the water commenced flowing freely through those holes; and when it did so, the water in the feed-tank had again disappeared, which took ten gallons more of water to raise it above the valve. Now the discovery was made that air must have got into the pipe and stopped the circulation of the water. There was a small brass top added to those holes in the pipes. Always, when water was given, one or more of these were loosed for a few minutes. "Never was there any thing worked better than this boiler did afterwards," as Mr. Buist says. A top in the boiler was also added, and found to be good, so far as the cleansing out of the boiler is concerned. It is also useful in drawing hot water when needed; but the tops in the pipes are what regulate the whole affair. If those gentlemen will get tops in their boilers and pipes, there will be no need of shooting or guarding against being shot with those straight or crooked guns around corners.

**LINNEUS AND LINNÆA BOREALIS.**

BY L., HADDONFIELD, N. J.

[Concluded from page 169.]

To return to the Linnæa. This Lapland flower is a native of high latitudes and Alpine districts throughout the Northern Hemisphere, though most abundant in Lapland. It is frequent in Scotland, but so rare in England, that but one habitat is mentioned in the British floras. It is not uncommon, I believe, in North America from Nova Scotia to the Arctic regions. It is an interesting and elegant plant, evergreen, with woody and creeping

stems, a little branched, and the young shoots hairy. Its small, drooping flowers are sweetly fragrant, of a rose tint without, and white or yellowish within. It blooms in June and July, and its stalks are two-flowered, whence its common English name, Twin Flower. It is found in moist, shady, rocky soils, generally in evergreen woods. Its long stems, rooting and branching their whole length, cover the ground in large patches.

A kindly writer, discoursing on this plant and the origin of its name, exclaims, "Hail to thee, little flower of the North! How highly art thou honored, and with what feelings of interest do we regard thee as the representative of him whose name thou bearest, *Linnæa borealis*!"

In conclusion, we would remark that we hope some of our young readers will profit by the story of poor little Pyphon, and at once enter upon a career of study, collect plants and insects, examine, prepare and preserve them, and make themselves acquainted with their distinguishing characteristics, uses, arrangement, &c. Boys nowadays have an hundred-fold better opportunities for the study of botany than this barefooted devotee. The facilities abound, and he who runs may read. Every farmer's son and every gardener's apprentice ought to blush at his ignorance of the names and positions in the order of nature of the common plants around him, when he considers what that poor, oppressed little fellow did far away upon the border of the Arctic Circle nearly a century ago. Every resident in the country and every citizen who visits it, who is ignorant of the "amiable science," loses half the pleasure of association with nature from want of acquaintance with her children. The study opens to its admirer another sense. To such no longer

"A primrose by the river brim  
A simple primrose is to him,  
And nothing more."

But the almost "brute, unconscious gaze" of ignorance is replaced by the inquiring, intelligent and appreciating inquiry, and each plant becomes a familiar acquaintance, and revealing to the willing ear and eye the wisdom and power and the ever watchful care of the gracious Creator.

NOTE.—The *Drosera* is the Sun-dew, an ornament of grassy bogs and borders of ponds. Its beauty consists in the form and appearance of the leaves, which proceed immediately from the root, and spread over the surface of the ground, each plant forming a little circular plot of green cup-shaped leaves, thickly fringed and beset with glandular hairs of a deep rose-color. These hairs are usually tipped with small drops of a transparent



[DROSERA ROTUNDIFOLIA.]

clammy fluid, appearing like dew, which continues to adhere, even in the hottest part of the day and in the fullest exposure to the sun.

"By the lone fountain's secret bed,  
Where human footsteps rarely tread,  
'Mid the wild moor, the silent glen,  
The Sun-dew blooms, unseen of men,  
Spreads there her leaf of rosy hue,  
A chalice for the morning dew,  
And ere the summer's sun can rise,  
Drinks the pure waters from the skies."

There are four species of *Drosera* found in the United States,—*D. rotundifolia*, *D. longifolia*, *D. filiformis*, and *D. linearis*; but about forty species have been described. They have been found in boggy places in all parts of the world, except in extremes of heat and cold. They are singularly beautiful, and worthy of cultivation. They thrive

in small pots, which should be three parts filled with peat earth, and sphagnum should be planted thereon, the *Droseras* planted in the moss, and the pots placed in pans of water. The *Droseras* are allied to the *Dionæa* or Venus' Fly-trap, and bear some resemblance to this singular plant. Insects are often caught upon the hairs, which are not, however, as irritable as those of the *Dionæa muscipula*.

If any of our Northern friends have dried specimens of the *Linnæa borealis*, *Rubus arcticus*, *Drosera longifolia*, *Andromeda hypnoides*, and can spare us some of them, we would be much obliged. They could be placed between thin, stiff cards and enveloped and sent by mail to our address. We would endeavor to make return in plants peculiar to our locality.

We give a cut of *D. rotundifolia*, the more common species.

[In connection with *Drosera longifolia*, we may repeat an anecdote connected with David Don, the famous gardener botanist, author of *Hortus cantabrigiensis*, that came to our knowledge many years ago. Don was at that time gardener to the Earl of Hardwicke, at Wimpole Hall, Cambridgeshire, and though already wedded to science, had enough of the bigamist in him to promise himself to a lovely specimen of the fair sex. It was the evening before the happy day, when some wicked tempter of his told him that in a swamp at some distance he could certainly find the *Drosera longifolia*, which up to that time he had never found there. He was to be married at noon of that day; but he calculated that by an early start he could go and secure the prize, and still be back in time for the great event of human life. But, alas! on arriving at the spot, he could not find the plant. He searched, and time passed,—even the appointed time, and the bride grew anxious. It was at length found out that he had been exercised at the prospect of his botanical discovery, and search was made for him in the direction he had taken, till found, when to his great mortification he learned that he had utterly forgotten his proposed marriage.

Our young friends will ask what the lady said, and whether they married after that. We have no doubt they did, as young ladies can forgive much; but that part of the anecdote we have forgotten, if, indeed, we ever knew.

David Don died some years ago, and the other Don, George, also a botanist, and author of the "Dictionary of Gardening," died in 1856.—Ed.]

#### LESSONS FROM THE FLOWERS.

BY G. D., SPRINGFIELD, MASS.

The mind's conception of the beautiful is the

mainspring of its refinement. This faculty is naturally greater in some than in others, but it may be cultivated and developed in all to a greater degree. Many are content to pass their lives, contracting their faculties, energies and tastes to that which is wholly practical, and fail to rise to that higher scale of being where pure and elevating joys will make life's pathway luminous with almost celestial light.

In the Creation God pronounced all things good. Even now, when we have but the wreck of earth's former glory, there are many things which to the wholly practical person were created in vain.

Each particular object in creation bears its own form of beauty, and these varied forms present to the mind their own peculiar lessons. Some give the mind stronger impressions than mere beauty can produce. As we look upon the heavens, or upon the natural wonders of the earth, a feeling of grandeur will fill the mind, to the exclusion of the impressions that they would otherwise produce, and the mind must turn to particular individual creations for this lesson.

Of all objects belonging to inanimate nature, the flowers give us the highest and most varied forms of beauty. To any one who will learn, they give lessons of life, which, if heeded, will profit. Go forth in early morn, while yet morning's pearly tear-drops load the petals of varied hue, each uniting and reflecting the colors of light, blended with the shades of the flower, and as the early rays of the sun silently kiss them away, enjoy their sweetest incense which rises to the end of day.

To the young they appeal while yet the heart is susceptible to all the finer impressions. Their study is calculated to elevate, purify and ennoble. They teach sweet lessons of our Heavenly Father's care. Let their silent breathings of tenderness take possession of every soul. Learn of the flowers what they teach. They will mirror the different elements of moral character,—some of modesty and purity, others of beauty, taste, loveliness, and many, also, of their opposites. Learn, then, the first lessons of Eden, and you will, if you profit by them, possess a charm which cannot be dispelled. Many have thus learned and ever enjoyed the rich blessings which follow. This study will add new charms to life,—new motives to kindness and deeds of virtue.

#### EFFECTS OF THE WINTER ON FRUIT TREES AT HUDSON, N. Y.

BY A. S. ROWLEY.

MR. EDITOR—I see but few communications in the *Gardener's Monthly* from this section of country. We have the vanity to think that we are not much behind any part of our country in gardening and

horticulture, especially the latter. This, however, I say, without boasting. My chief object in writing at this time is to tell you how our fruit trees in this vicinity have suffered during the past winter and spring. The prospect with us now is that almost all kinds of tree fruits will be a failure the coming season. Our cherry trees refuse to put forth a single blossom. Plum trees not only refuse to blossom, but their leaf-buds appear to be, for the most part, destroyed. Peaches and apricots, of course, are all gone; and in the nurseries I am told that all the young peach trees are killed to the ground, even below the inoculations. Pears seem to have suffered least. The Seckel, however, is destroyed, (I mean its blossom-buds,) except in protected situations. I find a few of the old Seckel trees standing in open grounds have suffered severely. As to the effect of the winter on apples, I cannot speak, having but few myself, and not having examined those in this vicinity. Besides, it is too early to determine satisfactorily. Quince trees have, in many places, been killed to the ground. The smaller fruits, such as strawberries, raspberries, blackberries, &c., will have to be our principal dependence, I fear, this season.

Now, as to that very desirable and popular fruit, the grape. All my Isabella and Catawba vines that were left up on the arbors and trellises (which are eight and nine years old) are killed to the ground. Such as were thrown down on the ground, partially escaped. The Rebecca (of which I have about thirty vines from three to seven years old), loosed from the trellis and thrown upon the ground, with no protection but the snow (when deep enough), is putting forth finely. Not a bud seems to have been killed. Such as were left tied up, I think, are more or less injured. This would indicate that the keen, cold north and north-west winds have as much to do with the destruction of our fruit as the low temperature. Undoubtedly the proximity of the earth to the vine has the effect of drawing out the frost by degrees, or of regulating the temperature so as to prevent its otherwise injurious effects. With me, and, as far as I can learn, in this vicinity, the Rebecca has proved more hardy in similar situations or exposures than the Isabella. My other varieties, the Anna, To-Kalon, Diana, Delaware, and Early Hudson were buried lightly with earth, and have, of course, escaped injury. My Hartford Prolific and Concord had no protection, and are doing well.

The autumn of 1860 being wet and warm, caused both vines and trees to grow too late for the wood to ripen well; and, consequently, they went into the winter (which for severity and suddenness of change of temperature has not been equalled for a period back of fifty years, according to the testimony

of all observers,) more tender than usual. This may account, in some measure, for the destruction of the fruit-buds, which are always on the last year's growth. But this does not explain why the old grape-vines are rent and split through and through for several feet in many cases. Of course, all young wood attached to these old canes must perish with them.

I must close. I am telling a longer story than I intended when I began.

#### GARDENING FOR LADIES.

BY PRIMROSE, NEW BEDFORD, MASSACHUSETTS.

YOUR *Gardener's Monthly*, Mr. Editor, is a complete success. We inhabit a seaport town in a remote corner of Massachusetts, and yet, even here, your paper has become a necessity. Its arrival is hailed with delight, not only by the frosty heads of the house, but by three earnest children, who eagerly seize upon it to see the pictures of flowers, rural designs and decorations.

With all due respect for other excellent journals, we think *your* periodical well calculated for our meridian, for ours is a *very practical* community.

We have always believed in flowers, as well as fruit, and have tried various plans for window and parlor culture of our favorites, but not with satisfying results, and have decided that gas and coal-dust are not favorable to the development of *Camellias*, *Primulas* and *Roses*. Wardian cases answered partially, but our longing has been for a greenhouse or stove, for culture and propagation. Rejoice with us, then, in the possession of a well-arranged brick lean-to, 25 by 12 feet, heated by a small furnace and hot water pipes, and nearly filled, at this present writing, with a moderate variety of, we flatter ourselves, well-conditioned and thriving plants.

Our first paper of seeds, in especial preparation for our greenhouse, was of *Lophospermum scandens*, which we sowed in a box about the middle of May, which were in due time potted off, and are now rambling about the rafters and rods of said house, with their bright pink tubular blossoms, showy and rich; *Maurandias* and *Cobea scandens* share the room with them, and our seedlings are doing well. Late in the summer we wrote to our friend, B. K. Bliss, of Springfield, for *Cineraria mimulus*, *Rhodanthe*, and *Stock Gilly* seeds, and it really seemed as if every tiny grain had vegetated; so complete was our success as quite to overwhelm us, and create a very large demand for very small pots. In a few weeks the demand was renewed for a larger, and again a still larger size, the transfers being all made by our own hands; and we are now stocked to our utmost capacity, having in this simple way, and by the gifts

of a kind friend and neighbor, collected some 500 plants, which are now in different stages of forwardness. We have been most disappointed in our *Primula sinensis*, which grow so slowly that we begin to think we have not treated them as they best like. Can you tell us a little about their culture? Our special object in this experiment is to discover whether there is any thing in the care of a greenhouse, or stove, which a lady may not accomplish, and thus plant-culture on a large scale may furnish profitable and suitable employment for a few of the hundreds of women who have nothing to do! What is there, Mr. Editor, to prevent ladies going "prentice" to some really intelligent scientific gardener, and by familiar lectures and practice at the "shelfside," becoming thoroughly familiar with the habits and necessities of each species of these lovely, delicate forms of life, so fit for woman's care.

So far, we have discovered nothing about their tending which a woman may not do. In one corner of the house is a brick tank for potting earth, and when emptied it can be replenished by any man who can understand an order for on part well-rotted turf, &c. Our friends, the gardeners in the neighborhood, shook their heads and smiled knowingly; "Your house is too light,—you can never keep your pots clean; you will be full of green flies; you must have an old experienced gardener for this house." But we built a cistern in one corner, put a copper pump in, got a good large syringe, a water-pail, and scrubbing-brush; and hours which would be no better employed, we believe, are spent in experimenting with our pets. Our *Mimulus* are in a blaze of bloom; our *Cinerarias* in promising bud. We are cutting roses, *stevias*, *heliotropes*, *geraniums*, *feverfews*, and *abutilons*, for the breakfast table, or the sick room. Our *camellias* are showing color, and we are consulting your pages with high relish, and wishing our greenhouse was twice as large.

[The above very suggestive note from our lady friend is dated Dec. 8, and has thus been too long at the bottom of our drawer, overlooked.—Ed.]

#### BALCONY GARDENING.

BY WALTER ELDER.

HAVING read much of the beauty and elegance imparted to Paris and other European cities by balcony gardening, I have long wondered why our citizens who are really fond of flowers, should have so long neglected this species of gardening; but of late years a taste for it has arisen, and is in the increase. Last year I observed many creditable displays through this city, and the hanging pots with creepers are a prominent feature. The simple cul-

ture, small cost, profuse bloom, and delightful fragrance of the falling plants, are inducements for balcony gardening. *Verbena*, *Petunia*, *Mignonette*, *Heliotrope*, *Alyssum*, *Lobelia*, *Cuphea*, *Neirembergia*, *Eschscholtzia*, *Phlox Drummondii*, and many others; and for climbers, *Maurandia*, *Thunbergia*, *Cobia*, *Nasturtion*, *Cypress-vine*, &c. There is no amusement can be more agreeable and innocent than the watering and care-taking of these gardens, none so cheap and long continued. It creates a homeliness in the way-wanderer, and it affords a pleasure to show them, and name the different plants to our visitors, and impresses the minds of strangers of the virtuous habits, refined taste, and moral learning of the inhabitants of cities. By all means encourage balcony gardening.

#### DRAINING TILES FOR POTS.

BY J. P., ROCHESTER, N. Y.

In your issue for May it is stated that horse-shoe draining-tiles have been used in England for bedding-out plants. Some two or three years ago, wishing to present a plant or two of a new vine to some friends, I buried some good-sized (five-inch) horse-shoe tiles near the plant, and bending down some shoots which had purposely been allowed to spring from the base of the vine, I layered them in the tiles. In a short time they made good roots, were transplanted in the height of the growing season, and did well.

I do not make this statement with any view to a "reclamation of priority," but simply because the extension of the application may prove of use to some of your readers. In layering vines, tiles are decidedly better than flower-pots. But pray do not class me with those who, whenever any thing good is published, at once get out with, "Oh, that is nothing new! I did that long ago!" The man who first publishes is the man to whom the community is indebted for a good idea. To those who knew it, but did not give the benefit to their neighbors, no thanks are due. They have no business to come yelping after a share of praise which does not belong to them.

#### IVY

B. T. M., BROOKLYN, N. Y.

THE following is the description of one of the prettiest uses ivy can be put to. Its dark color, in contrast to the comparatively light green of our grass, renders it fit for the frame of a lawn. For instance, a lawn is staked out, square, circular or oval,—say of forty feet diameter. Sow one foot and a half in grass,—plant three feet with ivy, and the bal-

ance of thirty-five and a half feet again in grass. According to the degree of natural dampness, more or less, ivy roots are necessary; it makes, however, prodigious progress where once established. Care must be taken to stake the ivy down, so that it will not run into the grass; also, when once going, to clip it for the same purpose. In winter, where it might perhaps be frozen out, a few evergreen bushes will protect it.

The trouble bestowed on it for a couple of years is amply repaid by a beautiful setting for your lawn. Flower-beds introduced into the lawn will occasionally heighten the effect.

This device is probably not new to some of the *Monthly's* readers; but to the majority it may be a welcome novelty.

#### ANOTHER CHAPTER OF HINTS.

BY S., PHILADELPHIA.

MR. EDITOR:—I was so much interested in reading your Chapter of Hints in last month's number, that it set me to thinking whether I could not furnish you with another, from my experience.

#### PLANT TRELLIS.

Fig. 1 is a drawing of a trellis for pot plants, of simple and easy construction. First procure a roll of iron wire of about an eighth of an inch in diameter, and cut it into lengths so that it will form rings of several sizes to suit the sizes of the pots. The ring A

Fig. 1.



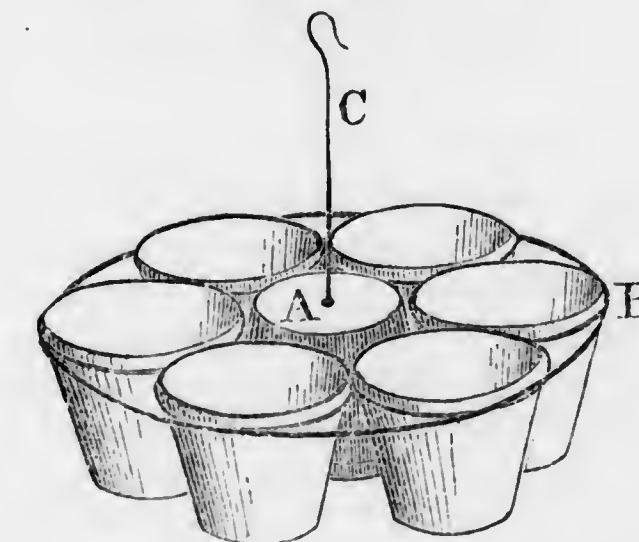
in the cut must be from two to three inches more in diameter than the pot, and the ring B from two to three inches more in diameter than the ring A. Allow half an inch at each end of the wire for welding. Take these wires to the nearest blacksmith, and get him to heat and weld them. You can get a

large number done for a trifle, and they will last for years. Next procure some half-inch white pine boards, free from knots, and have them ripped up at a steam saw-mill into strips of about five-eighths of an inch wide. These strips must be planed off and painted green and cut into the required lengths. When you wish to train a plant, insert these strips into the soil until they reach the bottom of the pot, and close to the side of the pot. Then place the iron ring A inside the strips, and about one-third of the way up. Then compress the upper ends of the strips, and put on the ring B on the outside of the strips. The pot and the two rings brace the trellis so firmly, that neither wind nor jolting in a cart will affect it. It can be put up or taken down in a moment.

#### AN EXTEMPORANEOUS HANGING BASKET.

The drawing (fig. 2) requires but little explanation. A is an inverted flower-pot, surrounded by a circle of pots of the same size. This circle of pots is confined by the ring of wire B, which is just below the projecting rim of the pots. The whole is

Fig. 2.



suspended by the wire or rod C, which passes through the hole of the pot A, and is secured to a circular block of wood inside; or instead of the pot A, a block of wood of the same shape may be substituted; in that case, another pot can be placed on top of the block, and the rod passed through the hole in the bottom of the pot. The best sizes of pots for the purpose are five and six-inch. The advantage of this plan is, that when you have a collection of plants in bloom in the same sized pots, you can select such as you may wish, and without the trouble of transplanting, form them into a pleasing and graceful group. The engraver has put six pots in the outer circle, instead of five, as it should have been.

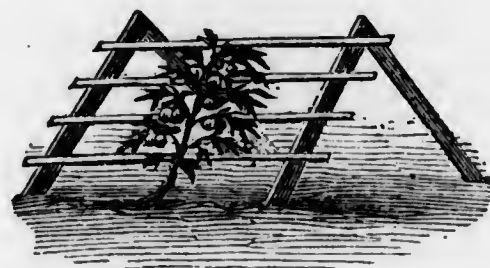
Commercial gardeners who are limited in means and time, are often compelled to resort to many expedients to accomplish their ends. I have adopted some in my practice which may be new to some,

but not, perhaps, to most of your more experienced readers.

Many varieties of plants require an open, fibrous, peaty soil, and others to have the pots well drained. For want of something better, I use occasionally for the first-named purpose, finely-chopped hay, cut with a straw-cutter, and mixed with the soil. This, with a little coarsely-powdered charcoal, answers the purpose very well. For drainage of pots I sometimes use coarse ashes or cinders of anthracite coal and oyster-shells. I find that oyster-shells that have just been opened are much preferable to potsherds. The plants derive much nourishment from them, and I find the roots often clinging to them most tenaciously.

A very neat mode of supporting tomato-plants, much in vogue in the neighborhood, is the following. See fig. 3.

Fig. 3.



Procure a bundle of four feet long pickets or pales and a bundle of ordinary plastering-laths. Nail the pickets together in pairs, as shown in the drawing, so as to form an angle of about eighty or ninety degrees. Then nail the plastering-laths on them, very much in the same way you would make an ordinary hen-coop. In this way you can put up a long row in a very short time. The tomato-vines are to be planted along each side of this trellis, and will require but little tying, as their own weight will almost be sufficient. The tomatoes should be planted in rows running north and south, so that they will get all the sun. These frames can also be made single pitch. In that case, the rows must run east and west, so as to face the south.

In many gardens where the soil is wet and cold, or during wet and cold springs, the seed of Lima Beans are very apt to rot before they germinate, thus causing a loss of time and seed. The practice is becoming very general among truck-gardeners, to plant the seed about two weeks before it is perfectly safe to set them out, in the back part or corner of a hotbed. They can be planted very thickly, so that the surface of the ground is closely covered. In about two weeks they will have grown three or four inches high, when they can be taken up carefully and set out like cabbage-plants around the poles. I have tried it for two years past, and with perfect success. Before I had often to replant.

### RETARDING FRUITS.

BY M. S. F., COLUMBIA, TENNESSEE.

If this age of money and talent could discover some mode by which we could hold back our trees from early blooming, it would be worth as much as a gold mine. Cannot some mode of general use be adopted that can give us the control of the sap?

I have tried two modes this spring to accomplish this much-desired object—one, to keep the ground and roots cold, and the top warm; the other, to keep the ground warm and the tops cold. The result was, those about which the ground and roots were kept cold, bloomed first, and were the worse killed. This may, however, have resulted from the fact that the trees were different kinds of apricots.

[Heat applied to the branches of a tree induces action, whether the roots are cold or not. We doubt whether keeping the roots cool would have any effect. Shading the branches from the sun is the only plan we know. Our strawberry crop on the sunny side of a hill, is nearly destroyed by the blossoms freezing by the frost of 2d of May. A few on a north side not in bloom have escaped. It would be wise where large crops are grown for market, to have two aspects with the same kind of fruit. If the early crop is destroyed, the late one will then be the earliest.—Ed.]

### USEFUL EXTRACTS FOR AMATEURS.

BY C., PHILADELPHIA.

OUR correspondent "C." sends us the following selections, made up from English sources, which will be found mostly of great value.

**PEARS.**—Dwarf bushes on quince stocks are admirably adapted for gardens exposed to violent winds; and they are also protected from spring frosts by placing around them, so that they rest on and cover the tree,—sticking their ends into the soil,—branches of deciduous trees with their spray-like shoots on, or young branches of evergreens, or even a square piece of calico, which can be easily thrown over the tree when in bloom. The fruit on such trees (dwarf bushes) is generally of increased size, and not liable to be blown off by autumnal gales. If the garden be small, they may be planted four feet apart, and kept in a compact, fruitful state, by being removed biennially early in November. If large trees are desired, plant six to eight feet, and if unremoved, they will soon form good sized prolific bushes.

Biennial removal is the most simple of all methods of root-pruning; it consists in merely digging a trench around the tree about fifteen inches from its stem, early in November, and lifting it carefully out

of the ground with all the earth possible attached to its roots,—shortening with a knife any that are straggling. If the soil be rich, so that the trees unremoved are inclined to grow too vigorously, no fresh compost will be required, and it will be merely necessary before replacing the tree, to shovel into the hole some of the earth from the surface around it two or three inches in depth; this will prevent the tree settling down too deeply. If the soil be poor, some rotten dung, at least six months old, and loam, or any light earth, equal parts, or moor earth may be placed at the bottom in the same manner, and about a wheelbarrow of the same compost over the roots when replanting. The only method to cultivate successfully pyramidal pear on pear stocks, is by biennial removal; in this way they become nearly as prolific as those on quince stocks.

For many years it has been common to hear some gardeners, if lacking energy or enterprise, declaim against pears on quince stocks, I believe only because they require careful culture. I have no hesitation in saying that in the most adverse soils, if the climate be not too cool, they may be grown with advantage in a garden. With biennial removal and fresh compost, they would succeed (as I can show) in solid clay, or in hard, stony and gravelly soils. Give them a favorable climate, and you may make them independent of the natural soil of the garden.

An idea has also been broached, that as the spring frosts are less severe at ten or twelve feet from the surface of the earth, it may be advisable to cultivate our choice pears as tall standards. From 1845 to 1856 our springs (England) were generally frosty and destructive to the blossoms of fruit trees. During that period I have often had crops of fine pears from my dwarf trees when the standard failed, but never once crops from the standards when the dwarf failed to bear. My finest pears are grown on bushes which are taken up and replanted biennially in November. In February, annually, about two quarts of soot are strewn on the surface around each tree in a circle two feet diameter; this is left undisturbed all the summer, owing, I presume, to the constant radiation of heat from the earth. Pears grown on these bushes are quite equal in size to those grown on walls, and superior in flavor.

**PLUMS.**—When cultivated as a pyramid, the plum tree is a beautiful tree. I have five acres of the finest pyramids ever seen; they are objects of the greatest beauty. In small gardens the pyramids should be lifted biennially. This gives them a proper cheek, and makes the trees abundantly fruitful; but there is for small gardens, or even for large gardens, much exposed, no more interesting or profitable mode of cultivating the plum than as a bush. The biennial removal as recommended for pyramids should be

adopted, and they soon become pictures of fertility. I have a Green Gage Plum ten years old, three feet high and four feet diameter; this in 1855 was breaking down with its load of fruit. For pot-culture in orchard-houses plums succeed admirably, and late sorts will hang on the tree until November, and shrivelling so as to become like a sweetmeat. (See his Orchard-house sixth edition.) "Quere.—Would not these orchard-houses give us a plentiful supply of good plums, and escape the curculio; also, apricots, nectarines? They can be constructed very cheap, and really would give more amusement to our ladies and male friends than the neglected and badly-managed greenhouses, useless in summer and expensive in winter. Grapes in pots, strawberries, and an endless variety of fruits, might be daily on the table and not cost one-half the expense of expensive plants, and ever-dying exotics."

**RASPBERRIES.**—Rivers' report of the new Autumnal kinds is as follows:—

*October Red*, or *Merveille des Quatre Saisons*, (only four dollars per dozen.) Large, bright-red; bears even more abundantly in autumn than the *Large-fruited Monthly*. Its spikes of fruit are often from twelve to eighteen inches long.

*October Yellow*, *Merveille des Quatre Saisons* *peut Jaune*, (six dollars per dozen,) has the same habit as the preceding, but gives yellow fruit of a good size and flavor, and bears abundantly.

**BLACKBERRY.**—*Lawton*. He says:—"This blackberry is very popular in America. It has borne fruit here, and proves to be a distinct variety, giving fruit rather more conical in shape than our English Blackberry, and, perhaps, a trifle larger. In flavor there is hardly any difference, but it ripens about the middle of August, or a full month earlier than our English blackberries."—*T. Rivers*.

**GARDENING IN ENGLAND.**—At the sea side residence of Queen Victoria, in the Isle of Wight, a large portion of the pleasure-grounds is appropriated to the young Prince and Princesses, who have each a flower and a vegetable garden, green-houses, hotbeds, and forcing-frames, nurseries, tool-houses, and even a carpenter-shop. Here the royal children pass hours of their time. Each is supplied with a set of tools, marked with the name of the owner; and here they work with the enthusiasm of an amateur, and the zeal of an Anglo-Saxon. There is no branch of gardening in which the royal children are not *au fait*. In fact, from the highest personage in the land to the poorest Manchester weaver, gardening has become such an essential part of education and refined culture, that to all classes it is one of the "necessaries of life."



## The Gardener's Monthly.

PHILADELPHIA, JULY 1, 1861.

All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

### RATHVON'S ENTOMOLOGICAL ESSAY.

This month's article completes the series of the above, which we have been publishing for some time. We intend now putting the same in book-form, with the plates COLORED, which will be an invaluable treasure, as it will enable fruit-growers to distinguish at a glance his friend or foe from among the many forms of insect life, and will give to the entomologist a cabinet, which he will be fortunate if he should be able to obtain from nature.

The drawings and colorings may be relied upon as correct, coming as they did from so well-known an entomologist as Mr. Stauffer; and for the letter-press descriptions, we need but allude to the reputation of the author, whose pen the Fruit-Growers' Society of Eastern Pennsylvania was so fortunate as to engage on the subject.

The work will be published in octavo size, bound in cloth, at the low price of 75 cents, or paper at 50 cents.

### A STRAWBERRY VIEW.

Of all fruits, the advent of the strawberry season is the most welcome. Epicures may cast their longing eyes at embryo bunches as they pass through their grape-houses,—and the men of heavy means and proportionate patience see all humbler fruits eclipsed in the anticipated luxuries of their pear orchards; but to the mass of the people all these are obscured by the strawberry. That is the fruit for the million. It is very interesting to note the great progress this strongly republican fruit has made in its hold on the hearts of the masses. From forming a dish that might only be set before a king, and which, if history tell truth, even a royal personage has been known to die surfeited; it has successively descended to do duty at the tables of aristocracy, and at the humbler boards of American sovereigns, till he who does not afford the family he governs at least one good strawberry festival in

the season, is not worthy even of a reputation, and is "very poor indeed."

Our strawberry crop is not ripe at the present time of writing, and while our lips are moving in advance of the coming enjoyment, we will suffer our pen to note a few points in the modern history of the strawberry; considering what has been done for it, and what it has done for us, and what we yet expect it to do. About thirty years ago most of the kinds of any note in cultivation in this country were what we should now consider small and very poor bearers, and were mainly imported varieties of the Old Pine and the Scarlet. Of the latter, the Methven, under the name in some localities of Keen's Seedling, was one of the most popular. The Philadelphia markets could furnish little else but this variety, and, if tradition has correctly informed us, very few even of these. About twenty-five years ago the first decided impulse to strawberry-culture was given by the Hoveys in the raising of Hovey's Seedling, which was considered so far in advance of all existing varieties, as to be a wonder of its day, and affording nearly an argument against the doctrine of the great botanist Ray, and which has almost passed into one of the canons of natural history, "*natura non facit saltum*,"—nature does not improve by jumps.

Certainly this was a leap of no mean extent, and strawberry cultivation with it went on at a bound.

But Hovey's plant had imperfect flowers. The stamens were wanting, and the plant in that state could not fertilize itself, and was consequently barren. But it seemed that nature, in rendering the stamens abortive, did so only in order to turn her energies in another direction, namely, a greater profusion of these imperfect flowers. The Cincinnati cultivators were not long in turning these facts to account, and by introducing a few pollen-bearing plants,—staminates amongst the imperfect pistillates, succeeded in fruiting the latter to such an extent that prodigious crops were the result, and while the fruit was thus brought within the reach of all by the low prices, the culture became so general, that for awhile it might seem doubtful whether the Queen City was most famous for her strawberries or her pork.

Our Western friends were proud, and justly so, of their discovery, and with the enthusiasm which history shows to be generally inseparable from really useful inventions, undertook to give to their new application of facts all the merit of novel botanical principles, on which another party of pomologists took issue, and a long "strawberry war" was the consequence, ended only by sheer exhaustion of the combatants. The one party claimed that a strawberry once pistillate or perfect, was always so,

through all its successive generation of runners. The other asserted that under some circumstances changes at times occurred. The question might very well have been left to the laws of the science of vegetable morphology to decide, had not its discussion a practical bearing on the character of nurserymen in regard to the accuracy and identity of the varieties they sent out. History does not record that either of the combating parties were convinced of error, and the only certain fact is, that the "hatchet" was buried, and peace has since reigned undisturbed.

About this time Myatt, of England, was revolutionizing the strawberry-culture of that country with his improved seedlings, and the many new kinds of that country were extensively imported to this, all with more or less failure, and the impression becoming general, that foreign kinds were not adapted to our country, a stimulus was again given to raising American seedlings. Every year brought its varieties,—Phœnix, Burr's Pine, Mc'Avoy's Superior, Genesee, Longworth's Prolific, Cushing, and scores of others, none of which, however, attained any very wide-spread popularity, except, perhaps, Burr's Pine, which, with Hovey's Seedling, can scarcely yet be said to have their glories entirely dimmed by the best of the popular favorites of the present time.

About the year 1852 James Wilson, of Albany, raised the Albany Seedling. He does not appear to have thought very highly of it himself, for it was distributed without much noise or comment, and at a low price, amongst his friends all over the Union. It was found, however, that no strawberry ever had so great a power of adapting itself to local variations as this. It bore well and abundantly, with great regularity and certainty *every where*, and with a small amount of trouble and care, which was a sure passport to the gardens of the masses, ignorant of the greater value and profit of a better class of strawberries, that only required more scientific knowledge and greater practical skill than they possessed to manage properly.

Let the comparative value of the Albany be what it may, the historical fact may not be suppressed, that its dissemination gave an impetus to strawberry-culture with us not less in value to the introduction of Hovey, or the discovery of the sexual theory. We now want a strawberry with all its good qualities, but of better flavor. We hope that amongst the many varieties of last and previous years, such may be found. Will not our correspondents report their experience?

In improved culture, strawberry history is worthy of quite a new volume. It is now pretty well understood, that re-production of plants and the bear-

ing of fruit cannot go on in the same plant at the same time and do full justice to each. It is now therefore a part of the science of strawberry-culture; that the runners must be cut off of fruiting plants; and that to get strong plants, the fruit should be denied the privilege of perfecting. Besides the superior strength of plants from unfruiting parents, nurserymen of correct habits are likely to adopt the plan as insuring greater accuracy of stock, as with the best care, seedlings will at times come up in fruiting beds and mix the kinds, to the great bewilderment of the purchaser, and edification of those who believe in no change of sexual classification. The profits of this mode of culture are also matters of history. One cultivator, Mr. Knox, of Pittsburg, having invested thousands of dollars in this plan, after a careful testing of opposing ones,—and is reaping, it is said, a rich harvest of golden grain as the result of his judicious discrimination.

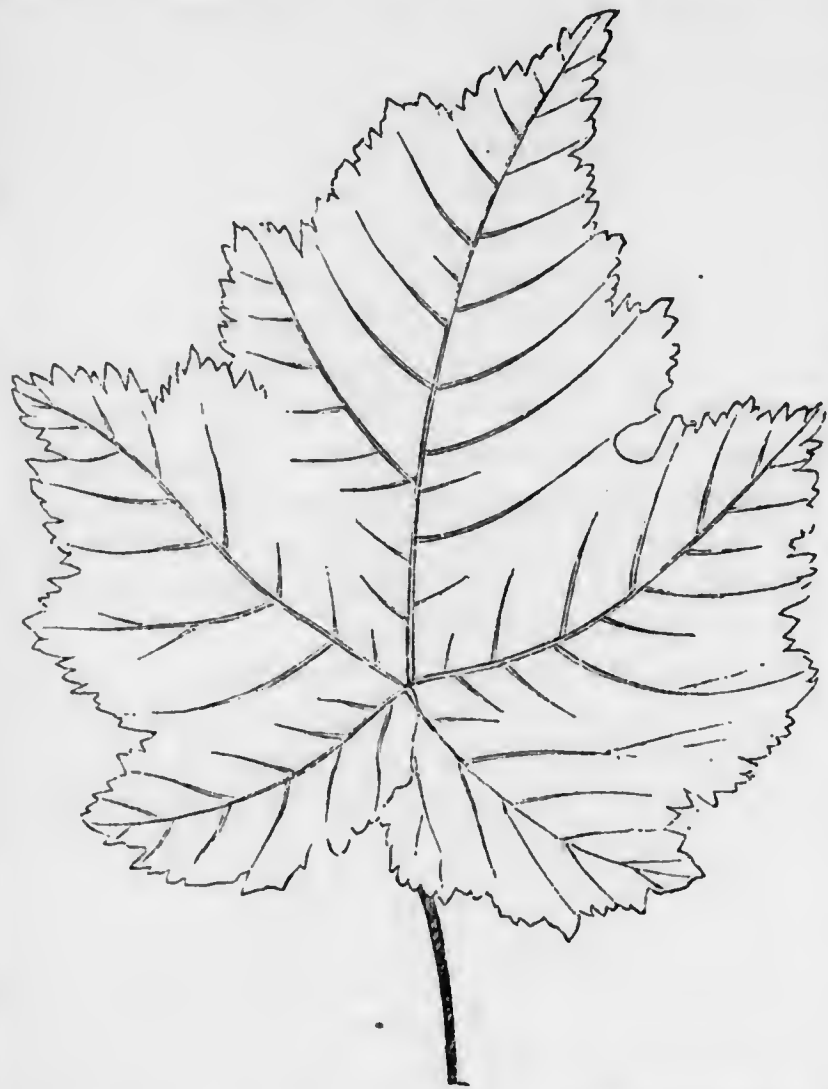
There is yet one great improvement wanted, which in the name of the people we beg to suggest.

It is all very well for our Cincinnati friends to profess, as our good friend Mr. Longworth once told us they did, that no one wants to eat strawberries without cream; the observation was used, by-the-way, as in favor of a reasonable amount of acidity in some favorite, to which we objected. We know that all the world and his wife, as well as the dear little ones, would like to have strawberries so presented to them, caring little for the cream, that at any impromptu moment they could get and carry away a box of the precious rubies, at pic-nics or on excursions, without the inevitable "owner's box" before their eyes. We want, as they have in Europe, cheap boxes or baskets, to be made by the million for a trifle, and for the sole ownership of the million. The London pleasure-seeker buys his "pottle" of strawberries at London Bridge, before taking his excursion boat for Gravesend, which, after emptying its contents at his leisure, he commits to the surface of the "deep," and no loss to any one. We believe some attention has already been given to it by some of the advance guard of the strawberry-growers' forces, and as they are of that character that knows no defeat, we expect to hear of their successes at no remote period.

### THE TARTARIAN MAPLE, ACER TATARICUM.

This is one of the most striking of all the maple genus. The appearance of the tree suggests rather a fine specimen of hawthorn than a maple; and, as it grows close and has a twiggy habit, is very striking, and is eminently characteristic of refined culture when introduced to garden scenery.

When the tree is young and growing thriftily, the berry is three-lobed, and much resembling a young Clinton Grape-leaf. Our sketch was taken from



such a form, grown on a tree near Philadelphia, and is one-half the natural size. When, however, the tree grows further towards maturity the leaves are heart-shaped, and undivided,—the lobes, as above represented, becoming quite obsolete. The flowers grow in erect spikes, close together, and like our Moosewood (*Acer striatum*) in appearance. It is a native of Russian Tartary, quite hardy in this country, and well worthy the attention of cultivators.

#### EDITORIAL COMPENSATION.

No one not in the secret has any idea of the innumerable annoyances connected with the management of a journal of this kind. One reader cares nothing for this subject,—another for that. Here one man's interest is affected,—there another's prejudice assailed. Questions of a public nature embroil you with your best private friends, and to your enemies you are seldom able to offer a sufficient peace-offering.

In ordinary cases, the knowledge that all this is compensated for by the pecuniary success of one's labors, renders the position of an editor or of a proprietor not altogether intolerable. In our case, where neither the proprietor nor editor went into the cause with any idea of making money by it,

either directly, or indirectly as an aid to any other business, the only compensation desired or expected was that the cause of horticulture might, peradventure, be advanced, and we receive, at least, the gratitude of our fellow-men for our efforts.

We are pleased to say that in this we have not been disappointed. Most of our friends have been animated by the same spirit as we have. They have generously labored to make our little work known, and have extended its circulation, until, with the exception, perhaps, of the *London Gardener's Chronicle*, we believe we have a circulation greater than any purely horticultural journal in the world. Ignoring profit by our labors, our friends have done their duty also, and, by extending our circulation, have saved us from loss,—all that we asked of them.

In addition to this, the many kind words in hundreds of letters, and from the whole agricultural and horticultural press, complimentary to the past and encouraging for the future, have cheered us on in our labors, and at no time have they been more profuse or more earnestly expressed than in the present one of our national troubles. We sincerely say, that at no period of the existence of our periodical has its influence for good been shown so unmistakably as now,—and that we believe, had we a wide choice, we could serve our whole country no better than by acting as its editor.

"Your periodical," writes a distinguished divine of New York, "is the only one that comes to my table that makes me entirely forget war topics, and I thank you heartily for so great a luxury." Another clergyman and valued friend, from Pennsburg, Pa., says, "My mission is eminently one of peace. Our papers are all on the war, and the advent of your *Monthly* is ever anxiously looked for." Similar letters from the North, East and West pour in in abundance. Gratifying as they are, our Southern correspondence during the past few months is still more pleasing, so far as the unfortunate condition of things will admit of any pleasure at all.

Dr. Ravenal, the distinguished botanist and horticulturist of Aiken, S. C., in the first and only letter we ever had the pleasure to receive from him, writes: "I presume post-office communication will soon be no longer open to us; in which case I wish you to take any and every chance you can to send me the *Monthly*. Whatever may be the merits of the controversy between the different parties in our country, (and I hold my own opinion on this subject,) I shall never forget the pleasure your journal has given me, or relinquish my desire to receive it."

And thus up to the day of final mail suspension, scores of letters have reached us, which we religiously cherish,—some recounting what their writers consider the wrongs they have suffered from the

North, others expressing abhorrence at the course of their own neighbors of the South,—some for Union, some for disunion, some for peace, some for war,—but all wishing a long career of prosperity for the *Monthly*; their wish that back files should be saved for them; and determination, should they be spared through the struggle, let the result be what it may, to resume their places in its refining circle.

What greater subject can appeal to our individual patriotism? That in the midst of one of the most heart-rending conflicts the world has ever seen,—when father and son, brother and friends, church against church, and pulpit against pulpit are divided to a greater extent than any history can furnish a parallel,—we should hold in our hands one of the strongest, most pure and lasting bonds of union, drawing together hearts the more strongly as the political and religious relations tend to sunder them, is one of the proudest reflections of our lives,—one overwhelming myriads of such annoyances as we alluded to in the opening of our chapter, and affording us a stronger inducement than ever to persevere in our course of horticultural propagandism, as one of the wisest and best means of infusing love, harmony, peace and good-will amongst men.

### Scraps and Queries.

Communications for this department must reach the Editor on or before the 10th of the month.  
The Editor cannot answer letters for this department privately.

COLD VINERIES.—W. F. H., Lexington, Ky., writes:

"As I am about building a cold vinery for foreign grapes, I want some information on the subject. 1st. As to the best mode of construction. 2nd. The probable cost of the kind of one you would suggest. 3rd. The best time for planting the vines. 4th. The best plan for preparing the borders. 5th. Which is the best, inside or outside borders; and, (6) as I want them entirely for family use, and not on an extensive scale, give me your opinion as to the best varieties. I wish to build one on a cheap but yet durable plan.

[1. There are two general classes of graperies,—lean-to and span-roof,—and these again may be either flat-roofed or curvilinear. The best mode of construction will depend on the class chosen. For general purposes, the flat-roofed, lean-to, or span is employed. This may be either on the fixed-roof principle or with sashes; the former is now coming into general use. How to construct on the fixed-roof principle is described in detail at page 117 vol.

I. (August number.) That structure was intended for plants; but any one accustomed to greenhouse, or even common hotbed frame building, can readily adapt it to the purpose of a vinery.

2. Houses on this principle can usually be built at from two to five dollars per foot, according to the size or dimensions,—a lean-to about ten feet back, three feet front, and sixteen feet wide, would cost in this section about three dollars per lineal or running foot. A house on the sash principle generally costs more than double that of fixed roofs.

3. Just before the leaves burst in spring.

4. We cannot do better than refer you to an excellent article by a superior practical gardener at Yonkers, New York, at page 139 vol. II. (May), for those who grow on the old border system. It is best to have the border entirely in the house, if sufficient skill and care can be employed in the management of the vinery. They can be grown best this way. Where but little time can be spared for management, we prefer a border to extend both inside and outside the house. In Mr. Bright's hands, the divided and detached borders produce wonderful vines. When you have well managed the old system, you may try your hand at his improvement, which you will find fully described at page 34, Vol. II.; or you might try it on a small scale at first in a part of the house, and if you found you understood it well and could manage it, extend it to the whole house ultimately.

6. Three-fourths of Black Hamburg, and divide the balance between Royal Mascadine, White Frontignac, Grizzly Frontignac, West St. Peters, and, if possible, some of the newer kinds, which may possibly prove to be real improvements, such as Golden Hamburg, or Muscat Hamburg. We must add, however, that we seldom recommend novices to go into novelties on their first trials. It is best for them to start with well-known and dependable kinds.

DISEASED ROSE-LEAVES.—II. V. F., Logansport, Ind.—The leaves sent are not, in our opinion, injured by the frost. The following are our reasons for this opinion. The leaves are too far expanded to suffer in that way. Frost will only injure a young growth. When once a leaf is partially hardened, frost will not injure it in the way yours are. Again, the tenderest portion of a leaf is its extreme margin. When injured by frost, this portion suffers first.—Some of your specimens are so injured; but many of them are injured at the base of the leaf, and even the footstalks are browned, while the outer and more exposed portions are not injured at all. We cannot say what has caused the injury without seeing the plants and judging from circumstances. You need not have apologized for the simplicity of your ques-

tion. It is an old and true saying, that a reasonable amount of skepticism is necessary to make a true believer, and in no case is it so wise to doubt as in those little circumstances that daily come under our observation, in which persevering industry will certainly convince us of the reason and cause. Extensive knowledge is but a series of small observations, and for this reason, as our past pages show, we are ever ready to aid our friends in solving these "simple things."

ADVERTISEMENTS—*Note from J. B. Good.*

YORK, PA., June 13th, 1861.

Mr. Thomas Meehan:—

Dear Sir—In the last number of the *Gardener's Monthly* I notice a letter from Henry Kohly, of Greenville, Ills., in respect to my Grape advertisement, &c. From what I can judge of his writing, I come to the conclusion that the man must have been insane or very absent-minded, as the enclosed letter from him will show. This is the only letter that I ever received from this Henry Kohly. If he did send any money, (*which I doubt very much,*) it never reached this place nor came into my hands, as the enclosed is the *only letter that I ever received of him, and there was not a particle more in it than what I send to you.* He says that his first letter was dated February 11th, 1861; whereas the enclosed letter proves positively that he is wrong, as this is dated January 30th, 1861, and is, I think, based upon my January card of Grape-vines, as he *makes no mention at all of cuttings.* To this letter I sent him the communication you published, and dated "February 16th, 1861," and with my signature. You will know his handwriting, and can judge for yourself who is the greatest swindler in this case. Does this man mean to put a false charge against me, and thereby defame me? He says he never noticed my card before the 11th of February; whereas the enclosed letter from him shows quite to the contrary.

In respect to others there may be who did not receive their vines, or were dissatisfied with them, I am willing to make every thing right next fall. Through the present crisis in the country and other embarrassments, it was impossible for me to attend to my orders as should have been done. I hope that all will come right again.

Respectfully yours, JOHN B. GOOD.

[This letter fully justifies us in the course we have uniformly adopted, not to interfere between nurserymen and their customers, for the reason that we cannot know the exact facts, and are in no position to judge of the justice or injustice claimed. In our last, Mr. Kohly says his first letter to Mr. Good was written February 11th. Mr. Good now

encloses one dated from "Greenville, January 30th," as quoted in the letter of Mr. Good printed last month, and the envelope, post-marked "Greenville, January 31st," and the conclusion is inevitable that Mr. Kohly is mistaken. So far, Mr. Good has entirely the best of the controversy. And now, as to the other, how shall we decide? Mr. Kohly says he sent money to Mr. Good. Mr. Good denies receipt of it. First, as to the probabilities. We know there are men who would receive money and deny it, and then we also know that the mail is unreliable at times, and that letters will get lost. The probabilities may be for or against Mr. Good; but to the actual facts, what have we whereon to form a judgment?

The last paragraph of Mr. Good's note demands a word. We stated in our last that we had received many letters similar to Mr. Kohly's, complaining of Mr. Good. Mr. Good here seems to admit that there is some ground of complaint, and excuses himself on account of the "crisis" and "other embarrassments." If Mr. Good means that he has received orders and money, as many parties write to us they have sent, and, neglecting to acknowledge or in any way notice their letters and remittances, offers the above as a satisfactory apology, we presume it is not likely to be successful. We must, however, say, as we have before said repeatedly, that we cannot consent to stand between advertisers and their customers. We had scarcely commenced our work before we thus cautioned our readers, at page 73 of Vol. I., in answer to a correspondent who supposed "simple-minded people" take it for granted that a paper endorses "an advertisement," that we had no sympathy with those who were "simple-minded," and declined to interfere. Again, at page 121 of the same volume, we expressed the same views. We advised our readers not to buy of those who advertised in our paper, without "previously satisfying themselves of their character for honesty and fair dealing." At page 245, Vol. II., in reply to a Canadian correspondent, we again repeated the principles we had adopted, and declined to interfere in the case.

Our rule is, to admit no advertisements of a business into our columns when we know that such business is essentially a swindle. Thus we have uniformly refused to advertise for a so-called "nursery" in Kentucky, and for other "quack" concerns. But when the business is legitimate, we cannot interfere with the man's *manner of conducting it.* Deal with those you know to be prompt, honorable and reliable. If you think you can get a better bargain by trusting your purse and your confidence into the hands of entire strangers, whose only recommendations may be flashy-written advertisements, "tre-

mendous sacrifices," "selling regardless of cost," and other clap-trap, why should we be called upon to sympathize when the buyer finds his "bargain don't amount to much?"

So far as Mr. Good is concerned, it is but justice to add, that we have just received two letters, one from a respectable merchant in Baltimore, whom we personally know. He says:—"I gave Mr. Good a heavy order for vines, and received them in good order. They were very fine plants, and satisfactory." The other, whom we also personally know, a Philadelphian, says:—"I sent him five dollars for Delaware vines, and received them. They were small, but are doing well."

With this explanation of our "platform," we hope to have no occasion again to refer to the subject.]

GREENHOUSE BOILERS—*J. T. W., Jackson, Mich.,* wants to heat a house twenty-five by fifty feet, and asks whether flues or hot water would be most economical. He says he can get a small tubular boiler for sixteen dollars, and might want to divide the house in two sections, the one to be heated when the other was not.

Generally the first cost of a boiler and pipes is ten to one against them, and in favor of flues; though in an account of ten or twenty years, the former comes out much the cheapest. If, however, our friend can get three-inch pipes for about twenty-five cents per running foot with a sixteen dollar boiler, have hot water, by all means, especially when it is desired to have at times one house heated and the other not, which can be regulated by a stop-cock. In the latter case, all that is necessary is to see that the boiler and furnace are large enough to afford sufficient heat for both in the coldest weather. What that size should be, can only be told when the structure and uses of the house were known, and the probable amount of heat required.

LIME, LEAVES, &c.—*A Subscriber, Philadelphia,* writes:—"I have put around the roots of my peach and nectarine trees tobacco-leaves, previously soaked in water, wrapping them around the stem about two or three inches below the surface of the ground, and three inches above. Then, after putting back the earth, I heaped air-slacked lime around the collar of the tree. The object was to protect the trees against the ravages of the borer. It afterwards occurred to me that the combined action of the tobacco and lime might be injurious to the trees. Can you say how this is? (1.)

In his work on the strawberry, Pardee recommends watering the plants every ten days or two weeks with a solution composed of a quarter of a

pound of sulphate of potash, of sulphate of soda, of nitrate of soda, and an ounce and a half of sulphate of ammonia, mixed with six gallons of water. But he does not say to what surface this is to be applied—whether half an acre or an acre. Will you be good enough to inform me? and also whether it may be applied while the plants are fruiting? (2.)

Is tan a good mulch for pear and other fruit trees? (3.)

[1. We should apprehend no injury under such circumstances.

2. Mr. Pardee, no doubt, means that the plants should be watered with a watering-pot, and in such manner as if the plants were dry and we were using common water merely, and that the mixture should thus go as far as it would in that way.

3. Tan has been found useful as a mulch for strawberries, but not better than any other material for other trees or plants.

PATENT-OFFICE PLANTS—*H. B., Galesburg, Ills.*—The Biota "sinensis" and Pinus pinea that you have received from the Patent Office are very common things, and though they may probably live through the winter in your section, are not very desirable for your climate.

BLACK KNOT ON THE PEACH—*A Subscriber, Leominster, Mass.*—Some time in the autumn of 1859 I noticed a singular excrescence upon one of my young peach trees, which appeared to be identical with the black knot of the plum tree, and after cutting it off, the wood beneath presented the same peculiar appearance as does the wood of the plum beneath a black knot.

Last summer another knot made its appearance just below the spot where the first one grew, which I have also removed, and enclose you a small portion, in order that you may determine whether it really is the same thing as the black knot of plum or not. I have understood that in some places the cherry has become affected by the knot, but I have never heard of their being found upon peach.

[The genuine black knot. We have never seen it before on the peach.]

ANTS ABOUT PÆONIES—*H. B., Galesburg, Ills.*—Hot water, in which sulphur has been mixed, poured about the plant, is the best way to make ants leave. If the ants "work on the bud," it is probable that other insects have been there before them, and that they are merely feeding on saccharine secretions the insects have left behind them.

MOUNTAIN ASH SEED—*J. E., Davenport, Iowa.*

—If not sowed until spring, after the seed has been somewhat dried, it will not come up till the second season. If put in sand, kept damp until sown in spring, it will usually grow that spring.

THE ATLANTHUS SILKWORM—*F. Berg, La Perc, Mo.*—We have placed your specimens in the hands of a distinguished entomological friend, who will report on them in our next.

### New or Rare Plants.

PAVITUM ELATUM, called also *Malva elatum*, is described in Hooker as a Cuban tree of very handsome inflorescence. To us it possesses interest, from the fact of its being the tree from the inner bark of which the "Cuban bast" of commerce is obtained. It has generally here been confounded with the "Lace Bark" *Lagetta lentearia*, which Sir W. Hooker says it does much resemble.

THE FEMALE AUCUBA JAPONICA.—Mr. Fortune has discovered this in Japan; the male variety of our gardens being the only one so far discovered. He says it bears a profusion of magnificent red berries.

AMONG the last Japan plants from Mr. J. G. Veitch are some most interesting and hitherto wholly unknown in our gardens, and which, considering the climate that produces them, may be expected to be as perfectly hardy as *Thujopsis dolabrata* itself. We add a few notes concerning them.—*Gardener's Chronicle*:

PINUS DENSIFLORA, *Siebold & Zucc., Flora Japonica*, ii. p. 22, t. 112.—Of this Siebold gives the following account. It is found all over Japan, growing along with *P. Massoniana*. Forty feet high or more. It is more especially found on the slopes of mountains to the height of one thousand to two thousand feet. It, however, occurs at the bottoms of valleys. The timber is of great excellence; its resin is largely in request for the plasters and salves used by the Japanese in healing wounds and sores. In pulmonary complaints they hold it to be a specific. Indian, or China, ink is made from the soot of both *P. densiflora* and *Massoniana*. So far Siebold. The cones are smaller than those of a Scotch Fir, with flat lozenge-shaped terminations to the scales, and very small seeds, with a narrow curved wing. Mr. Gordon tells his readers that this plant is the same as the Stone Pine, an astounding assertion, enough to ruin the credit of any book. (See his *Pinetum*, p. 179.)

PINUS PARVIFLORA, *Siebold & Zuccarini, Flora Japonica*, ii. 27, t. 115.—This is one of the Cembra tribe of Pines, with leaves five in a sheath, and great wingless seeds. According to Siebold, it, although found cultivated all over Japan, is a native exclusively of north of the empire, extending from about 35° N. Lat. to the Kurile Islands. It forms a small tree, not above twenty-five feet high, in the Japanese promanades, but being taller on the north-eastern slope of the Fakone Mountains. The wood is much used by cabinet-makers and turners. There is a dwarf variety, and the species seems much inclined to vary in stature and in the length of the leaves. The cones are oblong, with great blunt thin-edged concave rugged scales, when fully open.

ABIES FIRMA, *Siebold & Zuccarini, Flora Japonica*, ii. 15, t. 107.—Concerning this most beautiful species we collect the following from Siebold. It is a large tree, with the aspect of the European Silver Fir, growing from Kinsu to the Kurile Islands. Its timber holds a fifth-rate place among the Japanese, and is principally used in fancy-work, or for making the cases in which they pack their lacquered goods. It is white, soft, and fine-grained. The cones are about four inches long, pendulous, straight or little curved. Their scales are broad, dull, downy, a little notched at the edge, and beyond them projects somewhat the narrow sharp point of a stiff bracteal scale.

RETINISPOA OBTUSA, *Siebold & Zuccarini, Flora Japonica*, ii. 38, t. 121. (*Hinoki Jap.*)—"A Japanese author says that as a hero is the glory of men, so is the Hinoki that of the forest." So writes Siebold; and certainly the account he gives of the tree would seem to justify the assertion. We have before us a branch of the plant with some cones. In its dried state it looks like a small leaved state of *Thujopsis dolabrata* without its glaucous underside and with a more brilliant green color. It is an evergreen conifer, belonging to the *Arborvitæ* race, and Siebold assures us that it has a straight stiff bole from sixty to eighty feet high, and five to six feet through at the butt. Its branches spread like a fan, and its white fine-grained solid wood shines like silk when worked up. Because of these superior qualities the Japanese consecrate the tree to the Goddess of the Sun, whose chapels and little temples are built entirely of its timber. Moreover, most of the wooden utensils employed at the Court of Micado are formed from it, and retain their natural color without the aid of varnish. The fans of the prince and his women are also made of little slips of Hinoki wood, held together by silken threads, and gleaming with the colors of the rainbow. The country of Hinoki is

chiefly the mountainous part of Nippon, where it forms vast forests, and on account of the high price of its timber, is an important article of trade. Huge piles of colossal balks and planks may be seen collected on the banks of Japanese rivers. The tree is planted for ornament and shade all over the empire.

RETINISPOA PISIFERA, *Siebold & Zuccarini, Flora Japonica*, ii. 39, t. 122. (*Sawara Jap.*)—A smaller and more slender tree than the last, with sharp pointed leaves, glaucous and concave on the under side. According to Siebold, the leaves are also of a darker green; he saw individuals twenty-five to thirty feet high near a temple at Nagasaki; and found it growing intermixed with *R. obtusa*. Its cones are much smaller, and the oil cysts on its seeds more numerous as well as larger.

VEITCHIA JAPONICA: *Lindley, n. g.*—Of this extraordinary plant only two mutilated cones, a few seeds, and a small branch have been received; but they suffice to show that it is a wholly new form in the coniferous order, with the seeds of a *Chamaecyparis*, the leaves of an *Abies*, and cones which become, when ripe, more like spherical honeycombs than any thing else to which we can compare them. One would fancy the plant to represent an *Abies*, permanently assuming in the cone the monstrous form so often given to the common spruce by the attack of insects, and then struggling onwards to become a *Sciadopitys* or a *Cryptomeria*. The branches are short and covered with spirally arranged projecting curved pulvines, resembling those of *Abies Menziesii*. At the base of each branchlet is a small cup formed of recurved scales from which the branchlet emerged when young. The leaves are half an inch long, linear, blunt, and glaucous beneath. The cones are erect, downy, nearly spherical, about an inch in diameter, before ripening furnished with incurved horn-like projecting bracteal scales, which at maturity break and disclose as many four-sided sockets or cavities, within which lodge a (to us uncertain) number of small two-winged seeds terminated by a pair of short, straight, tooth-like processes. We cannot do otherwise than associate with this extraordinary genus the name of Mr. J. G. Veitch, its active and intelligent discoverer, and the introducer of so many fine trees previously unknown in this country. For our scientific readers we subjoin a brief technical description:

*Veitchia*.—Genus Coniferarum Abietearum. *Strobili* alveolati: i. e. ovarii convolutis omnino connatis demum apice quadratum deliscentibus, bracteis cornutis elongatis incurvis maturitate, fragilibus. *Semina* diptera, apice bicornia s. bidentata (numero indeterminata.) *Folia* Abietis.

Sp. 1. *V. japonica*, foliis linearibus obtusis subtus glaucis, phyllis rhombeis, pulvinis elongatis rigidis incurvis, strobiliis sphericis erectis imbricatis, bracteis triangularibus elongatis incurvis.

### New and Rare Fruits.

NEW FOREIGN GRAPES.—*Ingram's Hardy Prolific Grape* is a fertile setter. The bunches are from twelve to fourteen inches in length, having black oval berries, with the peculiar vinous flavor of the Hamburg, yet more piquant, and combined with a slight spice of Muscat. The flavor is new. Owing to its ripening in a much lower temperature than the Black Hamburg, it is a good sort for a greenhouse. The footstalk of the berry is stiff. It has been exhibited before the Royal Horticultural Society's Fruit Committee, and obtained a first-class certificate; the fruit shown being cut from a vine struck from a single eye that was only fourteen months old from the time of putting in the single eye till cutting the grapes.

*Gros Maroc Grape*.—This is likely to prove a valuable new purple grape. Its berries are oval, and very large; bunches, shouldered, and very large. Its habit is most vigorous, with large woolly leaves. It ripens with the Black Hamburg in a house without fire-heat, and will hang a long time on the vine, or be kept with great ease in bran, so as to form English raisins, as its skin is thicker than the Black Hamburg. Its flavor is remarkably rich.

*Gros Colman Grape*.—This is a round purple grape, with very large berries and bunches. Its leaves are large, and its habit coarse and most vigorous; skin thick, and flavor inferior. It is, however, a very showy grape, and, like all thick-skinned grapes, it will hang a long time on the vine.

*Muscat Troveren Grape*.—A variety of the White Frontignan, with very large berries and bunches. Though the flavor is less rich, it promises to be a very desirable sort.

*The Japan Grape*, or "Yeddo Vine," produces a fruit of great excellence. The bunches are medium-sized. The berries are of a brownish color, thin-skinned, and flavor excellent. This might prove of immense value to our country, where Japan plants usually thrive so well; and we commend the question of its introduction to our "Patent Office," in place of "tea plants" and Red Strap-leaved Turnips.

PULLEN'S SEEDLING PEACH.—On looking over some back files of the Pennsylvania Horticultural

Society reports, we find a seedling peach, raised by Mr. Isaac Pullen, of Hightstown, New Jersey, very highly spoken of, and a premium awarded it.

Not finding it in Downing, and hearing it frequently well spoken of by peach-growers, we give the following cut and description from memorandums by us:



Leaves, with globose glands; fruit, very large, and more compressed in shape than the Crawford's Late; skin, of a beautiful yellow color, with a dark red cheek; flesh, yellow, and of most excellent flavor. Ripens between the 20th and 30th of September. Seedling from Crawford's Late.

### Domestic Intelligence.

**WOODRUFF'S PATENT PORTABLE BAROMETER.**—This instrument, so useful to the farmer and gardener, is constructed in a strong, compact manner, and can be furnished at a price within the reach of almost every one. See Advertisement.

ON "SKELETONIZING."—There seems an endless diversity among the ornamental arts which serve to occupy the leisure and exercise the taste and ingenuity of that large class of women, who are not wholly engrossed with domestic cares,—for who is there that has no time to embellish the daily routine of care with something of beauty and variety?

There are unfailing sources of female employment in the innumerable variations of crocheting, knit-

ting, and zephyr work, which, if indulged in to excess, keep our wives and sisters in-doors, in a sitting posture, during hours which might be profitably spent in active and healthful exercise. These employments are, however, being increasingly diversified by others, which, though kindred in their motives, are widely different in their scope, involving the collection and study of natural objects, and corresponding rambles into the woods and fields. In these both sexes may be appropriately associated, uniting wholesome physical and mental recreation with the cultivation of the most refining and elevating tastes.

Several years have elapsed since the introduction of the aquarium or water-garden among us, and a few of these elegant and attractive ornaments are still to be found in dwellings, notwithstanding the difficulty of keeping up the perfect equilibrium of animal and

vegetable life so essential to their success; the fernery, Wardian case and hanging basket, are more easily managed, and at least one of these portable little conservatories furnishes a green spot in many a parlor and drawing-room during the dreary reign of the frost king.

The latest novelty in the way of these ornamental uses of natural objects is that for which the name of "skeletonizing" has been coined; its object is to produce permanent and beautifully white preparations of the frame work or skeleton of different vegetable structures, and to mount these tastefully under glass shades or otherwise.

The study of the intimate structure of all plants discovers among the several kinds of tissue developed during their growth, innumerable membranous vesicles of various shapes, containing starchy and mucilaginous matters chiefly in the fluid state and when developed in the light, a peculiar green coloring matter, called *chlorophyle*. This cellular structure predominates in the stem of the young plant, in the leaf and the immature seed vessel; its functions during the growth of the plant is to assimilate from the air the elements of the plant's food, which it is fitted for by its loose and porous structure, and the free circulation of the sap and air through it.

In the growth of most vegetable structures, and especially of perennial plants, trees and shrubs, the cellular tissue gives place in the stems to *woody* tissue, the fibres of which are drawn out into extremely fine and tough tubes, compacted together into bundles, which, stretching through the plants lengthwise, afford the necessary strength, and, it is supposed, serve to convey the sap from the roots to the digestive organs, the leaves. This woody fibre extends more or less in the leaf, and even into the flower, and forms what are called the veins of the leaf.

To those who have studied this veining of leaves in connection with their great variety of forms, there will be no lack of interest in our new art, but even to the most unobservant *tyro* it cannot fail to acquire interest as he pursues it in connection with the new ornamental art of "skeletonizing."

The cellular structure from its loose texture, the fermentable nature of its constituents, and its permeability by fluids decomposes very readily, when removed from the plant; all must have observed how a heap of fallen leaves blown into a moist place quickly soften into a pulpy mass, exhale foetid odors, and furnish the matrix for a rank growth of ferns, mosses and toadstools; it is thus that the exhausted soil is constantly replenished by decaying vegetation.—*Friend's Intelligencer*.

[To be concluded in our next.]

WELLESBY, THE SEAT OF H. H. HUNNEWELL, Esq.—Mr. Hunnewell's place was made entirely by the spade. So late as 1851, the present ornamented portion of the estate, about forty acres, presented to view nothing more than a hideous sandy plain, with scattered clumps of pitch-pine and scraggy oaks. These were entirely removed before any thing else was planted. Then an acre of ground or more was thoroughly trenched and manured, and, when prepared for a nursery, planted with fine varieties of evergreens, elms, maples, oaks, beeches, &c. These were only about fifteen inches high, but were set out where required as they attained growth and hardihood. The lawn was then graded, subsoiled, and cultivated some years before grassing. All the exposed parts of the estate toward the public road were planted out of view; and, until the trees reached a good height, the border was yearly sown with potatoes, the yield in some measure paying for the work. When the situation of the house was finally chosen, avenues from several points were formed by alternating the *Pinus excelsa* and *Magnolia tripetala* with Norway Spruces and masses of rare evergreen shrubs, such as rhododendrons, &c., for one approach, and by white pines and larches for another.

With admirable taste and judgment the formality of the avenues is discontinued on approaching the lawn, with its views of the lake, the Italian garden, and the house and plantations are segregated into groups and single specimens, chosen especially for their beauty and rich effect. About eight acres are here adorned with the finest trees that can be procured, many of them transplanted from a distance of twenty miles, even when nearly thirty feet high, by removing them during the winter, with balls of frozen earth about the roots, to holes already prepared. The keeping of these grounds has minute attention, and all the accompanying features of the place,—the mansion, the terraces, the French and Italian garden, the lake, are on a corresponding scale of magnificence.—*Christian Examiner*.

NEW HAND-GLASS.—We have been shown an invention of Mr. O. S. Cadwell, jr., of this city, designed for the early starting and protection of vegetables in the Spring. It is simply an earthenware, hollow cylinder, of about ten inches in diameter and eight inches in height, with a sloping top, to which is fitted a pane of glass. Holes are provided for ventilation. It can be furnished cheaply, and seems in many ways preferable to the hand-glass now in use.—*Homestead*.

HOW THE ENGLISH RIPEN LATE PEARS.—Mr. Powell, of the Royal Gardens, according to Mr. Bright, in the *Horticulturist*, says they allow all late

pears to hang on the trees till the latest period of gathering. Give light and air to the fruit store for the first six weeks; after this close the house, and keep the temperature at 45° to 50°. If not colored or ripe at the proper season, put them into a close box, in a warm room or vinery, where the temperature is from 60° to 70°.

**HOW TO DISSOLVE BONES.**—The following is a copy of a private letter written by the editor of the *Southern Field and Fireside* to a friend who wanted to dissolve a quantity of bones for raising root crops:

"To make a good article of superphosphate from bones, you should use about as many pounds of sulphuric acid as of bones (dry weight); break the bones as fine as you can with an old axe or sledge hammer, (they ought to be ground, if practicable with you,) when they should be wet by the free use of water boiling, adding half as many pounds as there are of dry bones. The half of a molasses hogshead will, perhaps, be as convenient and cheap for operating in as any thing. To the bones and boiling water in this vessel or some other, add slowly the acid, and stir the mass constantly as the acid is poured in. A powerful boiling takes place from the escape of carbonic acid from the bones, which gradually subsides by occasionally stirring; the bones in a week or ten days become like paste, when the whole could be taken out and mixed with perfectly dry loam or charcoal dust, to fit it for drilling with a machine. Where bones are larger, or the acid weak, it may take a month to dissolve their earthy matter; and this end is promoted by covering the large tub or half-hogshead holding the bones and acid with several loads of fermenting loose dung to increase the temperature, where heat is an important element of chemical action. I should not use over one to three hundred pounds of dry bones. Any bones or pieces not softened, I would compost with fermenting stable-manure, whose heat and carbonic acid will slowly dissolve them."

**QUINCES.**—The Apple Quince, of which there are several varieties, is the common old sort, of rather weak bushy growth, leaves small, light green, oval, sometimes obovate or roundish at the end, and downy on both surfaces.

The Portugal Quince is of much stronger growth; the leaf is large, broad, heart-shaped, glossy, smooth, dark green on the upper surface, lighter colored and downy on the under surface.

Anger's Quince, a hybrid raised from the Portugal, which it resembles very much, but the leaves are a little more pointed, and not quite so dark colored. It has the advantage, that it grows more readily from cuttings than the Portugal, at least in a Northern

climate. It also has the advantage, that it unites well with the pear bud.

Paris or Fontenay resembles the Anger's very much, perhaps its growth is a little more upright. It grows very easily from cuttings, and is probably in every respect equal to the Anger's as a stock; some French nurserymen even prefer it.—*Cotton Planter*.

**A FANCY HANGING BASKET.**—We saw a very beautiful fancy hanging basket in the hands of a lady on the cars. It was composed of a cocoa shell and pine cones. Saw the cocoa in two parts for the cup or frame of the basket, and with prepared glue, attach the small cones of the pine or larch, beginning at the bottom and forming them in rows to the top of the shell. A large cone makes the knob at the bottom. This one was made entirely of cones, but I think one nearly as pretty might be made on the shell of a squash or gourd, covered with acorns and their cups, interspersed with pretty mosses, where coco shells and pine cones are not to be had.—*Field Notes*.

**A NEW CANADIAN DYE.**—Professor Lawson has exhibited specimens of a new dye of great richness, prepared in the laboratory of Queen's College, from an insect, a species of cocoon, found for the first time last summer on a tree of the common Black Spruce (*Abies nigra*, Poir.) in the neighborhood of Kingston. This new dye closely resembles true cochineal, a most expensive coloring matter, capable of being produced in warm countries only, and which is used to give a fine and permanent dye in red, crimson and scarlets, to wool and silk. Unlike cochineal, the new dye, discovered at Kingston, is a native Canadian product, and capable of being produced in temperate countries. Having been but recently observed, a sufficient quantity has not yet been obtained for a complete series of experiments as to its nature and uses; but the habits of the insect, as well as the properties of the dye, seem to indicate that it may become of practical importance. In color it closely resembles ordinary cochineal, having rather more the scarlet hue of the flowers of *Adonis autumnalis*, and, no doubt, other shades will be obtained.

**CHEAP ROOFS.**—A very simple and effective roofing for barns and other out-houses, is made in the following manner: First cover any description of light rafters with well-seasoned, three-fourths or inch thick boards; then cover with sheathing paper, giving sufficient lap—about two inches—and fasten with small, flat-headed nails, and give this a coating of asphaltum and fine sand mixed, and laid on hot. If asphaltum is not easily procurable, a good substitute

is made by mixing eight gallons of tar with four pounds of rosin; boil and spread on while hot, and sprinkle with dry sand—all it will take—before cooling. A roof constructed of such materials can be made almost flat, a run of one inch to the foot being amply sufficient. With asphaltum, procurable in any quantity in San Francisco, a durable and cheap roof is obtained.—*California Farmer*.

**SOLANUM FENDLERI.**—In Western Texas and New Mexico a new species of the potato was discovered some years ago, which, from its being so closely allied to the common potato, great expectations were formed that it might resist disease, and, perhaps, supplant the common potato. As we believe Mr. Fendler, the distinguished botanical collector, who discovered it, and in whose honor it was named, is now engaged in connection with the Botanical Garden of St. Louis, we call attention to the matter, in the hope that he may be able to put some parties on the track of introducing it for experiment.

**FERTILIZER FOR CABBAGE.**—Superphosphate of lime, especially when mixed with some rotten wood (not pine wood) and worked into the ground, has a powerful effect on cabbages.—*Cotton Planter*.

**APPLES IN OREGON.**—This is becoming a staple crop in Oregon. The *O. Farmer* says one firm in Portland have been "for a long time past bringing over one thousand bushels per day."

**FARFUGIUM GRANDE** has been found quite hardy on the grounds of Hovey & Co., Boston, Mass.

**TO STOP LEAKAGE IN HOT-WATER PIPES.**—Get some iron borings or filings, and mix them with vinegar, forming it into a salve; with this fill up the cracks where the leaking is; and if the pipe has been previously dried, and is kept dry until this has become quite hard, it will never fail to effectually stop the leakage, and will stand for a length of time. If an iron pipe should burst, or there should be a hole broke into it by accident, a piece of iron may be securely fastened over it, by bedding it on, in a salve made of iron borings and vinegar; but the pipe should not be used until it has become perfectly firm.

**REPORT OF THE MISSOURI STATE FRUIT-GROWERS' ASSOCIATION** in answer to the questions proposed by the American Pomological Society:

#### ON APPLES.

Query? In an orchard of one hundred trees for family use, what SIX, what TWELVE, and what TWENTY varieties of apples, and how many trees of

each variety can be recommended for cultivation in the State of Missouri?

Answer: As known to be adapted to the central and south-eastern portions of the State:

First—For 100 trees, the best SIX varieties for family use are—Early Harvest, 8; Maiden's Blush, 12; Fall Queen, 15; Ortlely, 15; Wine Sap, 25; Newton Pippin, 25.

Second—The best TWELVE varieties for family use are—Early Harvest, 6; Red June, 4; Maiden's Blush, 10; Fall Queen, 8; Rambo, 6; Ortlely, 10; Yellow Bellflower, 6; Pryor's Red, 6; Newton Pippin, 13; Rawle's Janet (Jeneton), 13; Michael Henry Pippin, 6; Wine Sap, 12.

Third—The best TWENTY varieties for family use are—Early Harvest, 5; Red June, 3; Red Astrachan, 3; Sweet Bough, 2; Maiden's Blush, 7; Rambo, 5; Fall Queen, 6; Newtown Spitzenberg, 4; Fameuse, 4; Ortlely, 6; Yellow Bellflower, 5; Michael Henry Pippin, 5; Pryor's Red, 5; Wine Sap, 8; Newtown Pippin, 8; Swaar, 3; Æsopus Spitzenberg, 3; White Pippin, 5; Lemon Pippin (Long Green), 5; Rawle's Janet (Jeneton), 8.

Query? For an orchard of one thousand trees, what varieties, and how many of each, can be recommended for market purposes?

Answer: 100 Early Harvest; 50 Red June; 50 Red Astrachan; 50 Fall Queen; 75 Ortlely; 100 Wine Sap; 125 Jeneton; 150 Newtown Pippin; 50 Little Romanite; 50 Michael Henry Pippin; 50 Pryor's Red; 50 Smith's Cider; 50 White Winter Pearmain; 50 Willow Twig.

## Obituary.

### BOTANICAL NECROLOGY FOR 1860.

BY PROFESSOR ASA GRAY, IN SILLIMAN'S JOURNAL.

PROFESSOR HOCHSTETTER, of Esslingen, Württemberg, died on the 19th of February, at the age of seventy-four years. The Rev. Prof. Hochstetter produced no important botanical works; but he and his associate Steudel, whom he survived two or three years, were active promoters of botany through the *Unio Hineraria*, an association for furthering botanical collections—of which they were the managers.

PROFESSOR J. G. C. LEHMANN, of Hamburg, who died on the 12th of February, in his sixty-eighth year, was a botanist of note, and a voluminous author. His earliest work, a monograph of *Primula*, appeared in 1817, his monograph of the *Asperifolie* the year after, that of *Potentilla* in 1820. He elaborated the *Onograceæ* and his favorite genus

*Potentilla* for Hooker's Flora of British America; and his last publication of any magnitude and crowning work was his *Revisio Potentillarum*, a fine quarto volume with sixty-four plates, issued in the year 1856, an excellent monograph.

G. H. VON SCHUBERT, a Bavarian botanist of a former generation, to whom Mirbel in 1813, under the name of *Schubertia*, dedicated the genus established for our southern Cypress, which Richard had earlier called *Taxodium*—survived until July last, having attained the age of eighty years. He is commemorated in an Asclepiadaceous genus from Brazil, established by his fellow-countrymen, Martius and Zuccarini.

DR. J. F. KLOTZSCH, keeper of the Royal Herbarium at Berlin for the last twenty-five years, died on the 5th of November last, at the age of fifty-five years. As a systematic botanist, Dr. Klotzsch worked industriously, observed discriminatingly, but generalized badly, or rather—like others of the same school—wanted that largeness of view which enables the able naturalist to discover, almost instinctively, the true characters and just subordination of natural groups, in the midst of the most diversified details, and that gift of sound judgment as to natural genera in which Linnaeus and the other great masters so much excelled most even of the better botanists of the present age. Dr. Klotzsch's monograph of *Begoniaceae*, and his papers on *Euphorbia* (one of the latter, which dismembers the Linnaean genus *Euphorbia* into more than a dozen genera, published during the past year,) are striking illustrations of the opposite system. The distinctions are, doubtless, for the most part, true and good; their valuation is open to serious objection.

LOUIS DE VILMORIN, of Paris, died on the 22d of March, 1867, at the age of forty-four years. Although his name and that of his venerable, still-surviving father (to whom DeCandolle dedicated the genus *Vilmorinia*,) hardly appears in the catalogue of botanical authors, yet both have rendered important service to botanical science, while contributing most essentially to the advancement of agriculture and horticulture by original observations, and by experimental researches, devised and conducted upon truly scientific principles, respecting the formation of varieties and their fixation into races, and the amelioration and augmentation of the useful products of cultivated plants. A notice of some of the brief but most suggestive papers of the Vilmorins upon this subject was given in the 27th volume (new series) of this journal (May, 1829). In devising and conducting such experiments, often re-

quiring both physiological and chemical knowledge, a delicate skill in manipulation, and a quick eye for natural affinities, the younger Vilmorin was unrivalled; and his death in the midst of so useful and so honorable a career, has left a serious void. It is but just to his memory to acknowledge that we have learned more from him respecting the laws and conditions which govern both the production and the preservation of vegetable varieties and races than from any other source. What with his characteristic modesty he entitled an *Essai d'un Catalogue Methodique et Synonymique des Froments*, arranging the sorts of wheat known in cultivation under fifty-three sections, reduced to seven botanical species, is a work which required the researches of years, although only a pamphlet of fifty pages, and is his most extended publication. His several articles, since collected under the title of *Notice sur l'amelioration des plantes par le semis, et considerations sur l'heredité des vegetaux* are characteristically brief. But are all the result of the most conscientious, skillful, and prolonged investigations, and all are real contributions to knowledge, the value of which is not to be estimated by the bulk of the record.

J. B. PAYER, one of the botanical members of the Academy of Sciences, and Professor of Vegetable Organography and Anatomy of the Faculty of Sciences, at Paris, died on the 5th of September last, aged only forty-two years. The correspondence of M. Niekles has already supplied a biographical notice of Payer, in the preceding (March) No. of this journal. His speciality was organogeny; his principal work, *Traité d'Organogénie Comparée de la Fleur*, in imperial octavo, with 154 crowded plates, is a very handsome and imposing production, but perhaps not of the highest critical value. His seat at the Academy of Sciences has recently been filled by another organogenist, of excellent promise, M. Duchartre.

JOHN E. LE CONTE, former Major of U. S. Topographical Engineers,—whose death, at Philadelphia, in November last, aged seventy-seven, was announced in our March No., (p.303)—was almost the Nestor of American botanists, although his principal contributions to science, except the earlier, relate to zoology, chiefly to entomology and herpetology. His first botanical publication, a Catalogue of the Plants growing spontaneously on the Island of New York, appeared just half a century ago. Many of the choicest botanical stations even seventeen years later, when Dr. Torrey issued his catalogue of the same district, were as low as Canal Street, and Peck's Slip. Even the earlier author lived to see nearly his whole florula extinguished, swept away by denudation, or uncomfortably overlaid by recent

strata of stone, brick and mortar. Major Le Conte made extensive collections in Georgia at a period when that part of the country had been little explored, and freely imparted his materials and his valuable observations to working botanists. He also published several good botanical papers in the earlier volumes of the Annals of the Lyceum of Natural History, New York, and more recently, in the Proceedings of the Academy of Natural Sciences, Philadelphia, an Enumeration of the North American Vines, and a paper on the species of Tobacco, with which, unfortunately, we are not acquainted. For the last ten or twelve years Major Le Conte has resided in Philadelphia; and we are to expect from one of his scientific associates there, a fitting tribute to the memory of this venerable, genial, and accomplished gentleman and naturalist.

## Recipes of Fruits & Vegetables.

MODE OF DRYING THE COMMON RED CURRANT.—The currants should be quite ripe when gathered, with the stems attached, and washed or rinsed effectually and drained off. Then stem them and wash them thoroughly, and to each pound of currants add a quarter of a pound of good Havana sugar; then place them in a preserving-kettle over a fire until they come to a scald heat, when they are turned out into white earthen dishes, and exposed to the action of the sun until, by evaporation, they become hardened on the upper side. Then they are turned over, and there remain until they become so on the other side, and so alternate until they become a sort of leathery texture, when they are put away in earthen jars or boxes until wanted for use. Care must be taken to keep them from the dews of night and rains during the process of drying; finally, the utmost cleanliness should be observed from first to last.

When used, enough hot water is required to dissolve them or render them to any consistency suitable for tarts, jelly, etc. At the same time, more sugar is required to make them quite palatable, which must, of course, be governed by taste. Currants in this way have kept well with us for three years, and the presumption is, that they will keep for a longer time if well cared for.—*Horticulturist*.

TOMATO CHOWDER.—To one bushel of green tomatoes add one dozen green peppers, twelve common-sized onions, one quart of grated horse-radish, one cup of ground mustard, one ounce of cinnamon,

one ounce of cloves, whole. The tomatoes, onions and peppers chopped fine. Put the tomatoes and onions in a vessel over night, sprinkle a little salt over them, and in the morning drain the water off; put all together and boil them in clear water until tender; then drain the water from them; pack in a jar mixed with the above-named spices, and pour scalded vinegar over them.—*Rural New Yorker*.

BAKED TOMATOES.—Pour boiling water over ripe tomatoes, and remove the skins; cut them in two and place them in a deep baking-dish, or tin; put bits of butter over them, and add salt, pepper, and a little sugar, flour and water, and bake an hour in a quick oven.—*Rural New Yorker*.

STEWED TOMATOES.—Peel and cut in pieces eight large tomatoes; put them in a stew-pan, with a teaspoonful of salt, half as much pepper, and a piece of butter the size of a large egg; cover and cook an hour; then add a large tablespoonful of rolled crackers or bread-crumbs, and stew half an hour longer. Stir them often, that they may not burn.—*Rural New Yorker*.

GREEN CORN PUDDING.—Grate the corn from three ears of green sweet corn; beat five eggs light, and stir them into a quart of milk; add the corn, with a large teaspoonful of salt, half a nutmeg, grated, and a teaspoonful of lemon extract; add sugar enough to make it sweet, and bake an hour.—*Rural New Yorker*.

## Foreign Intelligence.

A NEW VEGETABLE.—There has lately been exhibited at several meetings of the Royal Horticultural Society a new vegetable which promises to become a permanent institution among kitchen-garden crops. It is a cabbage in the form of Brussels Sprouts. The stem is about a foot high, bearing on its summit a good-size-hearted cabbage of the ordinary character; but the stem is covered with small cabbages about the size of a small dessert apple, and these when cooked form an excellent dish, partaking of the flavor of a nice summer cabbage, and without the strong Savoy flavor which distinguishes the Brussels Sprouts. The merit of producing this variety is due to Mr. Wm. Melville, Dalmeny Park Gardens, near Edinburgh, and a very good name by which to distinguish it would be to call it *Dalmeny Sprouts*.—*Cottage Gardener*.

**PINKS AND CARNATIONS.**—Never grow a pink in poor soil. It is not like some flowers, which merely grow less; but it actually loses its character.

Prefer cow-dung to horse-dung; but either should be fairly rotted into mould.

Let the loam you use be that obtained by laying common turves, cut as if for lawns, up to rot. It is good at two years old.

Use two parts loam and one part dung; and make your bed eighteen inches deep.

Plant nine inches apart, as soon after July as you can get your plants.

Never let more than one stem go up to each plant, nor more than two buds be left on to bloom; any very crowded flowers excepted.

When in flower, take off the bottom shoots from pipings. The top three joints are to be used.

Mix up some of the proper pink soil with a little sand to strike your pipings in.

Stick the pipings half an inch in the compost, and freely water; cover close with a shallow hand-glass, and shade them.

As the bloom pods swell, tie them round the middle with a piece of matting, to prevent the calyx from bursting.

As the petals develop themselves, assist them down into their places, and shade them always from the hot sun.

Give them, from the time they swell their pods to bursting, liquid manure (a gallon of decomposed cow-dung to five gallons of water) once to three plain waterings.

Never leave in the bloom a self-colored petal; take it out when you first see it; for one of these will condemn a whole stand of flowers.

Never let your pipings under the glass get dry; for it is certain destruction.

When rooted, remove them into their permanent beds, or into store beds, three inches apart in the row, and the rows six inches.

Never delay planting till the spring if you can get your plants in the autumn. The sooner they are settled down the finer they bloom.—*Scottish Gardener.*

**IMPROVED GARDENERS.**—A writer in the *Scottish Gardener* says:

Fifty years ago a gardener who wrote for the press was a sort of prodigy. The horticultural societies publishing transactions, without doubt contributed to the cultivation of this habit in gardeners. But how elaborate and operose were their first efforts; for with much to communicate, they had little skill in the way of telling it. It is believed that, at first, most of the essays and contributions were re-written, or at least carefully pruned and dressed by the

officials of the societies. *London's Gardener's Magazine* set a good example of plain, direct, intelligible writing in the papers of the conductor, and afforded room and scope for the efforts of others who were willing to follow his example. A great advance is manifested, in the number of writers at least, in the numerous horticultural periodicals of the day.

**A JAPAN DWARF FIR.**—Mr. Fortune, in a recent letter from Japan, speaks of an extraordinary specimen of a dwarfed Fir Tree. Its lower branches were trained horizontally some twenty feet in length; all the leaves and branches were tied down and clipped, so that the whole was as flat as a board. The upper branches were trained to form circles one above another like so many little tables, and the whole plant had a most curious appearance. A man was at work upon it at the time, and I believe it keeps him constantly employed from day to day throughout the year.

**CULTIVATION OF THE WATERCRESS.**—The watercress, *Nasturtium officinale*, is a native of rills and streamlets, not only in Great Britain, but in nearly all parts of the world, having been met with in such situations on the most distant parts of the earth's surface. Its use as an esculent is no doubt as ancient as it is universal.

The most successful cultivators of the watercress are such as can command a supply of running water near the springs from which it issues, as in the beds at Little Marlow, in Buckinghamshire, and at Rickmansworth, in Hertfordshire. Wherever a flow of water can be kept in command, either to let off or on the beds, there in general the watercress may be grown in considerable perfection.—*London Journal.*

## Foreign Correspondence.

Letter from our Occasional Paris Correspondent.

Paris, May 30th, 1861.

FRIEND MEEHAN, heavy falls the hand which pens these lines. Gloomier than ever seems to me the news from my country which summer breezes waft across the ocean. How shall I reconcile the war with cheery gardening talk? And still that is what you want. Well, then, be it so. In *your* paper, at least, all parties will meet as on neutral ground,—that is the prerogative of science, that it elevates us all above terrestrial misery.

And now to your question: wherein differs French gardening most from American gardening?

In a great many things, to be sure. Prominently so at the start that every French suburbanist considers it a matter *de rigueur* to have his garden nice and tidy and well kept; consequently he spends more money on it than your average man at home, who is ashamed of a worn carpet, old paint, &c., inside of the house, but considers it extravagant to run a bill with the nurseryman, to buy new gravel and to keep his garden something like as presentable as his parlor. That, you see, makes a vast difference at the beginning.

The real difference is that which the climate works. More tender things can stand the winter here than in your latitudes; whilst your fierce summer sun brings colors generally to greater depth than here.

As to style of gardening, the difference may be best illustrated when I say, that in America art is called in to correct and improve nature, and that is, to my knowledge, the true style of gardening; whilst here in France we imagine an ideal sort of nature, and use art and artifice both to bring it about. Of course, we lose nature by it. Hence the stiff, green screens, the immense green walls, the circles, pyramids, &c., trimmed out of emasculated trees. Distasteful to me for ever; and were I to live in this country for the rest of my life, I would never relish that style. Sometimes advantages are gained by it. For instance, a favorite way to get shade of the densest kind is to plant horse-chestnuts pretty close, and to behead them when they are about ten or twelve feet high, leaving the lowest branches only. These, trimmed up twice a year, spread horizontally, and form a compact roof, through which you can rarely spy the sky.

Stiffness altogether characterizes French flower-gardens. The flowers, plants and trees stand as if on parade, trimmed up, and minding their behaviour. As an instance, all rose trees are high-grafted. No rose whatever is allowed to show any thing but a naked stem, on which a well-trimmed, round and curled head is cultivated. The "single-stem" system prevails.

This excessive trimming robs even the common landscape of its ease and grace. Poplar trees are cultivated by everybody. They grow quickly, and are soon made into money, serving for tying the vine, and other uses, packing-boxes and fences included, incredible as the latter may seem to you. Well, these poplar trees must be trimmed to be kept alive. Here, however, every branch and limb is cut off close to the trunk every few years, and the eye gets shocked at the rows of skeletons which it continually passes.

It is fair now to mention some of the good points. First, the care which characterizes even the humblest garden. Self-esteem and the true love of the

beautiful are evidently elements of the soul of its French owner. Next we notice the variety of flowers, shrubs and trees, and their massing. As an instance, it is common to find in our gardens groups of your own native *Rhododendron maximum*, from six to two hundred in a group. Where do you find your own shrub, than which nothing is more splendid, in that proportion in your own gardens? Perhaps not a hundred of them in famous "Central Park!" You cultivate verbenas on a large scale; so do we in France. You cultivate, though, such a worthless flower as petunias almost as much. May I be forgiven the sin of calling it worthless. To my eye it looks weedy, has no shading in its color, no luring perfume, nothing at all to recommend it. Why not cultivate, above all other things, the rose—the acknowledged Queen of Flowers—with the same passion as the French? Item the hollyhock, of picturesque stature, stately and of immense varieties. Item the pæonies and their hundred varieties,—a tribe of flowers which seems not to be known with you, and still a flower which has the kindness to light up your garden before the roses, fuchsias, &c., have come to bloom. Why, friend Meehan, this ignorance or neglect of the pæonia? Another flower the French cultivate with fondness is the daisy and the pansy. In these and in the massing of showy flowers in single, double and triple belts of various hues, the force of our gardens manifests itself.

Your readers may cry out about the expense of such gardening. So I will wind up with saying that carpets are considered luxuries, *here* very rarely indulged in; *you* consider them and their unnatural flowers a necessity. Again, Americans consider flower-gardening in the French sense of the word a luxury, very rarely indulging in it; whilst *here* it is a necessity. *De gustibus non est disputandum*, but there is no such a thing as good and bad taste.

Yours, &c.,

S. M.

## Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.

Official Report.

The regular monthly meeting and display was held at Concert Hall on Tuesday evening, 18th ult.

Although not so large as on former occasions, the exhibition comprised some novelties and objects of interest.

Mr. Robert Buist made a very attractive show of Roses, including some of the latest acquisitions from Europe, arranged in large masses; they presented a very attractive appearance.

Mr. H. A. Dreer presented a beautiful collection of Roses, comprising twenty varieties of Hybrid Perpetuals, ten of Tea, and ten of Bourbons, for each of which was awarded a premium of \$1.

Messrs. P. Mackenzie & Son offered a choice assortment of Roses, and a charming group of Sweet Williams, Auricula-flowered and Crimson-belted, which attracted marked attention.



Mr. Thomas Meehan's collection of Herbaceous Plants and Shrubs, each twelve in number, comprised some very choice specimens, and received general commendation, as well as the premium in this department of \$1.

To six beautiful plants of Gloxinias, exhibited by John Stone, gardener to W. W. Keen, Esq., of West Philadelphia, was awarded the premium of \$2. He also obtained the award for the best three bunches of Grapes, (Black Hamburgs,) \$2.

The prize for Fuchsias—a beautiful show—was awarded to Adam Graham, gardener to General Robert Patterson, \$2.

A singular and beautifully-trained plant of the Fuchsia Venus de Medici, in the form of a parasol, was shown by George Penn, gardener to J. H. Hildeburn, Esq.

The variety of fruits displayed was not large, but comprised some noteworthy specimens. Six beautiful and fully ripe Queen Pine Apples, from Wm. Joyce, gardener to M. W. Baldwin, Esq., attested the skill of the grower, and received merited praise, and a special premium of \$1.

Juan McLaughlin, gardener to Mr. J. B. Baxter, presented three fine dishes of early Cherries, to which was awarded the premium of \$1.

Willie Dreer contributed some very handsome and delicious Cherries of three varieties.

The only variety of Strawberry presented for competition was Wilson's Albany, of which a fine dish was shown by A. Felton, gardener to Henry Duhring, Esq., and received the premium of \$1. Mr. Thomas Meghran also exhibited a dish of the same, of large size and fine flavor.

A collection of eighteen kinds of Strawberries, exhibited by A. W. Harrison, comprised some new European and American varieties, including the Wizard of the North, Oscar, Wonderful, Crimson Queen, and Excellence among the former, and the Fallmore, Ladies' Pine, Chorton, Golden Seed, Chilian Pyramidal, and a large white Seedling. A special premium was awarded for this display of \$1.

Mr. Thomas Meghran contributed some Early Peas, and a fine collection of Cucumbers of four varieties. The latter received a special premium of \$1.

To Anthony Felton, gardener to Henry Duhring, Esq., three premiums were awarded, severally, of \$1 each, for best Early Potatoes, Peas, and Beets, and a special premium of \$1 for very fine, large, solid heads of Inda Lettuce.

The Committee on procuring a new hall for the use of the Society was continued.

C. H. Rogers, Esq., and John Stone, gardener to W. W. Keen, Esq., were nominated for membership.

John Gilkie, William G. P. Bruckkloe, and John McGowen were elected members of the Society.

### HORTICULTURAL SOCIETY OF MONTREAL.

The Annual Meeting of this Society was held on Thursday evening, 7th March, in the Mechanic's Hall.

The chair having been taken, in the absence of the President, by G. Desbarats, Esq., the Secretary read the following report:

In presenting their Annual Report, your Board take the opportunity of expressing their great gratification in being able to congratulate the members in the increasing success and progress, and the continued interest taken by all classes in the prosperity of the Society, which now numbers over one hundred members.

Application was made through the Hon. John Rose to the Executive Council, and a grant of \$228 was promptly accorded, and the whole of this amount was paid in premiums. Regarding the formation of a library, as a means of instruction highly desirable, your Board would recommend that a portion of the funds received from government be set aside for that purpose, and they would venture to hope that the amount would be further increased by donations from members, and all works relating to Agriculture or Horticulture would be thankfully received and acknowledged.

Your Board have not failed to notice with pleasure the large number of ornamental shade trees which have, during the past season, been planted in our streets and public squares. This is the more commendable as it has, in most cases, been solely due to private enterprise and your Board hopes that the excellent example set by several of your members, may be more extensively followed, as it would tend to give additional attraction to the streets of our fair city, and add greatly to the comfort and pleasure of its inhabitants.

Your Society were invited to assist in the procession at the reception of H. R. H. the Prince of Wales, and it was gratifying to notice the alacrity with which the members responded to this invitation. The floral devices and emblems carried by the gardeners were exceedingly tasteful, and highly creditable to their skill. To Mr. Carroll was awarded a prize for the best floral design representing the Prince of Wales plume. The daughters of the gardeners, carrying baskets of flowers and fruits, formed one of the most pleasing features of the procession. Two appropriate banners were procured for this important occasion, and are now in possession of the Society.

Last year silver medals were awarded to Messrs. J. Nairn, T. Harris, I. Archibald, Thos. Horseman, J. Nicholson, Thomas Wall, and W. Farris, while the following took bronze medals: Messrs. Far-

ris, Middleton, Spriggins, Wall, Nicholson, Horseman, Nairn, Davidson, Carroll, Cooper, Clark and Day. Messrs. Davidson, Middleton and Archibald, were the three successful competitors among over two hundred, for the largest amount of money prizes.

Your Board, during the past winter, made application to those members who are proprietors of greenhouses to throw them open, in rotation, during the winter. This request was most cheerfully and cordially accepted, and you have had the opportunity of seeing during our severe winter choice and varied collections of flowers. Your Board would here express their obligations to Messrs. J. Ferrier, Jr., John Torrance, Henry Thomas, and Harrison Stephens, Esquires, for their consideration in kindly placing their conservatories at the disposal of the Society. Your Board would also strongly recommend monthly exhibitions to suit roses, strawberries, and other smaller fruits.

The next business of the Meeting was the election of Directors, who, after the ballot, were found to be as follows:

G. Desbarats, Esq., Hon. Louis Renaud, Messire Verreau, Principal Dawson, Messrs. Henry Thomas, S. J. Lyman, J. Cooper, Mr. H. Seymour, J. Horseman, J. Archibald, J. Torrance, J. Ferrier, Jr., J. Spriggins, L. A. H. Latour, J. Thayer, Jr., J. E. Gilbault.

The following gentlemen were then elected to fill the different offices during the ensuing year:

*President*—G. Desbarats, Esq.,  
*1st Vice President*—S. J. Lyman, Esq.,  
*Treasurer*—L. A. H. Latour, Esq.,  
*Secretary*—J. Thayer, Jr., Esq.

### MASSACHUSETTS HORTICULTURAL SOCIETY.

JUNE 1.

The Annual Spring Exhibition of this Society was held at Armory Hall.

The display of plants in pots and of cut flowers was very fine. The large room was well filled; and as a floral exhibition, considered in reference to its extent and the rarity and beauty of its specimens, it has probably never been surpassed in the country.

In "General Collections," Messrs. Hovey & Co., of Cambridge; E. S. Rand, of Dedham; Evers & Comly, of Brighton; M. P. Wilder of Dorchester, were the leading exhibitors, and the prizes were awarded to them in the order here observed.

The specimens of Azaleas, Pelargoniums, Cinerarias, etc., were truly splendid.

One of the most interesting departments of the exhibition was a large collection of American Ferns and Flowers, beautifully prepared, presented by Dennis Murray, of Roxbury.

Several handsome specimens of Grapes were presented by Mr. Breck, President of the Society; John Fisk Allen, of Salem, and others.

Mr. Allen also presented fine specimens of different varieties of Cherries, grown in his hothouses. They were regarded with interest as being, perhaps, the only representatives of the species that will be produced in this vicinity the present year.—*Boston Cultivator.*

### SUSQUEHANNA AND CHEMUNG VALLEY HORTICULTURAL SOCIETY.

At a meeting of the Susquehanna and Chemung Valley Horticultural Society, held at the office of the Secretary on the 17th ult., the following named persons were unanimously elected officers for the ensuing year:

*President*—Col. E. C. Frost, Havana.  
*Vice-Presidents*—David Decker, Elmira; C. H. Thomson, Corning; Howard Elmer, Waverly; Wm. Smyth, Owego; Wm. Stuart, Binghamton.  
*Corresponding and Recording Secretary*—E. P. Brooks, Elmira.  
*Treasurer*—John M. Dexter.  
*Executive Committee*—Harvey Luce, Elmira; N. Winton, Havana; James Wright, Owego; E. H. Baldwin, Waverly; S. W. Hall, Elmira; A. I. Wynkoop, Chemung; G. W. Pratt, Corning; C. H. Erwin, Painted Post; Thos. D. Wright, Binghamton; B. C. Wickham, Tioga.

The Society propose to hold a summer exhibition, the time and place to be fixed at a future meeting of the executive committee.

### BANGOR (MAINE) HORTICULTURAL SOCIETY.

The Thirteenth Annual Exhibition will be held in September next. The Society offer a fine list of Premiums for Fruits, Flowers, Vegetables, Cone-work, Canary-birds, Acquaria, Honey, etc.



BUCKINGHAM APPLE.

Shoe Store

# THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

AUGUST, 1861.

VOL. III.—NO. 8.

## Hints for August.



### FLOWER-GARDEN AND PLEASURE-GROUND.

THE latter end of August is one of the best seasons of the year to transplant evergreens. The young growth of the past season has got pretty well hardened, so as to permit of but very little evaporation,—and the earth being warm, new roots push with great rapidity, and the tree becomes established in the ground before cold autumn winds begin. The chief difficulty is that the soil is usually very dry, which prevents much speed with the operation; and the weather being generally very warm, the trees have to be planted in the ground almost as fast as they are taken up; so that it is not safe to bring them from a distance. It is as well, therefore, to make all ready in anticipation of a rain, when no time may be lost in having the work pushed through. Should a spell of dry weather ensue,—which in September or October is very likely,—one good watering should be given, sufficient to soak well through the soil and well about the roots. A basin should be made to keep the water from running away from the spot, and to assist its soaking in. After being well watered, the loose soil should be drawn in lightly over the watered soil, which will then aid in preventing the water from soon drying out again.

As soon in the fall as bulbs can be obtained, they should be planted,—though this will not generally be the case till October,—but it is as well to bear in mind that the earlier they are planted, the finer they flower.

Towards the end of the month, and in September, evergreen hedges should receive their last pruning till the next summer. Last spring, and in the summer when a strong growth required it, the hedge has

been severely pruned towards the apex of the cone-like form in which it has been trained, and the base has been suffered to grow any way it pleases. Now that, in turn, has come under the shears, so far as to get it into regular shape and form. It will not be forgotten that, to be very successful with evergreen hedges, they ought to have a growth at the base of at least four feet in diameter.

### FRUIT-GARDEN.

AUGUST and September are favorite months to plant out strawberries, with those who desire a crop of fruit the next season. In making a strawberry-bed, a warm, dry spot of ground should be chosen, with, if possible, a good loamy or clayey subsoil. A moist, wet situation is very unfavorable. It is best to subsoil at least two feet deep, and if the soil is poor, let it be well enriched with well-decayed stable manure. In setting out, take care that the plants do not become dry from the time they are taken up till they are replanted, and see that they do not wither afterwards. Many persons cut off the leaves, if they are afraid of their wilting under hot suns, but a much better plan is to shade. Inverted 4-inch flower-pots are excellent for this purpose; they may be taken off at night. The dews will so invigorate them, that the shade will only be required for a few days. Sometimes in September they may need a good watering; but this should never be attempted unless a thorough saturation of the bed is given; and in a few days after, the hoe and the rake should be employed to loosen and level the surface, which the heavy watering will, in all probability, have caused to bake and become very crusty. Where time can be spared to layer a few plants into 3-inch pots, they are very successfully transplanted afterwards, and much after labor in watering and shading avoided.

Strawberries are best grown in beds about four feet wide for the convenience in gathering the fruit, and giving them the best of cultivation. About three rows in a bed, and the plants twelve inches apart in the row, will be a good arrangement.

As soon as the fruit has been perfected on the raspberry, the canes that have borne should be at

once cut out. Some kinds throw up suckers very freely, and by this means rob one another and cause a very poor crop to be produced the next season. No time should be lost in thinning out the weaker ones, and only enough canes left that will be required to produce a crop the next season. The raspberry ought to be so treated in the summer, that no pruning will be required in the spring but to shorten the ends of the canes. In rare kinds, where it is of more importance to get up a stock of young plants, than to get a crop of fruit, this advice will not, of course, apply.

Blackberries will, in the main, require very much the same treatment as the raspberry. They are also very liable to sucker up more than is desirable, and much attention will be required to keep them within due bounds. Neither of these two kinds of fruit should be planted near a lawn, as the roots, if they once get into the grass, are very difficult of eradication and as troublesome as the vilest weeds.

Most of the diseases the peach tree groans under arise from the effect of hard winters on the over-vigorous and half-ripened shoots. Root-pruning has always the tendency, not only to throw a tree into bearing early, but also to ripen the wood early in the season, and before the frost can act much to injury.

#### HOT AND GREENHOUSE.

PREPARATIONS must now be made with a view to stocking the houses for the next winter and spring's use. Geraniums of all kinds may now be readily struck. A frame in a shady place, set on some light sandy soil in the open air, affords one of the best places possible for striking all kinds of half-ripened wood. A partial shade is at all times best for cuttings at the start, though the sooner they can be made to accustom themselves safely to the full light, the better do they usually do.

Seed of many things may also be sown for winter and spring blooming, particularly cineraria, calceolaria, pansy, daisy, Chinese Primrose, and some of the annuals. Great care is necessary with the calceolaria. The seed is so small, that it rebels at the smallest covering of soil. The best way is to sow it on the surface, water well, and then cover with a pane of glass until fairly germinated; this will prevent evaporation and consequent drying of the seed. Almost all kind of seeds germinate most readily in partial shade; but as soon as possible after germination, they should be inured to as much light as they will bear.

#### VEGETABLE GARDEN.

TOWARDS the end of the month, a sowing of spinach may be made in rich soil, which will come in

for use before winter. That desired for winter and early spring use, is usually sown in September in this region. A few turnips may be also sown for an early crop, but will be hot and stringy unless the soil is very rich.

As fast as endive is desired for salad, it should be blanched. Matting thrown over is the best for this purpose, as the plants are not so liable to rot as when pots or boards are employed. In cold or mountainous regions, melons are hastened in the ripening process and improved in flavor, by a piece of tile being placed under the fruit.

Celery will require earthing up as it grows, to get it to blanch well. It is not well, however, to commence too early, as earthing up tends, in a slight degree, to weaken the growth of the plants. Take care, also, not to let the soil get into the heart in earthing, or the crown is apt to rot.

At this season of the year, more perhaps than at any other, is it important to hoe and rake between rows of growing crops. A loose surface soil not only admits the various gases that the roots luxuriate in, but it also prevents evaporation and checks a too great absorption of heat, and then, besides all this, the weeds are kept down, and neatness and order reigns. After every heavy shower, if the time can at all be spared, the hoe and the rake should be freely employed.

## Communications.

### NOTES OF EXPERIENCE WITH RARE EVERGREENS.

BY ORCHIS.

THE curious and unusual effects in some instances on our hardy and uncertain evergreens, has been suggestive of new ideas on the theory of soil and climate, as regards the best situation to insure success.

We notice by recent accounts received from England, that where deodars, hollies, &c., have been badly disfigured, camellias and many other plants that will not stand our climate with any chance of success, were uninjured. To some extent this has been the experience of many cultivators with us, with the half-hardy trees and plants.

At this place, about twenty-five miles north-west from Philadelphia, a different experience has been observed in the apparent hardiness of our new and rare plants, from those cultivators residing at Germantown and vicinity. To account for this change in localities so near, I do not feel willing, or in fact able to point out the true cause.

For the amusement and probable instruction of a

portion of your readers, I append a condensed list of the newer species and marked varieties of coniferæ now cultivated with us, with a few remarks on the success that has attended them during the past changeable winter and spring.

The Abies have generally proven successful. *A. Menziesii*, *A. obovata*, (sometimes known as *A. Wittmanniana*), and *A. orientalis*, I take great pleasure in recommending as entirely hardy. *A. Morinda*, although somewhat browned, is now growing vigorously. A splendid specimen of *A. Douglassii*, about thirteen or twenty feet high, in the rare collection of John Evans, at Radnor, is entirely uninjured, and is, without doubt, the most magnificent conifer in this section of country.

The Biotas are evidently doing as well as in former seasons. The best amongst those not generally disseminated are—*B. orientalis glauca*, *B. do. aurea*, (the beautiful golden variety), *B. do. variegata* and *B. do. pendula*. The latter variety is classed as a species by Endlicher, Lambert and Gordon, but I believe that Jacques is undoubtedly correct in placing it as a variety. Young plants raised from the seed, invariably resemble the *B. orientalis*, and I never saw one with the pendulous habit of the parent.

The rich dark green color of the *B. tartarica* is worthy of notice, although the foliage is deficient in density. *B. (?) meldensis*, of Lawson, is probably the best recent addition to this family. It is a very doubtful looking arborvitæ; but time will determine its identity after commencing to fruit.

Whilst the great majority of the Piceas are looking remarkably well, some of the older, well known kinds have been much injured. Large specimens of *P. balsamea* and *P. pectinata* have been greatly disfigured on the north side of the trees, and a *Taxus baccata* a few feet distant was badly browned on the south side, but wholly untouched on the north. *P. cephalonica*, *P. Fraseri*, *Hudsonica*, (a handsome little dwarf), *P. nobilis*, *P. Nordmanniana* and *P. pichla*, have stood very well and are growing luxuriantly. The latter species is indispensable in a collection, combining as it does, a remarkable dark green color, dense habit and extreme hardiness. *P. Pindrow* and *P. Webbiana* are not very satisfactory.

The Pinus family has been so greatly enriched of latter years, by the constant and large additions of collections, that to have a complete collection of them, would require an outlay of capital not readily incurred by many arboriculturists in this country. Many of these new candidates for public favor have proven failures here, and others highly desirable.

During the past winter *P. radiata* was killed root and branch, both in sheltered and exposed situations. *P. Australis*, (formerly *P. palustris*), with slight protection and in a retentive soil, is doing very well,

also *P. Benthamiana*, *P. Pallasiana*, *P. Pyrenæica*, *P. Jeffreyi*, *P. Ponderosa*, *P. Tæda*, *P. cembra*, *P. Lambertiana*, &c. *P. Halapensis* and *P. Gerardiana*, dead. A large specimen of *P. excelsa*, the graceful Bhotan Pine that has been greatly admired, after having attained the height of about fifteen feet, gradually decayed at the root, and broke off this spring. I am strongly of the opinion that this desirable tree in other respects, will never succeed with us.

*Podocarpus coriacea* appears entirely hardy here, and may prove an acquisition. Having several new and untried species of this handsome genus in pots, I am strongly in hopes upon trial of having an addition to the solitary species that has so far proven hardy.

*Retinispora ericoides* is a charming little evergreen shrub, and, with the exception of a change in the foliage during winter, is faultless.

*Sequoia gigantea* (the big tree of California) is a favorite here, although not quite as satisfactory in point of hardiness as would be desirable. It is extremely impatient of transplanting, and the beauty of the tree is often seriously damaged by the operation.

*Cedrus deodara*, which has always heretofore given us great satisfaction, is this spring quite brown. This specimen stands on a dry, sandy subsoil, with a southern aspect, and is doubtless the best situation for this variable tree. *C. Libani* wintered beautifully. *Cephalotaxus drupacea* and *C. Fortunii* with a slight protection are doing very well.

*Cryptomeria* looks badly, not at all satisfactory.

*Chamaecyparis sphaeroidea variegata* is very desirable; the young shoots are very handsomely spotted with yellow.

*Cunninghamia sinensis* is apparently quite hardy in a suitable location; our specimen was but little browned, and is now growing thriftily.

*Cupressus Lawsoniana* and *C. Nootkaensis* (erroneously *Thujopsis borealis*) are beautiful hardy species, and the only two out of a large genus that will succeed here. They are destined, I trust, to be great acquisitions.

The Junipers, as ornamental plants in landscape-gardening, are unrivalled. They combine almost every character of the coniferæ, from the formal habit of the Irish to the graceful, drooping varieties of other species. Much the larger portion are hardy, a part half-hardy, and some entirely too tender for us at the North.

The newer kinds that have done well the past season are—*I. drupacea*, *I. hemisphærica*, *I. oblonga*, *I. oxycedrus*, *I. rigida*, *I. excelsa*, *I. recurva*, *I. prostrata*, *I. sabina cupressifolia* and *variegata*, *I. squamata*, *I. chinensis, male and female*, *I. tetragona*, *I. cyprici*, *I. Stru-tiana*, *I. Scholii*, *I. fragrans*, *I. tripartita*, and *I. deal-*

bata; and those killed—*I. Phænicea*, *I. macrocarpa*, *I. sphaerica*, and *I. alba*. The *Bermudiana*, *I. Mexicana*, and *I. religiosa* are grown in pots; they will not stand at all here.

There are several beautiful varieties well worthy of a place in collections that are entirely hardy. *I. Virginiana pendula*, *I. do argentea*, *I. do Gossainthema*, *I. do variegata*, and the graceful *I. communis pendula*.

The rare *I. hemisphaerica*, or Hedge-hog Juniper, is a remarkably curious dwarf species, not attaining a greater height than one or two feet. It forms a globular head, with sharp, arrow-like leaves bristling out in every direction.

*Libocedrus chilensis* obstinately refuses to live in any situation. *L. decurrens* rather more satisfactory; stands pretty well.

The Yews with us succeed admirably, by slightly protecting the more tender kinds. *T. adpressa* the most hardy and beautiful. *T. baccata elegantissima* and *aurea* rank next; and the remainder of the family are all handsome, and more or less hardy. *T. canadensis* is very desirable.

There has probably been more confusion in the Thuja genus than all the others combined, owing to the manifold and conflicting opinions and names sent to this country by foreign nurserymen. We have received three or four distinct kinds for *T. gigantea*; and honestly I do not think there is a true plant in the United States that will answer the description given by Nuttall. *T. plicata* has also been confounded with others; it is a very fine species. *T. macrocarpa* has proven to be a Biota; it is, nevertheless, very handsome and entirely hardy. *T. occidentalis asplenifolia* is one of the handsomest of the family. The young branchlets droop very gracefully. The dwarfs *T. do. nana* and *T. do. pumila globosa* are very desirable. *T. do. Hoveyi* is hardy, but not so distinct as we had expected; we trust it may improve with age. *T. Caucasica* promises to be a fine addition; very hardy, rich dark green foliage, rapid growth and very dense.

The rage for conifers has not extended to this country to any extent. In Europe the new species are eagerly sought after at fabulous prices, and the fine pinetums in many places bear evidence of the high estimation in which this natural order is held. We sincerely hope that a greater interest may be awakened with us, and the results in different sections of our country be made known.

#### GLAZING GREENHOUSES.

BY W. C. STRIPE, KEOKUK, IOWA.

IN return for the many items of information which I have received from the *Monthly*, I beg to offer my mite.

I have been much troubled with drip in my green-

house, and have from time to time cudgelled my brain to devise a remedy. I have at last accomplished it. Instead of lapping the glass, I place between each light a strip of lead sash, such as is used in the old-fashioned diamond panes, just filling the opening in the lead with putty. Then insert the glass, not too tightly, and press down the edge of the lead with a knife.

Please bear in mind that this is not mere theory. (We have too much of it now-a-days.) I have given it a thorough trial, and no more trouble with drip,—can now effectually keep out the cold, or rather retain the heat, and have not had a single light broken by expansion.

#### TRIP TO WILMINGTON, DEL.

BY GRAPTOLITE.

WE have recently visited several fine country seats at Wilmington, Del., which not only deserve notice in the *Gardener's Monthly*, but will furnish some useful hints to your readers.

The first place we visited is owned and managed by Dr. George Pepper Norris, whose name has been rendered familiar to the horticultural public by his essays, published in various journals. As the Doctor has excited a little sharp criticism, by his descriptions of other people's places, we went prepared to give him the benefit of a little close inspection of his own operations. The party consisted of your correspondent, and a Philadelphia "expert" in grape culture, &c. On inquiring in Wilmington where Dr. Norris' country place was located, we were informed that it was about one mile out of town, near the Poor-house; rather an unpromising locality, we thought, for the most enterprising horticulturist in Wilmington, but still in a direction much travelled by some amateurs. A short ride up the hill west of the town soon brought us to the gateway leading to the cottage, and here the fine scenery which burst upon our view, over a panorama of hills, valleys, and rivers, the well-kept carriage-road, the handsome lawn, the fine specimen trees, and the elegant buildings before us, dispelled all fears which we had indulged, that we should find material for criticism on the doctor's grounds. We felt sure that we were approaching the home of taste and skill.

Dr. Norris has, in truth, one of the most beautiful situations which it has been our lot to examine for a long time, and he has improved it in a very judicious and tasteful manner. The Gothic cottage is built of dark blue Brandywine granite, which blends its hues in a manner peculiar to this stone, giving an effect to the walls such as could only be obtained, with other stone, by this most skillful painting and

shading, or by a mixture of paint and fine colored sand. The color is exceedingly rich and pleasing to the eye. The stable and other buildings are all built of the same kind of stone, in semi-Gothic style, and form a very handsome and comfortable looking group.

In pear-culture the Doctor has made a good beginning, and fortunately has a fair show of fruit this year. The grape-houses, which, until lately, have been entirely managed by the Doctor himself, are constructed with the latest improvements in borders, &c., and exhibit more than an average degree of success.

Fruit trees in pots, for the orchard-house, have also been cultivated with very satisfactory results, by bringing them forward in the grapery and ripening them out of doors. The peaches and plums, now in fruit, will rarely be excelled in appearance even with the aid of a separate house for the purpose.

Part of the farm, under the care of an experienced vegetable-grower, is worked with great activity and skill, and produces a handsome return for the enterprise of the proprietor. We examined some acres which could scarcely be excelled in neatness and profitable growth by the veteran truckers of Philadelphia or New York.

The place is yet new, and although it offers no remarkable points of instruction, or great novelties in planting or management, it presents these excellent distinctive features: it is magnificently located, it is laid out and constructed with taste and skill, and is finished up as far as its improvements have been attempted, while the whole of it is managed in a judicious and profitable manner. There is no foolish waste, and no rubbish about it, which is a vast merit. We think the Doctor may be permitted to hang up his hat on a high peg in the horticultural halls.

The magnificent place constructed and occupied by Joseph Shipley, Esq., appropriately called Rockwood, situated about two miles north of Wilmington, deserves a more extended notice than we can give it at this time. Without the aid of photographs, an artist, and an engraver, we could scarcely hope to convey any just idea of it. The estate comprises some five hundred acres of romantic hill and valley, mostly covered with natural trees, and apparently surrounded by forests. Few or no dwellings, except those on the place, can be seen from the main lawn within the limits of miles. Mr. Shipley is an English gentleman of fortune, whose name is well known in the commercial world. He commenced this place ten years ago, after plans made in England, and under the direction of Mr. Salisbury, a gardener whom he brought out for that purpose. The entire place is improved upon the plan of natural landscape-gardening so much employed in English country

places, where the development of the natural resources of ground and trees, and the heightening of natural beauties by a very little art in clearing up, planting, opening vistas, &c., surpasses in real gratification the most elaborate and costly works of art. Without attempting any general description of it, beyond what we have stated, we will say that it is the most splendid specimen of the English park-like style of landscape work that we have ever seen. The mansion is built of the Brandywine blue rock, before mentioned, with light-colored granite ornaments; the style is that of an oblong Gothic villa, supported by semi-Italian arcades for plants and flowers. The lawn contains some of the rarest ornamental trees that can be grown in this climate, and exhibits specimens of rare size and beauty. The forest work, the lawn, the beltings and groupings of trees and shrubs, and indeed the entire landscape, all appear replete with natural and artificial effects in landscape-gardening, on a large scale, unique, beautiful and grand in the extreme. There is no littleness in any of the work. Whether the place could be still further improved by art, we know not. It might be altered in its aspects, certainly; but its grand and graceful natural beauties neither invite criticism nor suggest the necessity of change. To obtain any further idea of the place it must be seen, or pictured by the hand of a true artist. Your correspondent hopes that the publisher of the *Monthly* may, if Mr. Shipley will consent, ere long give us some photographic sketches of the most striking features of the place. We feel quite sure that there is nothing of the kind equal to it, in its peculiar style, in Pennsylvania. It is seldom you can catch Nature in just that beautiful half-wild, wayward, gipsy mood, in which you find her among the rocks and hills on the banks of the old Brandywine. We are surprised that this fine place has existed so long without commanding extensive public notice; and we take real pleasure in giving our horticultural friends information of the rich treat which they may enjoy (under favor of Mr. Shipley) by a visit to Wilmington. Whether he will thank us for dragging his wild-wood and his rock-wood, his fauns and dryads, into the public gaze, or not, we cannot say; but we gave him no opportunity to decline; nor can we believe that he would have the heart not to gratify any true lover of Nature with a view of the rich inheritance which it is his good fortune to possess.

#### THE JUNE-BERRY AS A STOCK FOR THE PEAR.

BY HUDEIKOPER, MEADVILLE, PA.

IN the last *Monthly*, page 190, you report me as saying, in the *Horticulturist*, that "pear trees when

grown upon June-berry stocks are not subject to blight." What I there said was simply, that of half a dozen kinds of stocks used as a foundation for the pear, the June-berry alone was not itself the subject of blight.

After paying a good deal of attention to pear blight, I have come to the conclusion that frosts and severe winter weather are responsible for it in ninety-five cases out of the hundred. If this be so, then no engrafting can remove the difficulty, though it may modify it by inducing slow growth and well-ripened wood, &c.

Experience will have to determine the worth of the June-berry as a stock for it. I shall not be surprised if it prove to have the following good qualities to recommend it, viz: that it is easy of production,—bears transplanting well,—tree grows well either in sod or under culture,—makes a smooth, straight stem,—has a bark well adapted for grafting, and is very hardy. It attains about the size of the pear, but perhaps grows a little slower, which would have a tendency to produce fruitfulness. All which I give for simply what it may prove to be worth.

[The idea struck us as one likely to be very useful when we first noticed it, and we are glad that Mr. Hudeikoper is keeping the subject before the public.—ED.]

#### ROAD-MAKING ON PRIVATE ESTATES.

BY WALTER ELDER, PHILADELPHIA.

A PROPER system of road-making is not generally practiced among us, and it seems but imperfectly understood by those who direct their construction. The metal beds are dug out four and six inches deep, and large flat stones put in the bottom and broken stones or gravel on top; but the rocking and jerking of these large stones by travel, and splashing of mud in wet weather, cause them to be turned up and broken fine; thus making an extra expense before a solid road can be obtained. Every one who owns a place wants to get in and out of it with pleasure and ease, both to himself and beast; and these can only be secured by well-constructed roads. The most economical plan is to make them right at first, as the annoyance and cost of frequently repairing poorly-made roads far overgo the prudent outlay of constructing them properly at once.

Both the making of roads and planting of trees should precede the erection of the buildings. The rubbish from the buildings will all be needed for foot-paths before the place is finished. The location of the entrance and route of the road are of the first importance. Upon many estates it is best to have the entrance near to one corner of the place; and the road, if possible, should run along the high grounds. It should leave the highway on a direct

angle with it, and run straight for fifty feet; and if it is to be winding, it may bend outwards, if need be, so as to give a graceful sweep from that to the mansion.

Sudden bends and tortuous crooks should be avoided. Where the house has two fronts, the road may go round it; if not, the road may pass it and turn round a circle, oval or heart-shaped figure beyond it, or any other way as the grounds may be adapted for. On some places it will be best for the road to be straight. Where that is the case, it should be lined on both sides by trees with spreading heads, to form a long leafy arch, and a clump of trees should cover the end of the house from view, and the road should take a curve to one side and come suddenly in front of the mansion.

Those who have seen roads upon such a plan can tell of the beauty and grandeur of straight and well-shaded avenues,—on some small places semi-circular roads, entering at one gate and out at another, will be best.

After fully considering the above points, stake out the road eighteen or twenty feet broad; and after grading and levelling, mark out the metal bed from twelve to eighteen feet wide. Dig out the soil three inches deep, and put an inch of any of the following materials (where they can be got) in the bottom:—coal-dross, ashes and cinders from factories, refuse of foundries and other iron works, tan-bark, sand or gravel; and if the soil is a clay, two inches will be needed. To prevent weeds from growing up among the stones, and the upheaval of frosts, then put broken stones of a pound weight five inches thick, and stones half their size three inches above them, and finish off with two inches of stony gravel or finely-broken rotten rock. Next slope off the earthy sides from the metal bed to the edges of the road, and dig gutters six inches deep. If the ascent of the road is great, it will be best to pave the gutters. If the fall is slight, sod them and the sides of the metal bed. In filling up the metal bed, put each layer thickest in the middle to raise it, and make it convex to throw off the water.

Where there is a hollow in the road, and no way for the water to run off, make tile-drains from the gutters in upon the lawn thirty or fifty feet, and dig wells six feet deep and four feet wide, and fill them with stones to within a foot of the surface. Cover them with straw or shavings, and fill in the soil on top. These will generally keep the road dry. After the road is finished, go over it with a heavy two horse roller backward and forward upon the same place. After that, put heavy weights upon the roller, (say six men,) and go over the road double again, and after the two first heavy rains, double roll each time, and also every spring after heavy

#### EFFECTS OF THE WINTER AT MEADVILLE.

BY A. HUDEIKOPER, MEADVILLE, PA.

The winter has been very destructive on our peach trees, many of them being entirely destroyed.

Quince trees were frozen to the snow-line, and cherries so far affected as to produce no blossoms.

Apple orchards are bearing very moderately,—currants doing nothing, while strawberries will yield a better crop than usual. Last summer was a very cool one, and the wood of fruit trees did not ripen sufficiently to produce a good crop; and the same may account for a good deal of frozen shrubbery. Having laid down my vines as everybody ought to do, I shall have a good crop of grapes both out of doors and under glass if nothing unforeseen should prevent. Our agricultural prospects are good, and our farmers are patiently awaiting the better times about to come with the monetary distribution under our present national affairs, pretty sure to take place.

#### INDIGENOUS GRAPES.

BY WILLIAM A. WOODWARD, MORTONVILLE, ORANGE COUNTY, N. Y.

SINCE the public attention has been directed to this subject, many persons have informed me that desirable wild grapes are to be found in various localities about the mountains in this vicinity, and have promised to point them out when the fruit is formed. I propose to examine them carefully, make notes of each on the spot, and communicate the result of my observations for publication if you think it will interest your readers, hoping that some valuable new varieties may be found worthy of cultivation for wine-making and for the table. There are, no doubt, some valuable varieties of wild grapes that can be introduced to the public with little or no expense, and in much less time than other seedlings can be produced and tested by cultivation, while no efforts should be spared to increase the latter.

The qualities to be desired in a new grape which shall please the public and become a favorite are: thin skin, soft pulp, sweetness, juiciness, flavor and size; color is of less consequence, as I have never seen a fully ripe grape that was not beautiful. With many the color and bloom are exquisitely so; add to this hardness and early fruiting, and we have every desirable quality. Can such a grape be found? We are bound to believe so; with the facts before us, that very desirable native grapes have been brought into cultivation, and that seedlings from them (perhaps one in ten thousand) are improvements. Witness the Concord, Delaware, Isabella, Union Village, Catawba and Diana, all of them seedlings from native grapes. May we not suppose that

frosts are over. That will make it solid, and it will not need repairs for many years. The travel over a newly-made road should be slow at first, so as not to displace the stones.

This road is intended for all travel; but a road for a private carriage avenue can be made narrower and lighter. Where water runs and marshes are to be crossed, arched bridges of mason-work, if the foundation is solid, are best, and the walls should be covered with ivys to prevent injurious effects of frosts. The ivys can be laced in the railings on top, and clothe them also. In swamps, branches of trees laid in the bottom prevent the earth, in filling up, from absorbing much moisture until it gets hard by travel. When its capillary attraction for water is much destroyed, the sloping sides of the embankments should at once be sodded to prevent washing by rains. It will be seen that all is grass but the metal bed; but it should be cut often, so that it will not seed and fill the stone-work with weeds. All roads or avenues upon private or public establishments should be shaded with trees. Those upon straight lines should also be in lines twenty to thirty feet apart, and upon curved lines. The trees may be from five to twenty feet from the edges of the road, according to their size and habit of growth. These trees are generally deciduous; but where the road is on a high and exposed place, evergreen trees are generally alternated with deciduous on the north sides for shelter.

Now, some inexperienced persons will think that trees will keep the road moist. The case is not so. If the trees are pruned at the bottom, the current of air will be greater than upon an open space, and will carry off the moisture faster than the sun could. Let any one ride a number of miles under a scorching sun, and then come under the shaded avenue, how grateful he and his horse will feel! Or ride along a bare road under a cutting frosty wind, and then enter his own avenue, sheltered with massive evergreen trees, and mark the pleasant change. But that is not all. What a delightful stroll for the healthy and the sick is the finely-shaded avenue at all hours of the day, with dry feet, to admire the beauty and diversity of foliage, and inhale the delightful fragrance of the trees, and view the open, sunny glades through them.

On the other hand, what a forlorn sight is a horse, or a couple of horses, with a carriage behind them, travelling along a narrow path through a large grass field without trees! Good roads and trees are indispensable for beauty, comfort and convenience. Make the former substantial at first, and plant plenty of the latter. Count not the first cost, but the gratification and saving of future expense.

nature has produced seedlings equally as good, or even better, which we have overlooked, either from our prejudices against native varieties, or the difficulty of gathering the fruit, or while waiting for them to ripen, we find that the birds, more watchful than ourselves, and possessing a delicate taste in such matters, have appropriated the fruit, and perhaps planted the seed in some new locality. New varieties of trees and plants are thus propagated. The Red Cedar is abundant in these highlands, but grows along the old stone walls, forming long lines of trees with the appearance of having been planted by the hand of man. The berries are eagerly sought for by birds in the latter part of winter and early spring for food. It is said the seed will not germinate until it has passed through the stomach of a bird; they are thus planted at distances, which can be accounted for in no other way. Under a heavy stone wall and amidst rocks about a mile from my house, is a seedling cedar which would make the fortune of an English gardener; it is a beautiful half drooping magnificent Red Cedar. I have often desired to remove it to my grounds, but despair of success. There are so-called Isabella Grapes under cultivation, many of which are inferior to the original. These are seedlings which have come up in Isabella vineyards, and have been disseminated as the true kinds. The tendency of seedlings is to go back to the original wild varieties, and seedling Isabellas are not to be trusted until fully tested. Grapes produce infinite varieties from seed. Most of the seedlings from American grapes are barren, producing only staminate flowers, while the European (Asiatic) grape always produces bearing vines from its seedlings. This distinguishing characteristic should not be lost sight of; it will enable us ultimately to distinguish one species from the other without the shadow of a doubt. For example, the contested question of the nativity of the Delaware will be settled beyond dispute upon the production of a single well authenticated Delaware seedling, having staminate flowers only, that is when a barren vine is produced from Delaware seed. Cultivators of seedlings are requested to observe and publish when the fact becomes known. The question of what number of American seedlings are barren, seems to be as yet unknown; judging from the wild vines of the mountains, I should say not over ten in a hundred even bear fruit, and perhaps not half that number. One acute observer thinks that not ten in one hundred are barren; while one writer states that probably one half are so. I have enquired of a cultivator near me who states that of forty-eight seedlings, only one bore fruit; and of another parcel of one hundred seedlings, not one; but some allowance must be made for time, for although

some grape seedlings will fruit in three years, others require six and even eight years before fruiting. The nativity may be hastened by engrafting and forcing under glass. Will cultivators please communicate their experience.

[Our correspondent's communication contains much food for useful thought; but on one point he is mistaken, and to prevent the error becoming widely disseminated, we call attention to it at once.

He refers to Dr. Ravenal's doctrine, that only grapes of the American species will produce imperfect flowers, and suggests that this test be applied to distinguish the native from the foreign breeds.

We have often been struck that a gentleman of Dr. Ravenal's scientific standing should have started such a theory, as it is well known that the petals of a flower and its stamens which are but transformed petals, are the most easily affected by external causes of any part of a plant,—and that they are so affected, changed and altered, is a fact of every day experience. A character to be worth any thing as a scientific distinction to mark a species, should be above variations through surrounding influences. Thus we see every day instances of flowers which have their stamens transformed into petals, and become what we call double flowers; sometimes they are transformed into green leaves or bracts, as in the Green Rose, or even into branches and leaves as frequently seen in the larch; and in hundreds of other ways we see under cultivation (another name for external influences) stamens, petals, and other parts of flowers varying,—sometimes parts becoming abortive, at others excessively developed. So when a plant is removed from one climate to the different conditions of another climate, the stamens and petals are as liable to be suppressed, excessively produced, or otherwise transformed, as if under cultivation. An instance of this is well afforded in the case of the strawberry. In Europe, in the moist regions bordering on perpetual snow, the Alpine varieties have perfect flowers; when removed to the drier climates of lower cultivated regions, pistillates and staminates are found amongst the seedlings. But the wild strawberry of lowland woods, (*Fragaria vesca*), and the American strawberry (*F. Virginica*) always there, as Dr. Lindley recently assures, produce perfect flowers in their seedlings. But here in our own climate the same species produce seedlings, indifferently as is well known, hermaphrodite, staminate and pistillate, without any one ever suggesting that any different species is characterized thereby. All this by way of reasoning the matter; but the best argument is that foreign grape's seedlings *do often have* imperfect flowers, when under hot and dry culture, as every gardener who has had occasion to dust the

stigmas of Cannon Hall Muscats with pollen of other varieties, when its own stamens have failed to develop perfectly, well knows. Showing then that there is no reason why the foreign grape should not produce barren flowers; and further, that they actually do produce them, we leave the balance of Mr. W.'s suggestions to speak for themselves.—ED.]

#### GROWING VERBENAS.

BY A. F. G.

WHEN verbenas are planted out, instead of tying them up to sticks, as is the custom with many people, (ladies in particular), they should be trailed on the ground and kept in that position by pegging them down with small hooked sticks, or what is better still, pieces of the steel hoops such as are worn by the ladies, cut into lengths of six or eight inches long, and bent in the middle thus  $\cap$ , putting both ends in the ground with the branch between them.

As they throw out fresh branches, keep them all pegged down until the ground allotted to them is covered. By so doing the hot sun is kept from drying the soil around the roots. The result is finer bloom and more of it. This is no new system, but one, I think, not generally known among amateurs. Ladies, save the pieces (of hoops) and try it.

Mr. Editor, I do not recollect ever seeing the above system in print; if you think it worthy of a corner in our *Monthly*, make use of it.

[Pegs for layering, of the shape described by our correspondent, can also be easily made by cutting green switches and dividing them into lengths of from four to six inches, bend them into the  $\cap$  shape and stick them in the ground.—ED.]

#### FRUIT GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

##### SECOND ANNUAL REPORT ON STRAWBERRIES.

THE Committee for Philadelphia County, in offering their Second Annual Report, would recall to the attention of the Society the prefatory remarks of their former Report, and herewith present the result of their observations, during the present season, on several new varieties, some of which are quite valuable.

##### AMERICAN VARIETIES.

H.—Hermaphrodite. P.—Pistillate.

*Albion*. H. We have so named a large strawberry which we suppose to be a seedling of Wilson's Albany. The plant is a very strong grower, robust and perfectly hardy; leaves large, dark green and thick, and foot-stalks quite long; very productive. Fruit large to very large, nearly round, pure white,

with a rosy blush around the base; flesh white, not very firm, but juicy and of a high vinous flavor. Worthy of further attention. It somewhat resembles Lennig's White, but is higher flavored and distinct from it in foliage. The "Pine-apple," a seedling of Wilson's Albany, raised by P. R. Freas, Esq., of Germantown, is of similar character. We have learned of several very fine white seedlings of the Albany.

*Athlete*. H. A supposed native from Easton, Pa.; may prove to be Salter's (English) Seedling. Size large to very large; color bright scarlet; flesh firm, yet juicy; flavor sub-acid and pleasant; productive and good, but not first-rate.

*Austin's Seedling*. H. This plant is of very large size, the leaf-stalks and foliage very long, and the habit quite loose and straggling. Moderately productive; berry round, of medium to large size; color pale scarlet; seeds crimson, not prominent; flesh white and soft; flavor sub-acid and good.

*Downer's Prolific*. H. This new Western variety does not prove as productive the first season as many other kinds we have grown. The fruit is small to medium in size, and somewhat acid in flavor. It corresponds in other respects with the description published in the *Horticulturist*. The plants we tested, as also those of a friend who confirms our judgment of them, were grown in a strong clayey loam, in the same bed with the other varieties herein reported on. In a light, sandy loam it might do better. From present experience we can hardly rank it first-rate.

*Bartlett*. H. From very weak runners set last autumn, we obtained a small crop of berries of medium size, rich crimson color, moderately firm flesh, and very good flavor. It promises to be a good and productive sort, superior to Hovey's Seedling, which, we learn, is probably its parent.

*Golden Seed*. H. A seedling of Mr. Read, of Port Dalhousie, Canada West. This is a very vigorous and hardy plant, with rich and abundant foliage, and very productive. Fruit medium to large size, long conical form, rich crimson color, bright yellow seeds; flesh rather firm; flavor mild sub-acid; good, but not first-rate.

*Jessie Read*. H. Another of Mr. Read's seedlings. Plant not so vigorous or productive as the preceding. Berry of medium size, variable form, pale scarlet color; flesh soft, sub-acid and deficient in flavor. Not valuable.

*Scarlet Magnate*. P. Plant often of weak growth; berry of uniformly large size, roundish, somewhat flattened; color bright scarlet; flesh rather dry and mealy, of a mild, pleasant, but not rich flavor. If

well impregnated, it is productive after the first year.

## EUROPEAN VARIETIES.

*Ajax*. H. A large English sort, rather tender and disposed to burn in summer. A moderate bearer. Berry large, bright scarlet; flavor vinous and good.

*Crimson Queen*. H. (Myatt's.) With good culture, in rich soil, promises to be moderately productive of fine, large fruit. Berry quite large, variable, often wedge-shaped; color bright crimson; flesh white, solid, juicy, of a high vinous or pine-apple flavor. If it should prove hardy and prolific, it will be a truly desirable sort.

*Kitley's Goliath*. H. The habit of this English variety is quite vigorous, and the foliage large and abundant. The berry is of the largest size, rich scarlet color, obtuse conical form; flesh rosy white, firm and solid, and of a high pine flavor. Valuable for its lateness.

*La Reine*. H. An excellent late Belgian variety. Plant robust, a strong grower and good bearer. Fruit very large, variable in form, often coxcombed, rosy scarlet color; seeds numerous, bright yellow and prominent; flesh white and melting; flavor good but not first-rate. Continues in bearing after most other sorts are gone.

*Oscar*. H. To this new English seedling we must accord the highest praise. The plant is readily distinguished from all other kinds by its low compact habit of growth, short foot-stalks, and round, dark-green and leathery foliage, which withstands our hottest suns without injury. The fruit is of large size, somewhat irregular form, and deep crimson color; flesh scarlet to the core, which is white and remarkably solid, yet melting and juicy. In flavor it is hardly surpassed by any variety we are acquainted with. If it should prove sufficiently productive, we think it the best acquisition yet made, and deserving the attention both of amateurs and gardeners.

*Wizard of the North*. H. The public attention has been much excited concerning this new Scottish variety by the illustration published in the *Gardeners' Monthly*, July, 1860. It certainly has not reached, with us, the colossal dimensions of the plate, which must, we think, have been attained only by the highest special culture in the peculiar soil and humid climate of its native country. Yet it proves to be a remarkably prolific plant and worthy of further attention. Young runners planted last autumn produced from thirty to one hundred and thirty buds, and from six up to as many as forty-one perfect berries per plant, very uniform in size, averaging as large as the best plants of Wilson's Albany, which it considerably resembles in the color and shape of

the berry, though more variable in form. The flesh, which is crimson red, is somewhat softer than that of the Albany, but quite as juicy and rather less acid and of better though not high flavor. In a rich, friable loam, with a mixture of good leaf mould, and the small berries well thinned out, the fruit would doubtless attain a very large size.

*Wonderful*. H. Plant vigorous and hardy. Berry very long, conical, often wedge-shaped; bright scarlet color; large crimson seeds, quite prominent; flesh white and very firm; flavor vinous and good.

All of the European varieties above described, except Kitley's Goliath and La Reine, were young runners planted last fall, as were also the Bartlett, Athlete, Austin's Seedling and Downer's Prolific; their productiveness cannot be fully known until next year.

## RETROSPECTIVE NOTES.

Among the kinds described in our last year's report a few deserve further mention:

*Chilian Pyramidal*. H. Has proved almost, if not quite equal in productiveness to Wilson's Albany, which it certainly surpasses in flavor. The plant is one of the most vigorous growers known, and we deem it worthy a place in every garden.

*Fillmore*. P. A very free bearer; fruit uniformly large, round and handsome, but this year is rather soft and not high-flavored; yet its attractive appearance and productiveness will render it quite a favorite for private gardens.

*Ladies Pine*. P. Takes the same rank among strawberries as the Seckel among pears. It is a moderate bearer, and the fruit is of small size, but unsurpassed in honied sweetness and high musky flavor.

*Peabody*. H. As productive this, the fourth year of bearing, as hitherto. The fruit is sweet, and by many thought unrivalled, but is not sufficiently juicy and vinous for some tastes.

*Delices d'Automne*. H. Proves very tender in the sun and difficult to keep alive. Under glass, we are informed, it bears for a long season; fruit, of the highest flavor.

*Triomphe de Gand*. H. Fully maintains last year's description, and increases in productiveness and the size of the fruit. Should be in every collection, however small.

*Vicomtesse Hericart de Thury*. This year's experience confirms the high opinion expressed in our former report; it will not average so large in size as the Triomphe de Gand, nor is the plant quite as productive, but surpasses it in high flavor and solidity of flesh. A most desirable variety.

We would, in conclusion, urge the importance of good winter protection in the culture of the strawberry; a heavy coating of straw will well repay its

cost in the assured health and productiveness of the vines, and the size and flavor of the fruit.

Another point we deem of great importance—the cultivation of the plants in separate stools, and the pinching off of all runners—which will insure the largest crop, largest size of fruit, and the greatest longevity and health of vine. They should also be well mulched during the bearing season, indeed throughout the year, except during cultivation, with hay, tan-bark, or straw, preferably the latter, which is cleanly and cool and allows no weeds or fungus growth to the injury of the plants. The young vines should be planted in rows, two-and-a-half feet equidistant, and from ten to fifteen inches in the row. The soil should be well forked up or horse-harrowed in spring and again at midsummer.

As a fertilizer, we have observed excellent effects from the application, in the spring, of a mixture of bone-dust, salt and lime, and wood-ashes. Heavy dressings of rank stable or other ammoniacal manures often result in a large growth of foliage and a paucity of fruit.

If the soil, prior to planting the vines, be dug or forked up two or three times, at intervals of a week, the young plants will make a vigorous start and in their rapid growth well repay the extra labor bestowed. Vines four years planted and treated as above stated, have borne, with us, the present season, their maximum crop.

J. E. MITCHELL,  
ROBERT CORNELIUS,  
A. W. HARRISON.

Philadelphia, July, 1861.

[Last year, we took the opportunity to observe that the report we then had the privilege of publishing, had not been before the society, and was therefore not viewed as an official document, but rather as a contribution to our journal by our respected friends. The above valuable document has, however, been submitted to and approved by the appropriate executive committee, and may, therefore, be received as an official paper.—ED.]

JAPAN WAX TREE has proved hardy in this country. It has also been found to retain the fine color Mr. Fortune refers to in the following:

On the hill sides I observed the Japan Wax tree (*Rhus succedaneum*) cultivated extensively. It occupies the same position on these hills as the Chinese Tallow tree (*Stillingia sebifera*) does in Chekiang. It grows to about the same size, and, curiously enough, it produces the same effect upon the autumnal landscape by its leaves changing from green into a deep blood-red color as they ripen before falling off.

## GARDEN DECORATIONS.

BY D.

[We have often promised that we would incorporate, as occasion offered, many interesting articles contributed by our kind friends for our specimen number into our regular volumes, and have already so republished some of them for such preservation. The following is another one entirely too good to be lost:]

In compliance with your request, I send you a few simple designs, of easy execution, of rustic work garden decorations, which I hope will soon take the place of the senseless, ungraceful and expensive ornaments which too often disgrace the suburban retreats of many of our retired cockneys.

Fig. 1.

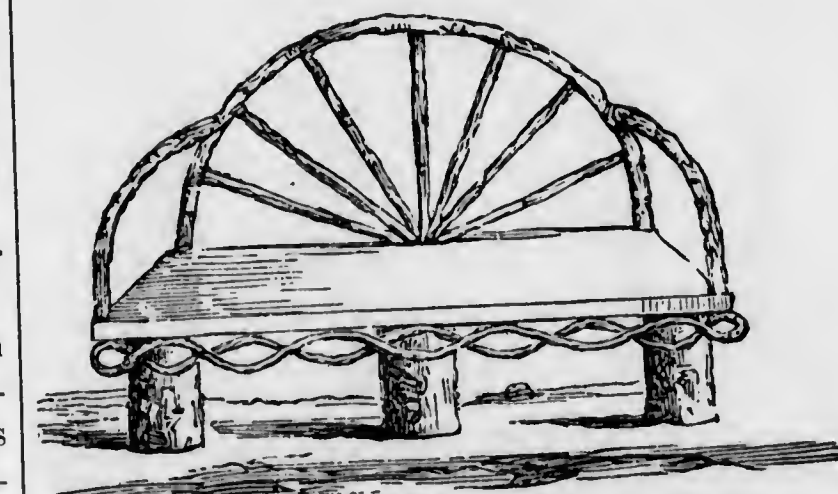


Fig. 1 is a simple design for a garden-seat, which requires but little explanation. It can be placed on three sections of the trunk of a tree, as shown in the design, or on four legs. Hickory or oak hoop poles or saplings are the best materials for the back and arms, and the seat should be of inch board, planed, and painted to match the color of the other wood.

Fig. 2.

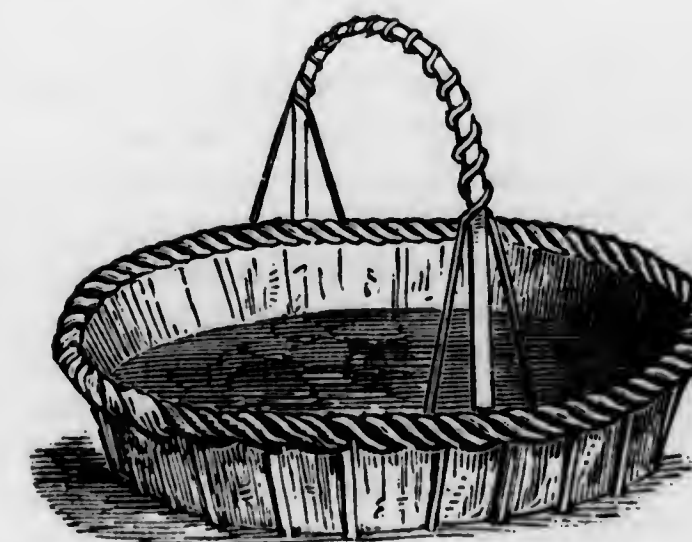


Fig. 2 is a design for a flower-bed or basket. Procure an inch board about six inches wide, and saw it up into lengths of about two feet six inches. Then dig a trench about a foot deep in the ground, of an oval or any other shape that may be desired.

Place these pieces of board upright, edgewise, and slanting outwards in the trench, and then fill in the earth, ramming it well to keep them firm. Nail a good strong wood or iron hoop around the top, to keep it from separating, and finish by putting around it a rope of twisted grape-vine. The handle is formed of a hoop or sapling entwined with grape-vine, as shown in the engraving. Cover the outside of the boards with rough bark, and fill the basket to the brim with good soil and plant your flowers in it, taking care to have a few twining plants to grow up over the handle.

Fig. 3.

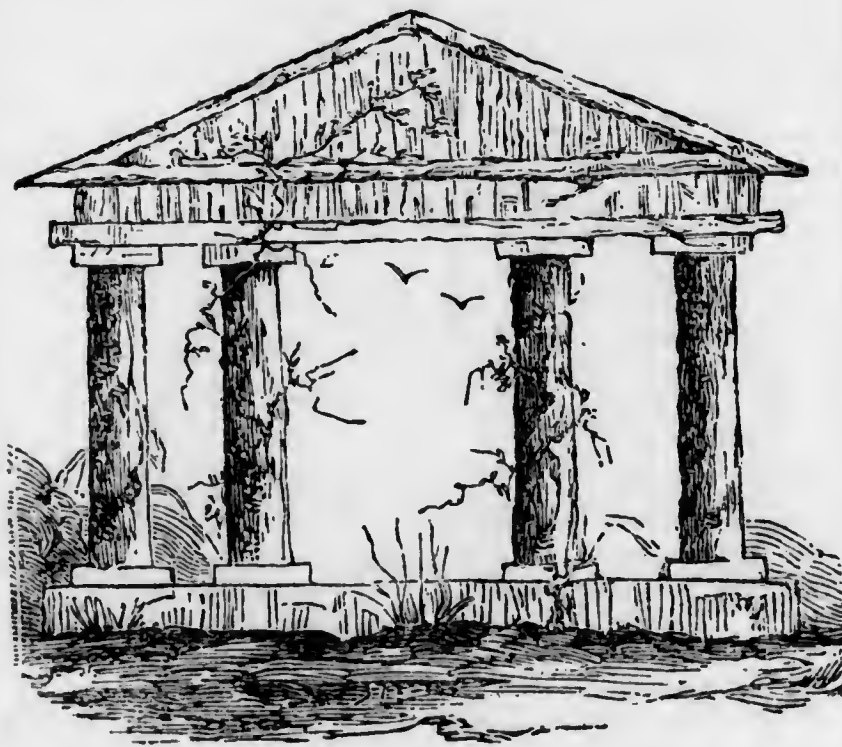


Fig. 3 is a design for a summer-house in the Grecian style. The roof is formed of rough boards, and the gables or pediment and cornice are covered with bark. The roof is supported by pillars formed of the trunks of trees with the bark on. A house built in this way, embowered in shade and overgrown with ivy or creepers, produces a charming effect.

#### ALL ABOUT STRAWBERRIES (AGAIN.)

BY SUBSCRIBER, BALTIMORE, MD.

SOMETIME in the month of December last, I sent you, Mr. Editor, an article on the subject of a test, which was then in progress, of several of the newest and finest strawberries, both foreign and domestic. This article, you were kind enough to publish in the *Gardener's Monthly* of the same month in which the article was sent. You very kindly and properly warned me not to repose too much confidence in the recommendations of untried varieties lest I should discover at the fruiting season that I had been deceived.

It gives me great pleasure to say, that the result of a very fair and unceasingly rigid test has developed the fact, that I was *not* deceived in the

quality and size of any one or all of the varieties which I spoke of favorably in my communication to you, with one exception, and that was in the test of what has been represented to be the largest and best of all the strawberries known. I mean the *Wizard of the North*. Strange as it may appear, however, I do not entirely condemn this variety so celebrated for its almost incredible size of  $9\frac{1}{2}$  inches in circumference.

I am only an humble, inexperienced amateur, and it would sound very like presumption if I were to attempt to inflict destruction on a berry so celebrated as the "Wizard." I only say, and say it positively, however, that although I am but an amateur of a few years existence, my efforts in the careful and attentive cultivation of several other varieties of great notoriety were blessed with signal success.

And first, as to the *Austin*: I gathered fruit of this variety from plants two years old, which measured *five inches in circumference*. The fruit was beautiful in form and color, and of delicious flavor, and the plant is of a robust habit. A friend from New York has informed me by letter to-day, that the *Austin* on exhibition in his office at the time he wrote, was measured by himself, and was five and seven-eighths inches in circumference. A friend at his side, at the time of measurement, asserted that he *knew* it to have been six inches when first gathered from the vines. I have mentioned the *Austin* first, only because some one variety must necessarily be mentioned first. It is, indeed, a noble berry, and is said to have been the largest fruit exhibited in New York.

Next, the *Triomphe de Gand*. Of this variety nothing more need be said but that it commends itself to *everyone* who is at all capable of appreciating splendid fruit, as distinctly among the very highest as to excellence in every respect.

Next, *Rivers' Eliza Seedling*. I had great success with this berry, and its size was very great and its flavor most delicious.

Next, the *Vicomtesse Hericart de Thury* falls very little, if at all, behind the *Eliza*.

Next, *Trollope's Victoria*, and I may (to save time and space in your valuable journal) at once mention all which passed the ordeal safely and most successfully.

Then there was *Feast's Fillmore*; then, side by side with its parent the *Fillmore* appeared seedling *General Lovell*; this being the *first* season of the General's appearance on any stage; and, indeed, he did not disgrace the stage nor his owner. (I will tell you who the owner is one of these days.) The General Lovell measured *four and three-fourth inches in circumference*, and that, too, when only two years old; flesh very firm; form and color very fine; taste, very sweet,

with just a sufficient amount of acid to make its flavor as fine as any berry I ever tasted. To this testimony in behalf of these varieties, I can add that of a distinguished horticulturist in this city, who, when he entered my yard, exclaimed emphatically and with admiration in his tone and manner, "I have never seen such a sight as this since I have been in America." A native of Scotland he is.

Then there was *Bayne's Favorite*. Truly a great favorite in every respect. And "Excellente," not disgracing its name; very large and very fine.

Then *Stansbury Seedling*. Then *Hooker* and others; but I must now stop. Truly, I enjoyed myself in this experimental test, and was astonished at the perfection to which the strawberry may, with God's blessing on the effort, be made to arrive, by constant care and cultivation. I was enabled to gather from my limited stock of plants in a *very small* back yard, a sufficient supply for my family for nine days.

I fully concur with my worthy friend, Mr. J. S., of Washington City, in saying, as he said to me, by letter, that it is strange that the people should be content to buy the poor, trifling little berries which are sold in our markets, when they can purchase from the attentive and skilful horticulturist or amateur such splendid fruit as can be produced, if due encouragement were given to those who are disposed to produce it, if properly remunerated.

I respectfully ask an insertion of this crude article in your next number if you deem it worthy of it.

[We think almost all seedlings are "first-rate" for the first season or so after raising. Unless it be better in some marked respect than others already known, we would not preserve it. It takes time to prove the stability of good characters in seedlings.

—ED.]

#### INJURIOUS INSECTS.

BY S. S. RATHVON.

#### THE GRAPE-VINE BEETLE. (*Gastrophysa*.)



At the meeting of this Association, some grape-leaves containing insect larva were submitted to my inspection, upon the true nature of which I was then not prepared to pronounce; for their appearance in that connection was comparatively a new thing to me, although I gave it as my opinion that they were the larva of a coleopterous insect; and a member of the Association subsequently bringing me a small "steel-blue beetle" from the same vine, which, he alleged, was eating the tender buds or ends of them, I at once concluded

that this insect might have been the parent of the larva in question, and stated such as my opinion, without intending that that opinion was to be regarded as authoritative.

Since that time, however, I have made some practical observations upon the insect in question; for, on my return home, I not only brought specimens of the larva with me, but I found that they were tolerably abundant upon some grape-vines in the city of Lancaster, and also that a number of them had been sent from the vicinity of Rochester, New York, to my friend, Mr. Jacob Stauffer, who exhibited them to me. These insects appear to have had a wide range the present season, and were very distinctive in various localities in several of the States, if, indeed, they were not to be found throughout our whole country.

Both Dr. Harris and Dr. Fitch refer to the "little steel-blue beetle" in their works, as being destructive to the tender buds of the grape-vine "from early spring until the end of May;" describing them precisely under the same circumstances as they were found at West Chester on the 13th of June last; but neither of those eminent entomologists seem to have been acquainted with the larva of the insect, and Dr. Harris, in his work, acknowledges as much. Those larva which I obtained at West Chester and Lancaster produced the same beetle, and I am convinced that those from New York State are precisely the same. These insects produce two broods in one year, the last brood hibernating under stones and the bark of trees, or in the ground or any other suitable place in which they can hide themselves, during the winter season. When approached in the perfect beetle state, they have a habit of letting go and falling to the earth and hiding themselves, after the manner of their relatives, the "cucumber beetle" and the curculio, as well as some other species more nearly allied to them. They, however, must not be confounded with two closely-allied species that feed upon the common sour dock (*Rumex crispus*, Lin.), and which resemble them very much in color, size, and general habits, excepting their transformations and the appearance of their larva. The dock beetle undergoes its transformations above ground on the leaf where its larva feeds, similar to that of the *coccinellans*; whereas the larva of the grape-vine steel beetle burrows into the ground and undergoes its transformation there.

*Gastrophysa caruleipennis*. Fig. 1. Length, three-twentieths of an inch, female something larger; head, wing-covers, and body, a dark blue; thorax and legs, a dull orange red; upper side of the abdomen, also a dull orange red, but this is not seen (being covered with the wings), except in the females, after impregnation and before they have laid their



eggs, when the abdomen is swelled out like a large orange-colored ball; antennæ and feet, black.

*Gastrophysa cyanea*, Mels. Fig. 2. Length, the same as in the foregoing species; color, various shades, from a dark steel-blue to a bright metallic green; head, legs and underneath, dark blue; antennæ and feet, black; the swollen abdomen of the female in this species is of a dusky or blackish color, showing whitish segmental divisions. Fig. 3 is the larva, which is about one-quarter of an inch or more in length, and of a dull velvety black color; head, shining black; the three last segments are of a dirty whitish color beneath, and the whole body is lighter beneath than it is above; feet, black, and six in number; the whole body, above and beneath, is covered with regularly-arranged pyramidal tubercles. Fig. 4 is the pupa, which is of a dull white or yellowish-white color, and is scarcely as long as the larva, distinctly showing the antennæ, the feet, and the wings of the future insect. Fig. 5 is the antennæ.

Mr. Say remarks that "this is a beautiful and rare species," in speaking of the *cæruleipennis*, "an inhabitant of the Northwest Territory." I found them so abundant in the month of July of the present year, that I really think I might have collected a half-pint of them, and the *cyanea*, in an enclosure of fifteen yards square. They had entirely destroyed the leaves of the dock growing there (*Rumex crispus*), after which they attacked other wild plants, leaving nothing remaining but the nervuses of the leaves and the seed-stems. The larva feeds upon the same plant, and also undergoes its transformations there, similar to the coccinellans, the pupa being only covered with the external integument of the larva, and fastened by the caudal segment. The former species is supposed to have been introduced into this country from abroad, and, to all appearance, seems to be identical with *Chrysometa Polygoni* of Europe. I have a foreign specimen in my cabinet, and, on a superficial comparison, I can distinguish no difference between them.

After having devoured all the dock, they next attacked a species of "smart-weed" (*Polygonum aviculare*), which they bid fair of finishing in a short time. It is upon a species of this weed that the insect is found in Europe, but our insect prefers the dock, according to my observations of the past ten years. In the absence of either or both of these weeds, it would, doubtless, attack other allied species of vegetation, and might possibly become a great scourge.

BOUVARDIA HUMBOLDTI.—New white, with long tube, and flower two inches in diameter.

#### MANAGEMENT OF JUNIPERS.

BY A GARDENER, NEAR BROOKLYN, N. Y.

WHEREVER I have seen the juniper grown, I have noticed many ugly contrivances for keeping them together; for when suffered to grow in the usual way, they fall apart in heavy rains, and particularly in snow-storms, leaving a very ragged and unsightly appearance. Sometimes hoops are used, and wire, but usually they are tied together by rope and twine, at the best, making but poor specimens.

Some years ago I thought to remedy this by allowing only one leader to grow up, and having several pretty large and troublesome specimens with the usual trouble of many dividing leaders. I cut away all but one, and severely pruned-in the side branches of the remaining one. They pushed out a new growth the next spring, and are now beautiful specimens. Since then I carefully cut out all but one leader every season in these arborvitæ and similar evergreens, besides taking out all very strong side-shoots, and now have no trouble in even the heaviest storms. Thinking the hint might be useful to others, I offer it to you for the *Monthly*.

#### THE CISSUS DISCOLOR.

BY J. M.

THIS beautiful stove climber is an ornament that no one should be without, as its splendid foliage of dark purple and silver above, and still darker purple on the under side, cannot, I think, be excelled in beauty by any other plant, even amongst the begonia class, with its many varieties of handsome leaves, there is no one that I prefer to this plant. It is employed very usefully in suspending in baskets, in other cases for covering trellis work, or even when trailing along on the stage it looks well; but planted in a pot and trained to a trellis (such as appeared in the July number of the *Monthly*) would be as good a way as any for it. I have found it to grow well in soil composed of turfy loam, a little rotted horse manure and river sand, sifted fine. The pot should have plenty of drainage to have the plant to do well; this last seems to be very essential to it.

Its propagation is best performed about July, by layering when the young wood is about six inches or so in length. It roots readily in two or three weeks, and should then be separated from the parent plant,—potted, and put in a cool shady place for a few days. A small 3-inch pot of sand is the best thing to layer it in; as soon as rooted, pot into the soil as recommended above. It can also be raised from cuttings taken off at the same time, and placed under a bell glass; they should be about two inches in length, taken from the young wood. By this mode they are longer rooting than by the former,

and it is not so good on the whole, although usually ranked as a stove plant, it will keep in a warm greenhouse through the winter, if kept rather dry, and in summer it will thrive in a shaded place out of doors, with no more care than greenhouse plants usually require.

#### HOW TO RAISE THE SEED OF THE FEATHER GRASS.

BY W., PHILADELPHIA.

I FIND amongst my acquaintances some trouble is experienced in raising seed from the Feather Grass, (*Stipa pennata*.) I was for many years myself unable to succeed with them, and as others of your readers may have the same trouble with this highly ornamental grass, I send you the following memorandum of a way by which I have been perfectly successful. I have tried it several times, and every seed germinates in a few weeks:

I get some muck soil, and when placed in the seed-pots, pour in water till it is like mush, into which I stir the seeds. I keep it afterwards well saturated with water, and, indeed, to guard against any possible dryness, keep saucers of water under.

The ease with which they grow under this treatment convinces me that the usual way of sowing in the border is too dry a plan for their desires.

#### RHODODENDRONS.

BY ADOLPH MIELLEZ, FLUSHING, N. Y.

Will you allow me to pass a few remarks on the Rhododendrons? That most excellent tribe of plants, which, for its grand beauty is so universally admired in Europe; and though there are a good many valuable varieties to be found in this country, there are nevertheless a great many amateurs, who, seeing nothing but common lilac and purple flowers, get tired of them, and I think would be much delighted if they knew how easily their groups could be converted into colors of the most brilliant scarlet, carmine or crimson.

The mode I suggest is by way of grafting. Good, strong and thrifty plants may be taken from the ground, grafted, and put into a small pit or house without any difficulty. They, under good management, will easily take, and can be put out-doors again after a month or six weeks, where they, if fairly treated, will very soon resume their former close growth and habit which render them so conspicuous amongst our ornamental shrubs, (it, of course, being understood that there be more than one scion put to the plant, in fact one on every branch.) The best mode of grafting is "saddle-grafting," they being not so much subject to be blown off by the wind.

The proper time for operation will be (in summer,) after the wood is fairly ripened, and (in winter)

about February. High-colored sorts that are hardy, of course, should be chosen for scions, and thrifty, well-rooted plants be taken to be operated upon. If you think it worth the while, I will give some particulars on the same subject in your next; also, on hybridizing this class of plants.

[Should be very glad to receive the articles. The whole management of the Rhododendron in the open air is particularly worthy of attention. They will not thrive in this or any other country under the "lazy" and "ignorant system" adopted in most of our systems of culture, but when well managed are the glory of English gardeners and deserve to be of ours.—Ed.]

THE DESCRIPTIONS OF FLOWERS, when associated with the names they bear, often suggest the ludicrous. In looking over the lists of our florists, for instance, we find "Lord Derby" described as having an "orange crimson mouth;" "Lord Raglan" has "a fine eye, but rather loose habits;" "Earl of Shaftesbury, a fine flower," but "shows the whites of the eyes;" "Princess Matilda" has "a rosy blush, and is very free;" "Mrs. Church has great constancy, and may be depended on;" and so on through the catalogue.

TREE IVY.—Some years ago we saw in the garden of John Jay Smith, Esq., of Germantown, a pretty specimen of this nice work of floral art. The following, from the *Cottage Gardener*, reminds us of the way to make them:

Procure some stout flowering branches,—fix on a part of the branch as near the bottom as you can, to give you the more length of the trunk after it is rooted; then to cause it to root, cut off a ring of two inches in width of the bark, all but about the width of the fourth of an inch, and leave that narrow slip of bark to carry on the circulation; then get some sheets of gutta percha, paper, or parchment, and form each of them into the shape in which grocers make their soft sugar parcels—the pointed end tie tightly a little below the ringed part, and let the open part of your paper be nine or ten inches wide, and deep enough to hold as much good, rich, sandy loam as would fill a No. 24-pot, pack the soil tightly around the ringed part, but not very tight above it, water it well, and keep it well watered till next October, when it will be as full of roots as possible: and then cut it off from the old tree, and plant it carefully in a sheltered place, and see it is well staked. A layer of moss on the top of the soil in the gutta percha paper, and a little of the moss all around the wound will hasten the process of rooting. If the stem of ivy is as thick as some we know, one would need half a bushel of mould and two years to root it properly.

## The Gardener's Monthly.

PHILADELPHIA, AUGUST 1, 1861.

All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

## PUBLIC GARDENS--THE PATENT OFFICE.

NOTWITHSTANDING the immense influence for good which horticultural and agricultural pursuits exercise over a whole community, no one has ever expected or desired to see in this country such large private establishments as Europe boasts of. However much it might gratify our professional pride as gardeners to have such noble gardens to manage, we well know that they can in very few instances be maintained as they are, only by an hereditary system of property ownership—a system by which the rich become richer and the poor poorer, at every successive generation; and our love of the business in its regal states of existence, cheerfully gives place to a pride as citizens, in the general material prosperity and happiness which our national system affords.

But that we might not altogether be deprived of these advantages, it has been a fondly cherished hope with our leading minds, that agriculture and horticulture should assume a more national shape than Europe can boast of; and the most sanguine amongst us have looked forward to a no distant date when all the stages of our Government, municipal, state, and general, should sustain its public park, garden, and horticultural establishment for the use and instruction of the people.

With the establishment of the agricultural division of the Patent Office, and the inauguration of a few public squares and parks in some of our larger cities, it did seem that the good time was coming, and we all prepared to rejoice at the near prospect of our dreams.

Alas! they have proved but dreams. From the Patent Office down to the hundred feet public squares, they have turned out to be mere jobs to reward partizans, and millions of dollars have been spent, to little other end. In most instances this has been the case, and very probably in all.

In our City of Philadelphia, we had two magnificent Parks projected, the Hunting Park and the Fairmount Park. They were all started on correct

principles. The plans were put up to public competition, and in the first-named case, Mr. W. Saunders' plan was selected as the best, and in the last, Mr. J. C. Sidney's, and the public applauded, that for once justice had been done. Merit had triumphed, and party politics, for the time, laid aside. But now comes the curious part of the business. Both of these gentlemen drew up carefully prepared estimates of the cost of their several plans, and we believe both of them offered to contract for the whole work at the estimates made out. One of them certainly did, for his report happens to be now before us. Immediate payment would be no excuse, as the bonds of the city extending over a number of years would be accepted in settlement. Why are not such offers accepted? Simply because they bring neither votes nor patronage to whatever party may be in power. A few weeks before "election," crowds of voters are employed who do little for their pay but what they are employed for, namely, vote; and the little they do is neglected after the "election," and has to be done over again when the next voting time comes around. In the cases we have named, with the exception of the designers, Mr. Saunders and Mr. Sidney, we doubt whether any one person skilled in horticulture has been employed in the works during the years that have elapsed since their commencement; and these gentlemen are probably retained nominally at the head of the works to make them appear, in the eyes of the public, no political affairs. The estimates originally made out, judging from personal observation, are nearly or quite reached, or if not, exceeding good management must have been exercised by both Mr. Saunders and Mr. Sidney to get so much done for the money, and the "Parks," instead of being near completed, are still little more than wildernesses. No one can believe that they will ever be finished for less than double, as the system goes, and they bid fair to be the hospital for political cripples for many years yet to come.

If we turn from Philadelphia to Washington, the same deplorable facts present themselves. The agricultural division of the Patent office has proved a perfect Augean stable of corruption and shameless ignorance, that ought to lead the first originator of the idea to the same fate as the originator of the guillotine, and his heart break at the perversion of his patriotic intentions. Many a Hercules has attempted the cleaning process, but has signally failed. Turned out by one hole the offensive matter enters as fast by another, and the labor is lost.

Near the close of Mr. Buchanan's administration, the force of public opinion caused the removal of the leading incompetent, the great D. J. B. of the Patent Office reports, and it was fondly hoped that some millions would be saved to the country by the

cessation of imports "foreign wine-grapes," "Tea Plants," "Christ's Thorn seed," "Cork Trees," "Strap-leaved Turnips," and scores of other items, useless rubbish, which have not, nor ever will be of one cent's worth of benefit to this country for all the outlay. Well, this distinguished Bee (D. J. B.) is again taken up to send abroad to gather more honey for us of the same sort. It is not his fault, but that of the system. It is said that he worked hard to get the present Commissioner of Patents into office; why should he not have his reward? Our postmasters and police, even down to the most petty officer, mostly earn their places before they get them. What they do after their appointment should be considered gratuitous on their part, and we should be thankful for any favors they may do us, in the shape of what politeness terms their "duties"! Certainly the Patent Office officials deserve no less, and we should be satisfied.

Seriously we think it time that a determined effort should be made to correct these abuses. The interests of agriculture and horticulture demand that they should no longer be thus trifled with. When we see some effort made likely to be successful, we shall again resume our advocacy of public establishments. Until then our pen will be better employed in the development of the usual details of private practice.

## THE SEEDLING NUISANCE.

Now that the season of pomological gatherings is approaching, we warn our friends against the unnecessary introduction of "new seedlings."

Many fruit raisers seem to have well studied Gulliver, and to have imbibed the maxim of one of his heroes, that "he who makes two blades of grass to grow where only one grew before, is a human benefactor." But our friends seem to forget that this must have applied to the kingdom of Brobdignag, and that the multiplication of fruit "blades" in the shape of seedlings with Lilliputian qualities, is the least desirable of all our wants.

When we look over our fruit catalogues of the few past years, and note the magnitude of the "seedling list" now discarded as worthless, it is painful to reflect on how much money, time and labor have been thrown away on them. It is not that we have been swindled, or that in most cases there has been any design to inflict worthless varieties on the public, but the evil arises from the public not knowing the characteristics of a good fruit, or the raiser's not knowing how much an accidental and local circumstance has to do with a local reputation.

The foundation of a good character in a fruit should be a good, hardy, vigorous constitution—one that will resist our heats and drouths, and come out scathless from our severe wintry ordeals. Entirely too much

prominence has been given to nice shades of flavor,—shades frequently so delicate that a vote of a hundred palates would scarce indicate a majority of one in favor of any two favorites.

A fruit is sent to the *Gardener's Monthly*, or to a committee of some horticultural society; the flavor may be excellent, and we or the committee be honestly bound to say so; but as it is the only important quality that is up for judgment, it may have many other defects that would render it worthless notwithstanding, and we are desirous that the public should receive the opinions in such cases given at only their exact worth. On the other hand, a really valuable fruit is often rejected or has to fight its way through legions of enemies, merely because the first decisions of good judges were that it was "not of good flavor." The cases of the Concord Grape, and Albany Seedling Strawberry are in point. Inferior in mere flavor as they may be conceded to be, they are the type of all that is valuable in the classes that claim them, and the models on which we may expect future improvements.

Nothing but experimental gardens in two or three sections of the Union will ever save to the country the immense sums now squandered on inferior varieties. It is, of course, out of the question to urge this matter now, but we hope our readers will bear it in mind when peace and prosperity return. In the mean time, our friends will understand that when we or others pronounce a fruit "as the best flavored we have tasted this season," it may be very far from being a valuable variety, and that there are a great many other points to be considered before we venture to encourage another risk of a "seedling nuisance."

## HORTICULTURE IN CALIFORNIA.

"COMPARISONS are odious," says Mrs. Malaprop; but sometimes Mrs. Partington's understanding that they are "odorous," is the correct one, and they shed a balmy influence for good on all who may come within the charmed circle of the "magic fragrance."

Two papers come to hand by the same mail, one from California, the other from England, and afford a striking comparison of the *status* of horticultural art in these comparative antipodes.

Our English paper gives an account of a collection of variegated plants on exhibition in London, sent for that purpose by Mr. Fortune from Japan! and which arrived there the day before the exhibition, in first-rate order, in a Wardian case. Certainly it was a feat worth exulting over, not only as being successful beyond record, but as showing how very far horticultural skill has advanced there.

And now, what of California? The account

stated that an association had been formed with a very heavy capital, the shares from \$25 to \$50 each; the object being to import specimens of the best fruits of Europe to California. The principal part of the capital it was proposed to spend in the employment of "competent hands," who were to be "sent out to the various European countries" to superintend the packing up the plants in such a manner that "they could have daily water, air, light and attendance" on the way. This sounded so precisely like one of our "Patent Office schemes," that it was with difficulty we could bring ourselves to believe it to be a plan emanating from intelligent gentlemen. They have certainly never heard of Wardian cases, and are full fifty years behind the times.

It is a source of profound regret to see such energy and good intentions so expensively and uselessly employed. Nothing shows more clearly the national value of a study of horticulture, and the immense importance of its pursuit in an industrial point of view. No greater mistake can be made than to consider it a mere lady's accomplishment, like zephyr or worsted work.

"Horticulture," says Dr. Lindley, in a recent address to Prince Albert, as President of the London Horticultural Society, "Horticulture, Sir, is the parent of Agriculture. It determines, on a small scale, the value of the principles on which an extended cultivation of the soil depends. It is associated with our food, our wealth, and many of our social enjoyments." How much more is this applicable to our country, which is so peculiarly agricultural, than to England; and how well does the California example of ill-directed energy show the want of it.

#### GRAPES.

Most horticulturists have heard of the grapes of Fox Meadow gardens. We have repeatedly said, in the discussion of the grape subject, that facts and figures on the merits of the differing systems were what we wanted, and here we have in black and white, a weighty argument in favor of the Fox Meadow system, which, after all, is but the old spur system. The "weighty argument" consists of six bunches, weighing, collectively, seventeen pounds, two ounces, expressed in "black" Hamburg, and "white" Muscats, in all the various bearings of which, color, flavor, form, &c., we were compelled to admit the "reasoning most cogent, clear and logical;" even the leaves which accompanied the fruit measured twelve inches by eighteen, and were models of healthy luxuriance.

In a "private" note which Mr. Ellis sends with the fruit, are some interesting facts, which we take the liberty of extracting, assured that Mr. Ellis will not object to the publication:

"I forward you a sample so that you could be able to "record" something on our *old spur* system of vine growing. Six years ago, I planted a house, three hundred feet long, with vines two feet apart, intending to cut down each alternate vine as it was fruited; (you will here bear in mind this was an *early forcing house*.) The following season, I worked part of the house on this plan of cutting down, (which I had seen twenty years ago performed by Mr. Seammell, nurseryman, Bath, England,) to first see how it would answer, but I found that the cutting down caused the vines to push much later from their base than those which were for fruiting; some a month and others six weeks later, and that in their breaking together there was no dependence; and that if I had continued the system for two or three years, my *early forcing-house*, at the end of that time would have naturally grown into a cold house, so I had to drop it. Well, sir, this result caused me to spur-prune these vines instead of cutting them down, as before stated, and to sum-up, today, on vine growing, my experience leads me to believe that vines planted four feet apart are capable of bearing *double the quantity* of much better fruit than when planted at two feet apart without any regard to any one's system of pruning or growing."

It has been stated somewhere that Mr. Ellis had found his vines "declining" under the old spur-pruning system. Mr. E. states that he had noticed a slight falling off in crop on a few vines, but so far from believing that it was caused by the system of pruning or the necessity of adopting another one, set about to remedy it in his own way; and if the samples sent prove any thing, it is certainly some "other thing" than a "decline."

In due time, no doubt, "the other side" will furnish similar "arguments," when we shall have much pleasure in duly "weighing" them also.

#### ENTOMOLOGICAL ARTICLES.

WE are indebted to the Publication Committee of the Eastern Pennsylvania Fruit-Growers' Society, through Mr. Gustavus Heins, the attentive Secretary of the Association, for the highly interesting article on the Grape-vine Beetle in another column. We have several other articles on destructive insects, also from the pen of Mr. Rathvon, which will appear in forthcoming numbers.

#### TRAVELLING AGENT.

OUR neighbor, Mr. James Gleason, in connection with his business of laying-out grounds and execution of ground work generally, makes a trip to the East and Canada, and has kindly consented to act as an agent of the *Gardener's Monthly* during the

tour. The publisher will be obliged to the friends of the journal who may place him in the way of being most successful in obtaining new subscribers.

#### LARGE NURSERY ESTABLISHMENT FOR SALE.

IN another column appears an advertisement of Messrs. G. H. White & Co.'s Nurseries at Coldwater, Michigan. A personal friend who has recently returned from a business tour in that section, informs us that he spent a day very delightfully over the grounds, which he spoke very highly of, as well as of their location. We allude to the subject here because it is the first instance we have heard of any of our large nurseries getting frightened at the crisis; a rather surprising fact when we know how many other businesses have failed, and how nurserymen have suffered by debts withheld. We have no doubt Messrs. White will soon find a successor, and they themselves eventually regret their change. It is at least our impression that the nursery interest will be one of the first to recover from the general depression, for it is an "ill wind that blows no one any good," and they to whom it blows want the luxuries of horticulture.

#### Scraps and Queries.

Communications for this department must reach the Editor on or before the 10th of the month.

The Editor cannot answer letters for this department privately.

ADVERTISEMENTS—J. B. GOOD. We hoped our last would close this discussion, but two parties referred to seem to have a right to a postscript. Mr. Kohly writes that he may have been mistaken in the date of his letter, as he certainly was by the postmark; but he now sends us facts and documents proving clearly that he did send money to Mr. Good; and he also sends us additional letters of Mr. Good's, which proves that Mr. Good did, at least, *get the letters*. Whether the money did or did not reach Mr. Good may be a good ground for suspicion, but it is a matter better fitted for discussion in a court of justice than in a horticultural journal. Another letter is from the Baltimore gentleman alluded to. Though we may, in truth, say scores of letters in our possession, from as many parties, show that Mr. Good must, to say the best, have been particularly unfortunate in the non-receipt of his money letters, we were particularly anxious that even the most "unfortunate" should suffer no injustice at our hands, and we gave Mr. Good the benefit of all the praise of him that had come to hand. But this gentleman now writes, "I have little doubt that my Delawares are spurious, and many of the others

have leaves all alike; Cuyahoga, Maxatawny and Bullitt particularly, look like some one variety of foreign grape. Should these three varieties have this one uniform and foreign look?" Certainly not, and if they are all thus alike, it is a bare-faced fraud, which should be prosecuted as such in a criminal court. The letters of the other gentleman, though we sympathize with parties in their troubles, we must be excused from further noticing, for reasons stated in our last two numbers.

FRUITS RECEIVED.—*Strawberry Seedling* from Mr. Lanfesty, Philadelphia. Fruit of large size, on a long stem, similar in this respect to Austin Seedling. The quality was not first-rate, but it may possess other qualities that would render it a desirable variety to perpetuate. *Strawberry Seedling* from Wilmington, Del.; so much spoiled in transit that it could not even be tasted. *Raspberry Seedling* from George Raphael, Burlington, N. J., of superior excellence in flavor, but soft like Fastolf, with which we think it possesses too much in common to merit a separate preservation, unless it possess qualities of hardness, &c., which Fastolf does not. *Franconia Raspberries* from E. Satterthwait, Jenkintown, Pa. Quite as hard and firm as the Allen; very large and showy, of superior flavor; indeed, we doubt whether very many of the new introductions can approach this old one in value in several qualities.

STRAWBERRY GROWING—D. W., *Jamaica Plain, Mass.*, writes: "I have never had a chance since I came to this country, to learn much about the American varieties. In Scotland, we used to grow them, the British varieties, mostly on the hill system, and they did well, but all around Boston they grow the strawberry in beds, so that I have had no chance to see how they do in hills. I have been keeping a look out in the *Monthly*, but I do not see any kind mentioned but the *Triomphe de Gand* grown in that way. I turned over a piece of ground with the Michigan plough last spring, manured and planted it about the beginning of May with Hovey's Seedling, Virginia and Brighton Pine, two feet four inches between the rows, eight to twelve inches between the plants. Now, should I keep them in hills or let them run into beds? I may mention that I will have to depend partly on them for a living, so by that you will understand that I want to make as much off the ground as I can."

[Mr. Knox, of Pittsburg, finds it most profitable to grow all varieties of strawberry in hills. It should not be forgotten, however, that he is a very large cultivator, the most extensive, perhaps, in the Union, and a system that proves the most profitable on a large scale often does not answer so well on a small

one. We do not know any small market-grower who adopts the plan, and as a mere question of profit with our correspondent, we cannot advise him, though we are strongly of opinion that the hill system, even in small places, would be found, in a pecuniary sense, the most remunerative.

BOOKS, HOATHOUSES, &c.—*W. R., Washington, Wash. Co., Iowa*, writes: "Can you not go a little more into details in answering correspondents? (1) I am much interested in that department, especially in relation to hothouses. Can you give me the name of a work on the managing of hothouses? I want to propagate grapes from buds, and roses from cuttings. I want something that will give me full details. (2) I tried it last winter and partially succeeded; have a few grapes from buds that look well. Can I graft Downing's New Mulberry the same as apples? (3) Where can I get roots of the common Mulberry to graft on? Any information on the subject would be thankfully received. (4) Also, I would like to know what process the seed of the Buckthorn must be taken through to make it germinate? Here in the West, fencing material is scarce and costly, and we want something that will make a good hedge. I think our native thorns are just the thing if we can get them to grow." (5)

[1. We should be glad to give fuller details, but it must not be forgotten that the questions in this department interest but a small portion of our readers, however interesting they may be to a few, and justice to the general reader demands a limit to the space the department should occupy.

2. Leuchars on Hothouses is a good guide to construction and principles of management. There is no work on details of hothouse management that we know. McMahon's Gardener's Calendar, Buist's Flower Garden Directory, and Breck's Book of Flowers are very useful to novices.

3. Yes.

4. For obvious reasons we never recommend nurserymen; most of the large nurseries that advertise in our paper could furnish them.

5. When good it grows very readily; when sown in spring, as easily as cabbage seed. No process but mere sowing is required.]

PINE TREE INSECT—*W., Baltimore*, writes: "Can you enlighten me upon a disease I have found this spring to affect my White Pines? After they had made a growth of a foot or sixteen inches, I noticed that the leader ceased growing and turned brown, and upon cutting into the bark, found that white worms, somewhat similar to the Apple-tree Borer, were eating it up. In one specimen I found several dozen worms, ranging in size from an eighth

to a half inch in length; they completely encircle the wood and kill it as they descend. I did not observe any holes in the bark where they could enter, as the borer shows in the apple tree, and I concluded that the eggs of a moth had been laid in the little tuft at the extreme end of last year's growth, which were hatched by our warm vernal suns, and the worms had eaten their way in at that point, and thence descend, until, perhaps, the whole tree is destroyed. I cut the leader off down to apparently healthy wood and then tied up a lateral shoot to form a new leader. I should like to know what would prevent the ravages of this insect, for they have done me much damage. (1) Will you please give me, also, through your excellent *Monthly*, the most satisfactory climber for a locust tree, which I have killed, and lopped off its branches for a support? It is in front of my dwelling, and I should like something ornamental. Is Ivy preferable to a deciduous vine for such a purpose?" (2)

[1. We know of no other remedy for this infliction but cutting off and burning the insects with the parts attacked, and print the inquiry in full, in the hope that any of our friends who may have had experience with the same trouble, will communicate.

2. The Ivy would do well, but we should add with it a Trumpet vine, and if the tree were large enough, a Virginia Ivy—they would all do together.]

WINE GRAPES FOR MICHIGAN—*Sturgis, Michigan*, asks for the best hardy grapes for wine and market in that region.

[In most regions where it has been tried, the Delaware is found to make the best wine. In most of our Middle States, were we to plant for market merely, we should plant largely of Concord; but in your latitude, for the combined purposes of wine and market, we should try Diana and Concord, unless we found that parties in that region had already tried and found other kinds well adapted to the peculiar locality. Experiments in these matters require to be made with great caution in new localities. We have seen, even in this part of the country, thousands of dollars lost on implicitly following advice as to varieties and management, that have been found excellent in other places. In a quite new locality, we should plant small quantities of most of the better known improved kinds for experiment, in addition to the larger quantities of the two kinds named.]

HARDINESS OF FARFUGIUM GRANDE—*W., Philadelphia*, says in reference to the notice in our last, that this entirely disappeared from his border the past winter; killed, as he supposes, by the frost.

TRITOMAS—*W. C. S., Keokuk, Iowa*.—It would be best in your latitude to take up Tritomas late in the fall, cut back the foliage about two-thirds, pack them in boxes of soil, and set in a cool cellar for the winter. We have found them hardy here, but seem somewhat injured and do not flower or grow near as well as those we protect.

JAPAN LILIES—*B., Cincinnati, O.*—You need not fear to risk your Japan Lilies out in the open air; they are perfectly hardy, and, indeed, thrive much better in the open border, when left out over winter, than we ever knew them to do under greenhouse culture. We would, however, replant them every fall—advice that will apply to all the other species of Liliaceae.

## Books, Catalogues, &c.

ON THE SOURCES OF THE NITROGEN OF VEGETATION; with special reference to the Question whether Plants Assimilate Free or Uncombined Nitrogen. By John Bennet Lawes, Esq., F.R.S., F.C.S.; Joseph Henry Gilbert, Ph.D., F.R.S., F.C.S.; and Evan Pugh, Ph.D., F.C.S.

After referring to the earlier history of the subject, and especially to the conclusion of De Saussure, that plants derive their nitrogen from the nitrogenous compounds of the soil and the small amount of ammonia which he found to exist in the atmosphere, the Authors preface the discussion of their own experiments on the sources of the nitrogen of plants, by a consideration of the most prominent facts established by their own investigations concerning the amount of nitrogen yielded by different crops over a given area of land, and of the relation of these to certain measured, or known sources of it.

On growing the same crop year after year on the same land, without any supply of nitrogen by manure, it was found that wheat, over a period of fourteen years, had given rather more than thirty pounds—barley, over a period of six years, somewhat less—meadow-lay, over a period of three years, nearly forty pounds,—and beans, over eleven years, rather more than fifty pounds of nitrogen per acre, per annum. Clover, another Leguminous crop, grown in three out of four consecutive years, had given an average of one hundred and twenty pounds. Turnips, over eight consecutive years, had yielded about forty-five pounds.

The Gramineous crops had not, during the periods referred to, shown signs of diminution of produce. The yield of the Leguminous crops had fallen considerably. Turnips, again, appeared greatly to have exhausted the immediately available

nitrogen in the soil. The amount of nitrogen harvested in the Leguminous and Root-crops was considerably increased by the use of "mineral manures," whilst that in the Gramineous crops was so in a very limited degree.

Direct experiments further showed that pretty nearly the same amount of nitrogen was taken from a given area of land in wheat in eight years, whether eight crops were grown consecutively, four in alternation with fallow, or four in alternation with beans.

Taking the results of six separate courses of rotation, Boussingault obtained an average of between one-third and one-half more nitrogen in the produce than had been supplied in manure. His largest yields of nitrogen were in Leguminous crops; and Cereal crops were larger when they next succeeded the removal of the highly nitrogenous Leguminous crops. In their own experiments upon an actual course of rotation, without manure, the Authors had obtained, over eight years, an average annual yield of 57.7 pounds of nitrogen per acre; about twice as much as was obtained in either wheat or barley, when the crops were, respectively, grown year after year on the same land. The greatest yield of nitrogen had been in a clover crop, grown once during the eight years; and the wheat crops grown after this clover in the first course of four years, and after beans in the second course, were about double those obtained when wheat succeeded wheat.

Thus, Cereal crops, grown year after year on the same land, had given an average of about thirty pounds of nitrogen, per acre, per annum; and Leguminous crops much more. Nevertheless the Cereal crop was nearly doubled when preceded by a Leguminous one. It was also about doubled when preceded by fallow. Lastly, an entirely unmanured rotation had yielded nearly twice as much nitrogen as the continuously grown Cereals.

Leguminous crops were, however, little benefitted, indeed frequently injured, by the use of the ordinary direct nitrogenous manures. Cereal crops, on the other hand, though their yield of nitrogen was comparatively small, were very much increased by direct nitrogenous manures, as well as when they succeeded a highly nitrogenous Leguminous crop, or fallow. But when nitrogenous manures had been employed for the increased growth of the Cereals, the nitrogen in the immediate increase of produce had amounted to little more than forty per cent. of that supplied, and that in the increase of the second year after the application, to little more than one-tenth of the remainder. Estimated in the same way, there had been in the case of the meadow grasses scarcely any larger proportion of the supplied nitrogen recovered.

In the Leguminous crops the proportion so recovered appeared to be even less; whilst in the root-crops it was probably somewhat greater. Several possible explanations of this real or apparent loss of the nitrogen supplied by manure are enumerated.

The question arises—what are the sources of all the nitrogen of our crops beyond that which is directly supplied to the soil by artificial means? The following actual or possible sources may be enumerated:—the assimilation of free nitrogen by plants; the nitrogen in certain constituent minerals of the soil; the combined nitrogen annually coming down in the direct aqueous deposition from the atmosphere; the accumulation of combined nitrogen from the atmosphere by the soil in other ways; the formation of ammonia in the soil from free nitrogen and nascent hydrogen; the formation of nitric acid from free nitrogen; the direct absorption of combined nitrogen from the atmosphere by plants themselves.

A consideration of these several sources of the nitrogen of the vegetation which covers the earth's surface showed that those of them which have as yet been quantitatively estimated are inadequate to account for the amount of nitrogen obtained in the annual produce of a given area of land beyond that which may be attributed to supplies by previous manuring. Those, on the other hand, which have not yet been even approximately estimated as to quantity—if indeed fully established qualitatively—offer many practical difficulties in the way of such an investigation as would afford results applicable in any such estimates as are here supposed. It appeared important, therefore, to endeavor to settle the question whether or not that vast storehouse of nitrogen, the atmosphere, affords to growing plants any measurable amount of its *free* nitrogen. Moreover, this question had of late years been submitted to very extended and laborious experimental researches by M. Boussingault, and M. Ville, and also to more limited investigation by MM. Mene, Roy, Cloez, De Luca, Harting, Petzholdt, and others, from the results of which diametrically opposite conclusions had been arrived at. Before entering on the discussion of their own experimental evidence, the Authors give a review of the results and inferences; more especially those of M. Boussingault who questions, and those of M. Georges Ville who affirms the assimilation of *free* nitrogen in the process of vegetation.

The general method of experiment instituted by Boussingault, which has been followed, with more or less modification, in most subsequent researches, and by the Authors in the present inquiry was—to set seed or young plants, the amount of nitrogen in which was estimated by the analysis of carefully chosen similar specimens; to employ soils and water

containing either no combined nitrogen, or only known quantities of it; to allow the access either of free air (the plants being protected from rain and dust)—of a current of air freed by washing from all *combined* nitrogen—or of a limited quantity of air, too small to be of any avail so far as any compounds of nitrogen contained in it were concerned; and finally, to determine the amount of combined nitrogen in the plants produced and in the soil, pot, &c., and so to provide the means of estimating the gain or loss of nitrogen during the course of the experiments.

The plan adopted by the Authors in discussing their own experimental results was:

To consider the conditions to be fulfilled in order to affect the solution of the main question, and to endeavor to eliminate all sources of error in the investigation.

To examine a number of collateral questions bearing upon the points at issue, and to endeavor so far to solve them, as to reduce the general solution to that of a single question to be answered by the results of a final set of experiments.

To give the results of the final experiments, and to discuss their bearings upon the question which it is proposed to solve by them.

Accordingly, the following points are considered:

1. The preparation of the soil, or matrix, for the reception of the plants and of the nutriment to be supplied to them.
2. The preparation of the nutriment, embracing that of mineral constituents, of certain solutions, and of water.
3. The conditions of atmosphere to be supplied to the plants, and the means of securing them; the apparatus to be employed, &c.
4. The changes undergone by nitrogenous organic matter during decomposition, affecting the quantity of combined nitrogen present, in circumstances more or less analogous to those in which the experimental plants are grown.
5. The action of agents, as ozone; and the influence of other circumstances which may affect the quantity of combined nitrogen present in connexion with the plants, independently of the direct action of the growing process.

In most of the experiments a rather clayey soil, ignited with free access of air, well washed with distilled water, and re-ignited, was used as the matrix or soil. In a few cases washed and ignited pumice-stone was used.

The mineral constituents were supplied in the form of the ash of plants, of the description to be grown if practicable, and if not, of some closely allied kind.

The distilled water used for the final rinsing of all the important parts of the apparatus, and for the

supply of water to the plants, was prepared by boiling off one-third from ordinary water, collecting the second-third as distillate, and re-distilling this, previously acidulated with phosphoric acid.

Most of the pots used were specially made of porous ware, with a great many holes at the bottom and round the sides near to the bottom. These were placed in glazed stone-ware pans with inward-turned rims to lessen evaporation.

Before use, the red-hot matrix and the freshly ignited ash were mixed in the red-hot pot, and the whole allowed to cool over sulphuric acid. The soil was then moistened with distilled water, and after the lapse of a day or so the seeds or plants were put in.

Very carefully picked bulks of seed were chosen; specimens of the average weight were taken for the experiment, and in similar specimens the nitrogen was determined.

The atmosphere supplied to the plants was washed free from ammonia by passing through sulphuric acid, and then over pumice-stone saturated with sulphuric acid. It then passed through a solution of carbonate of soda before entering the apparatus enclosing the plant, and it passed out again through sulphuric acid.

Carbonic acid, evolved from marble by measured quantities of hydrochloric acid, was passed daily into the apparatus, after passing, with the air, through the sulphuric acid and the carbonate of soda solution.

The enclosing apparatus consisted of a large glass shade, resting in a groove filled with mercury, in a slate or glazed earthenware stand, upon which the pan, with the pot of soil, &c., was placed. Tubes passed under the shade, for the ingress and the egress of air, for the supply of water to the plants, and, in some cases, for the withdrawal of the water which condensed within the shade. In other cases, the condensed water was removed by means of a special arrangement.

One advantage of the apparatus adopted was, that the washed air was forced, instead of being aspirated, through the enclosing vessel. The pressure upon it was thus not only very small, and the danger from breakage, therefore, also small, but it was exerted upon the inside instead of the outside of the shade; hence, any leakage would be from the inside outwards, so that there was no danger of unwashed air gaining access to the plants.

The conditions of atmosphere were proved to be adapted for healthy growth, by growing plants under exactly the same circumstances, but in a garden soil. The conditions of the artificial soil were shown to be suitable for the purpose, by the fact that plants grown in such soil, and in the artificial conditions of atmosphere, developed luxuriantly, if

only manured with substances supplying combined nitrogen.

(Conclusion in our next.)

BRIGHT ON GRAPE-CULTURE. Second Edition. That a new edition of his work so soon after its first appearance should be called for must be peculiarly gratifying to the author. Like most men of bold and original views, he has had "a hard road to travel" over the rocks and hills along which the practices or prejudices of his professional compeers have led him.

It is, however, an unquestionable fact, that since the first publication of Mr. Bright's views on grapes, its culture has progressed with giant strides,—not, perhaps, exactly in the channels Mr. Bright has marked out for it,—but he has furnished the food for thought, and the matter for reflection, that has made grape-culture so well understood by the masses. Men of long years of close and excellent practical experience in grape management may feel that they have learned nothing new from the labors of the author; but the thousands to whom the art was almost a sealed book as of magic or necromancy, have been taught to think, to experiment, and to observe, until they have found supposed mysteries perfectly clear, and grape-growing to be an art of easy accomplishment when the scientific principles are mastered; and grape-houses are everywhere going up.

In this edition Mr. Bright has incorporated some new views, leading to modifications of practice which will command the attention of those who wish to have something to think about with the view to improved grape-culture.

THE REPOSITORY of New London, Conn., has been changed to a neat monthly magazine, entitled *The Family Repository and Horticultural Cabinet*. It is edited by Mr. W. H. Starr. It is filled with selections from the best sources, and illustrated with a colored plate as a frontispiece. The one before us has a handsome lithograph of an Easter Beurre Pear.

CATALOGUE OF THE OFFICERS AND STUDENTS OF THE UNIVERSITY OF MICHIGAN FOR 1861. We are indebted to Alexander Winchell, Esq., the Botanical Professor of the Institution, for the copy before us.

#### CATALOGUES.

PETER MACKENZIE & SON, Philadelphia. Greenhouse and Stove Plants. In the Camellia department we notice descriptions of over one hundred varieties.

JOHN WESTPHAL & SONS, Iowa City. Descriptive Catalogue. 52 pages. Trees, Plants and Flowers.

T. C. MAXWELL & BRO., Geneva, N. Y. Descriptive Catalogue of Bedding Plants, Bulbs, &c. 15 pages.

GEO. D. KIMBER, Flushing, Long Island, N. Y. Fruits, Shrubbery, &c.

COOKS' SUPPLEMENT, Walnut Hills, Cincinnati. Chiefly descriptive of Dahlias and Verbenas.

JAMES N. PRICE, Media, Pa. Fruits.

H. E. HOOKER & Co., Rochester, N. Y. Prepared Bast matting.

F. PRENTICE, Toledo, Ohio. Wholesale Trade List.

J. SHEPPARD, (successor to W. P. Sheppard, deceased,) New York City. Horticultural Agency,

A. F. CONARD & BRO., West Grove, Pa. Fruits and Flowers.

M. A. WALMSLEY, Bristol, Pa. Fruits and Flowers.

### New or Rare Plants.

**CEREUS KINGIANA.**—Some time last spring Mr. Buist sent us a seedling Cactus, which has since bloomed, and proves one of the handsomest of the class. It appears to be a hybrid between *Cereus speciosissimus* and *Epiphyllum speciosum*. The habit of the plant approaches the former, but the flowers are medium between the two in size, and are clear white at the base, broadly edged with purple shaded rose. There is no handsomer tribe of plants than the free blooming and "tall cacti," as the section in question is termed, and the present addition will not fail to become popular.

**NEW DWARF BEGONIAS.**—A new race of miniature or dwarf begonias has been produced by the Belgian cultivators, which is attracting much attention. It has already become apparent that, remarkable as the begonias are, the plants occupy so much space that amateurs with small greenhouses are unable to possess but a limited number. These dwarf sorts obviate this necessity, for while they are equally varied and rich in their leaf coloring, they grow only six inches high, and form dense masses of foliage as strikingly conspicuous as they are neat and compact in growth. *Begonia Frederic Siesmayer*, raised by Van Houtte, is the original of the group. It is similar to *Rex*, but the zone of silver is larger and far brighter colored.—*Hovey's Magazine*.

**ANGRÆCUM SUSQUIPEDALE** is one of the rarest, as it is one of the finest; no other Orchid can rival it in the size of the individual flowers. They are seven inches in diameter, of a clear ivory white

color, and the light green spur is a foot in length. It seldom produces more than two or four flowers from the axil of each of the upper leaves. It was discovered and brought to England by the Rev. William Ellis, in whose garden it also flowered for the first time.—*Scottish Gardener*.

**NEW SHRUBBERY CALCEOLARIAS.**—This class of calceolarias thrive pretty well in our climate, and make good summer bedding plants,—propagating well from cuttings, and keeping well over the winter. We insert the following list of new English kinds in order to call attention to the merits of the class:

*Etna.*—Crimson, tinted with scarlet, habit first-rate; a most abundant late blooming variety, and will be found admirably adapted for bedding purposes.

*Harlequin.*—A most pleasing variety; yellow, distinctly spotted and blotched all over the flowers with crimson, very dwarf in habit; a most abundant bloomer.

*Little Dorrit.*—A pleasing soft yellow, fine-shaped flower, dwarf and good habit; a most abundant bloomer; first-rate for bedding.

*Magenta.*—Beautiful dark velvet crimson, tinted with scarlet, of fine shape and good habit.

*Princess Helena.*—Yellow, with primrose shading, very effective; good shape and habit.

*The Hon. Mrs. Adams.*—Primrose color, distinctly spotted all over with crimson spots; a finely shaped flower, of good habit.

*The Queen.*—Pure yellow, beautifully marked all over the flower with rich cinnabar red spots; a great improvement on my *Lady Palmerston*.

*Victor Emmanuel.*—Fine reddish scarlet, distinctly pitted with crimson dots; first-rate habit, and will prove a good bedding variety.

**CISTUS VAGINATUS.**—From Teneriffe. Has rose-colored flowers, resembling in size and form a single camellia. It is a greenhouse shrub of great beauty, growing about three feet high, and flowering in June.

**PELARGONIUM ENDLICHERIANUM.**—This is a herbaceous perennial kind, with umbells of eight to ten red carmine flowers, with a rich carmine vein. Though a native of Caucasus, the *German Garden Flora* says it has but recently met with a tardy recognition of merit as a pretty garden plant.

**GERANIUM HENDERSONI NANUM.**—This fine variety is a decided improvement upon the well-known *G. HENDERSONI*, which, for a considerable period, was the most reliable self white-flowered bedding geranium known. The present one is a dwarf

and shorter-jointed growth and more effective in character.

**CONVOLVULUS OCLATA**, a new and interesting hardy perennial herbaceous plant from China and Japan; of a neat scandent or trailing habit for a wall or trellis, producing numerous bluish-tinted funnel-shaped blossoms, picturesque, shaded with dark violet or purple crimson in the centre or throat.

**AGATHÆA CÆLESTIS FOLIA VARIEGATA**, a very elegant dwarf box-like plant, three to four inches high, with picturesque silver-edged leaves; for front margins and belts. Once *Cineraria amelliodes*.

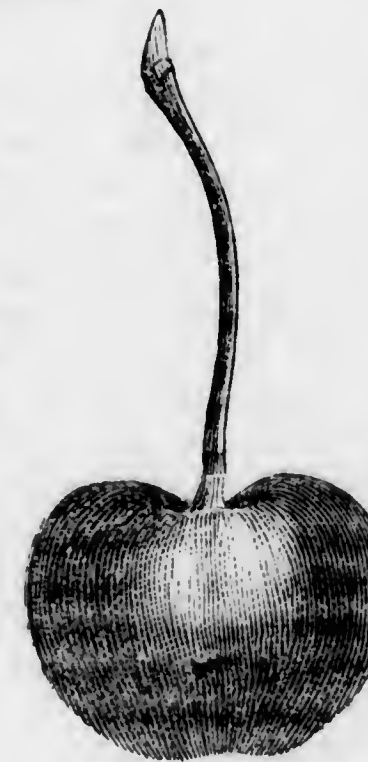
**HYDRANGÆA CYANEA**, a new species from China, forming a neat dwarf conservatory shrub, with clusters of bluish pink sepals, and inner smaller blue petals and stamens.

### New and Rare Fruits.

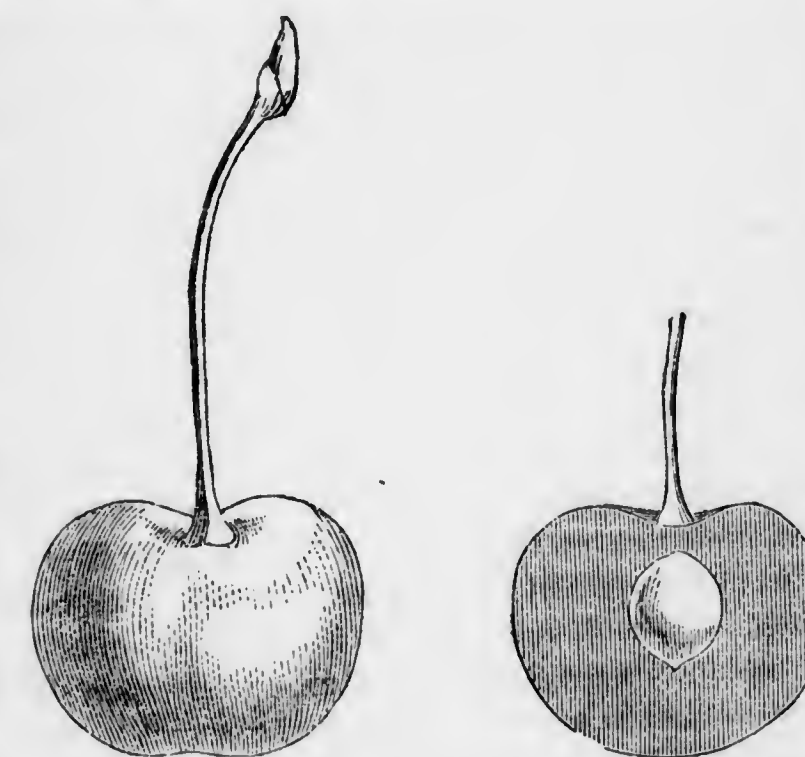
**BUCKINGHAM APPLE.** (*See Frontispiece.*) At the last meeting of the Pomological Society, held in Philadelphia, few fruits on exhibition attracted more attention than this. It was exhibited by Col. Bainbridge, of South Pass, Illinois. As will be seen from the engraving, the fruit is very large, oblate-conical in shape. It is deeply shaded with crimson, and has large grayish dots. The Committee reported that in their belief the "Meigs," "Jackson Red," "Buncombe" of the South, and "Winter Queen" in Virginia and Kentucky, were names often applied to this variety.

**TRIUMPH OF CUMBERLAND CHERRY.** We received in the early part of July, a box of very large Cherries of this variety from Mr. David Miller, Jr., Cumberland Nurseries, near Carlisle, Pa., and have engraved an average size specimen.

There are not many cherries that will reach three and a quarter inches in circumference as these averaged. We do not regard it as of the highest quality, but it is "very good," and with its other properties of dark black beauty, vigor, and productivity, would no doubt be one of the most valuable to grow, and we are surprised not to find it much more frequently in collections.



**COCKLIN'S FAVORITE CHERRY.**—Another from Mr. Miller, which came to hand some days after the above paragraph was written. We believe this to be an undescribed kind and very distinct in many respects from any we know. It is not of largest size or of very striking superiority of flavor, but the very small stone in proportion to the amount of flesh gives it an advantage to the amateur over many popular kinds of larger size. To those who do not care how large the stone is, so that they get a "big cherry," this recommendation will, of course, have light weight.



It is of a beautiful amber color, and Mr. Miller says is a vigorous and abundant bearer, ripening when most of the best kinds are over. Mr. M. is unable to trace its origin correctly, but though it has the growth and foliage of the Hearts and Biggareaus, thinks its general appearance indicates a connection with the Duke class.

### Ripeness of Fruits & Vegetables.

**TO PRESERVE GREEN GAGES.**—The following receipt appears to be a good one:—Pick and prick all the plums, put them into a preserving pan, with cold water enough to cover them; let them remain on the fire until the water simmers well; then take off, and allow them to stand until half cold, putting the plums to drain. To every pound of plums allow one pound of sugar, which must be boiled in the water from which the plums have been taken; let it boil very fast until the syrup drops short from the spoon, skimming carefully all the time. When the sugar is sufficiently boiled, put in the plums and allow them to boil until the sugar covers the pan with large bubbles; then pour the whole into a pan, and

let them remain until the following day; drain the syrup from the plums as dry as possible, boil it up quickly and pour it over the plums, then set them by; do this a third and a fourth time. On the fifth day, when the syrup is boiled, put the plums into it, and let them boil for a few minutes; then put them into jars. Should the green gages be over-ripe, it will be better to make jam of them, using three-fourths of a pound of sugar to one pound of fruit.—Warm the jars before putting the sweetmeats in, and be careful not to boil the sugar to a candy.—*Germantown Telegraph.*

**PINE-APPLE PRESERVE.**—Twist off the top and bottom, and pare off the rough outside of pine-apples; then weigh them, and cut them in slices, chips or quarters, or cut them in four or six, and shape each piece like a whole pine-apple; to each pound of fruit put a teacup of water; put it in a preserving kettle; cover it, and set it over the fire, and let them boil gently until they are tender and clear; then take them from the water, by sticking a fork in the centre of each slice, or with a skimmer, into a dish. Put to the water white sugar, a pound for each pound of fruit; stir it until it is all dissolved; then put in the pine-apple; cover the kettle, and let them boil gently until transparent throughout; when it is so, take it out, let it cool, and put it in glass jars; as soon as the syrup is a little cooled, pour it over them; let them remain in a cool place until the next day, then secure the jars as directed previously. Pine-apple done in this way is a delicious preserve. The usual manner of preserving it, by putting it into the syrup without first boiling it, makes it little better than sweetened leather.—*Germantown Telegraph.*

## Domestic Intelligence.

[Concluded from page 217.]

**ON "SKELETONIZING."**—The art of "skeletonizing" consists in promoting the decomposition of the cellular structure of leaves and certain other parts of plants, without breaking or injuring their woody fibre, which is done very easily and cheaply by macerating them in water. For convenience of illustration, let us select the seed-vessels or burs of *Stramonium* or *Jamestown weed*, which are now just in the right condition, being partially open, but not at all, or very slightly, dried or faded in color; place these in a basin or bucket, and pour on them sufficient hot water to cover them completely, and set them aside. (Cold water will answer the purpose, but not so quickly.) After about three weeks, during which time a little fresh water may be occasionally added, these will be softened and ready for the

removal of the cellular portions. This is accomplished by scrubbing with an old tooth brush or shaving-brush, allowing a stream of water to run over them during the process; the seeds are to be taken out, and the water allowed to run through the burr, but without removing the internal structure in which the seeds are deposited; in this way, a perfect skeleton may be produced, showing all the woody portions, including the external prickles, and, when bleached, having the appearance of delicately carved ivory.

A variety of seed-vessels may be prepared in this way, of which the poppy-head is one of the prettiest; it may be readily obtained in a suitable condition from the druggists; the internal membranous portion containing the seed requires to be removed, after the requisite maceration in water, by a small opening in the side. An offensive odor arising from the decomposition of the cellular structure and its contents is one of the discomforts of this process, but is amply repaid by the beautiful resulting skeletons. In English "bouquets" of these preparations, there are some seed-vessels not often met with in this country, of which the *Henbane* (*Hyoscyamus*) is beautiful.

The preparation of *leaves* affords a greater variety of forms than of any other portion of the plant; only the leaves of trees and shrubs, as far as I know, will furnish a skeleton; those of annual and herbaceous plants seems to lose their structure entirely by maceration. Some of the most transparent and delicate leaves and ferns may be bleached by putting into the bleaching solution without previous maceration, but must always be previously faded, so as to have entirely lost their greenness. Among the best leaves for skeletonizing are those of the ivy, the linden, the elm, the poplar, the holly, the pear tree, the chestnut, the sassafras, the magnolia, the althea, and no doubt hundreds that have never been tried; the oak would furnish a beautiful skeleton, but requires from eight to twelve months' maceration, while most of the others named are sufficiently decayed in from one to three months. The leaves should be free from insect bites or other imperfections; in cleaning them, it is best to lay them upon a smooth board, turning them over, from time to time, and very carefully removing the decayed parts with a soft brush. It has been observed that ivy leaves are best prepared after maceration, by tearing off the two outer layers of skin, leaving little else but the skeleton, which is then easily cleaned by careful handling under water. After obtaining the skeletons, the next step is to bleach them; this is done by placing them for a term, varying from an hour to a whole day, in a solution of chloride of lime, made by dissolving about two ounces in a pint

of water. Poppyheads or *Jamestown burs* will bear double that strength, some delicate leaves, *hydrangea flowers*, &c., will bleach advantageously with a still weaker solution. The preparation is to be removed from the bleaching liquid as soon as it is thoroughly and satisfactorily bleached; it is then to be washed, dried and put away in a box, excluded from the light, till the collection is ready for mounting. This operation requires much skill and taste; a common way is to make a kind of pin-cushion into which the bleached stems of petioles, or covered wires glued to the base of the leaves and seed-vessels, are to be stuck; the whole may then be covered by a glass shade, which protects "the bouquet" from the dust, and renders it an exceedingly attractive household ornament.—*Friends' Intelligencer.*

**METHODS OF PRESERVING FOOD.**—One of the most remarkable discoveries of modern times is that of compressing vegetables for their preservation. According to this process, the most bulky, soft and succulent vegetables, are reduced to a fraction of their volume, and are preserved in a dry indestructible state. After boiling for a rather longer time than usual, they are restored to something of their original form and consistence, retaining all their nutritious principles and much of their flavor. According to a statement published in the *Comptes Rendus*, as read before the Paris Academy, the vegetables are reduced seven-eighths in weight, and proportionally in bulk; they require to be heated one hour and a half to one and three-quarters, and on cooling are found to have regained nearly all their evaporated juices.

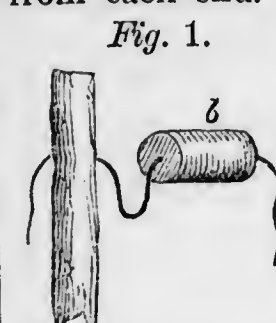
**TO KILL SQUIRRELS, RATS, MICE AND GOPHERS:**—Take white glass and beat it as fine as meal; then mix up one quart of corn meal with milk till it is in a proper state for baking. Add to that half a teacupful of this fine pounded glass, stirring thoroughly. Place portions of this mixture in barns, around gardens and in the mouth of their dens, and then bid them farewell.—*Oregon Farmer.*

**POMOLOGICAL SPIRIT.**—The *Oregon Farmer* says, Mr. Calver, located on the Coquille River, rode on horseback two years ago, three hundred miles to Salem, to attend the Oregon Fruit Growers' Society, carrying his specimen of fruit with him.

**SALT FOR MANURE.**—A paragraph, purporting to be from the *English Farmers' Magazine*, is going the "rounds" of the press, that twelve hundred weight to the acre is a good dressing; and has been found useful. This must be a mistake. It would destroy every thing. Two hundred-weight is enough even for very light soils.

**PROTECTION OF TREES.**—The *Rural New Yorker* gives an "English Plan" of protection, which seems excellent, and we reproduce it as follows:

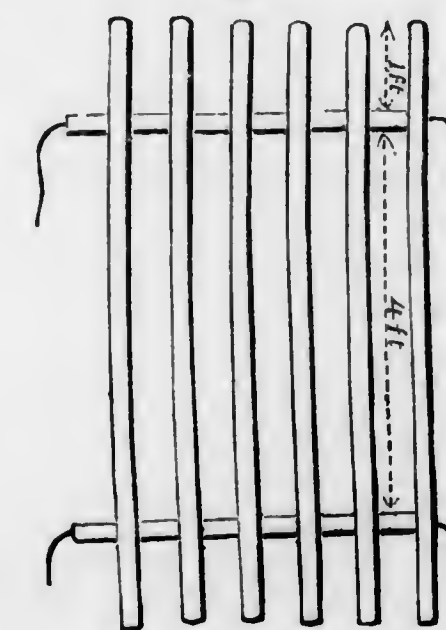
Procure poles of any straight-growing tree, six feet or more in length, and two inches in diameter at the thickest end; they should have holes drilled through them at the top and bottom about one foot from each end. Get a similar hole drilled two or



three inches up the centre of a stake, and then saw off the length which has had the hole drilled through it, and which will give a piece that, when the string or wire is drawn through it, will resemble *b* in *fig. 1*. Repeat the

operation till as many pieces are drilled and sawn off as may be wanted. Pass a strong piece of wire, or thick tarred string, through one stake by the hole at the top, and then through one of the two-inch pieces, then through another stake, and so on, separating each stake at top and bottom by one of the two-inch pieces of wood, until you have enough to surround your tree loosely, leaving plenty of space for growth. When this is done, the appearance of the guard, before being put on, will be as in *fig. 2*. Place the guard thus formed round the tree and fasten the ends of the wire or string. The guard is much the same as the cradle put round the neck of a blistered horse, to prevent his gnawing the irritated

Fig. 2.



part. The ends of the stakes merely rest on the ground, and they should be cut quite flat at the bottom to prevent their sticking in it. At the upper end they should have a sharp slanting cut with a bill-hook, to throw off the rain. The motion of the tree will not be in any degree impeded, and the bark cannot be injured, let the wind blow as it may, for the guard moves freely with the tree in every direction. If a tree is growing rapidly, it will want room before the guard requires renewing; in which case

it is only necessary to untie the string or wire at the top and bottom, lengthen the string or wire by tying a piece to it, and introduce an extra rod, and two extra separating pieces. As a principal feature in this guard is, that the tree is left quite at liberty to be blown about by the wind in every direction, of course it does not obviate the necessity of staking a newly planted tree until it becomes fairly rooted.



Fig. 3.

Fig. 3 shows, on a larger scale, the ground-plan, or rather horizontal section one foot from the ground, and a portion of the elevation of a tree so fenced. In this figure the wire or string is shown passing through the upright rods and horizontal short pieces, from *c* by *d* to *e*, but from *c* by *f* to *e*, the wires are only shown passing through the upright rods; the short pieces being seen in vertical profile, as they are in nature.

**ICE-HOUSES.**—We have recently made some experiments with ventilating ice-houses, showing the great advantage of admitting *warm air* to the sawdust which covers the ice at the top. A house, with double walls filled with sawdust, received last winter its usual supply of ice; and the upper door, through which the ice was passed, carefully closed. It was found this summer to be rapidly melting. The door was opened, and the melting ceased. This has been since repeated, and invariably with the same results. When the door is closed, and the air above the ice thus enclosed, becomes cold, the ice sinks away; when it is opened, and air admitted freely from the outside, the melting ceases. This

will perhaps be accounted for in different ways by different persons, but the true explanation is probably this: When the door is closed, the air above the ice is reduced in temperature, and, as a necessary consequence, becomes heavier and sinks or forces its way downwards through the sawdust. Its temperature being above freezing, (although much below that of the common air,) it carries a constant stream of warmth to the ice and melts it. When the door is thrown open, and the air outside freely admitted to blow over it, this air cannot become cooled, and does not sink, and the ice is unharmed.

We have many inquiries from our correspondents, why their ice melts away so rapidly. As a general answer, we might say, you take too much pains in building tight ice-houses. *We never saw ice keep better than in a board shanty.* The air must blow freely over the top of the sawdust, and this shanty was open all around. A rough floor admitted free drainage; about eight inches of sawdust was spread evenly over this floor; the ice then built up in square blocks, leaving about eight inches around next to the siding of the shanty, which was filled and packed in as the structure of ice went up; and lastly, the top was covered with about eight inches of sawdust. This was the whole process. The ice kept perfectly; was used all last summer, and about two tons, which was left over, was thrown out last winter, when the building was refilled. A thickness of eight inches of packed sawdust may be regarded as a perfect non-conductor of heat, for all practical purposes,—perhaps six inches would do, if fine and evenly packed. If not packed, it may have cavities or orifices, and admit enough warm air to melt the whole.—*Country Gentleman.*

**PACKING FRUIT.**—In no art are we more deficient than that of packing fruit so that it may be carried a long distance without injury. Three-fourths of all our summer fruits sent to market any considerable distance is more or less injured. Indeed, much that is brought to cities by growers only a few miles distant is scarcely fit for sale. Occasionally fruits are sent us with a request to exhibit them at our Horticultural Shows, but in most cases the specimens are so injured when received as to be entirely unfit to show. Mr. Kidd, gardener to the Marquis of Broadalbane, who sends fruits and flowers from the garden near Hampton Court, England, to the Highland residence of the Marquis, subject to five hundred miles carriage, is so successful in packing, that he can send fully ripe peaches "without losing a fruit," and bouquets that when received will be as fresh as when first picked. He gives his method of packing fruit as follows: "I have found no better method in all my experience, which has

extended over a period of twenty years, with all kinds of fruit, varying in distances from fifty to five hundred miles. It simply is—box, soft paper and sweet bran. A box is chosen, in size, according to the quantity to be sent. A layer of bran is put at the bottom; then each bunch of grapes is held by the hand over the centre of a sheet of paper; the four corners of the paper are brought up to the stalk and nicely secured; then laid on its side in the box, and so on, until the first layer is finished. Then fill the whole over with bran, and give the box a gentle shake as you proceed. Begin the second layer as the first, and so on, until the box is completed. Thus, with neat hands, the bloom is preserved, and may be sent to any distance; but, with clumsy hands, quite the contrary, and often an entire failure, as the putting in and the taking out of the box are the most important points to be observed. I have, invariably, packed sixty or eighty bunches of grapes, and fifty or sixty dozen of peaches or apricots in one box, and received letters from employers, to say that they had arrived as safe as if they had been taken from the trees that morning."—*Rural New Yorker.*

#### IMPORTATION OF FOREIGN VINES AND FRUITS.

Col. Haraszthy, one of three commissioners appointed in conformity to a resolution of the State of California, to promote the culture and improvement of the grape-vine in that State, is about to visit the grape districts of Europe and collect all the best varieties to be found. In a circular to grape-growers, he says:

"El Paso on the Rio Grande, frontier place between the United States and Mexico. The fruits chiefly produced are grapes, apples, pears, quinces, peaches and apricots. The quinces are as good as those raised East, but the peaches do not possess so fine a flavor as our own, while the apples and pears are decidedly inferior. The grape is widely cultivated, and is of a large species brought originally from Spain; both the white and purple varieties are raised. In the spring the vines are irrigated, or rather inundated, being altogether under water until the ground becomes completely saturated; this is generally all the moisture they get. The fruit ripens in July and lasts for three months. It is much used for food; and wine and brandy are made from it, both, however, of inferior quality."—*From Zadock Pratt's California Tour.*

#### OBITUARY.

It is with deep pain that we place on record the death, July 12th, at his residence in Rochester, of HON. SELAH MATTHEWS, widely known throughout Western New York as an eminent lawyer, and who united, with an engrossing earnestness in his own

profession, a taste for Horticultural and Agricultural pursuits, displayed in the beautiful garden and greenhouses adjoining his residence, as well as in his long patronage of domestic and foreign periodicals devoted to these subjects. Mr. M. was suddenly prostrated by an apoplectic attack while engaged in arguing a case in court the day before; he was at once taken home, and lingered there, unconsciously, only until one o'clock the following morning, when he breathed his last.—*Country Gentleman.*

ADVICES from St. Petersburg bring intelligence of the death, on the 6th of last December, at the age of 70, of Mr. V. HARTWISS, the Superintendent of the Botanical garden of Nikita in the Crimea.

### Foreign Intelligence.

**ARTIFICIAL AMMONIA.**—It is said that two French chemists have found out a process by which the hydrogen of water can be made to unite with the nitrogen of the atmosphere.

**THE VIOLET IN THE EAST.**—*Viola odorata* is the favorite flower of Greeks and Turks, and they cultivate them abundantly in their gardens. They begin flowering, sometimes as early as January, and continue flowering till April, the scent being much more intense than that of the German or French violet. Thousands of bouquets, five violets in a bunch, are sold daily in the Grecian towns, the price being but trifling and every one fond of them, the demand is equal to the supply. The Greeks also make a syrup of violets for coughs. More than even the Greeks, do the Turks love the violet. They plant it in masses; make sherbet and candies of it; spread the flowers in the apartments, especially those of the harem, where the eunuch hands every morning a fresh violet to every lady. The color of the violet is the favorite color of the Turkish ladies, and they call dresses of violet color *meneticce*, from the violet *meneces*.

The Romans made a wine and cakes from the violet, nor were they less fond of the color. There seems to have been a great demand for it, or they would not have had dyers, who dyed violet shades, and none others. Such a dyer was styled *violarius infector*.

With the ancient Greeks the violet was the symbol of the early regeneration of the earth; also of death, on account of its drooping habit. There being many violets around Athens, that city was surnamed the Violet-scented Flora.—*German Flora Regensburg.*



**HOW TO DESTROY PLANT LICE.**—M. Gerold, an eminent horticulturist of Vienna, states that lice may be destroyed by squirting a decoction of quassia, mixed with soap-suds, on the plants which may be infested with them. M. Oberdieck, another distinguished horticulturist, has followed up the experiment of M. Gerold with great success. For a similar purpose, and the destruction of insects generally, M. Lemaire proposes coal-tar mixed with saponine. Garden soil, with which this preparation has been thoroughly intermingled, has been freed from the snails and other insects which previously infested the greens grown on it. This mixture should not be applied to the plants themselves, because it damages the leaves and flowers. It may safely be applied, however, to the wall behind espaliers. This same compound, spread upon the wall and floor of granaries, will exterminate the weevil. As kindred to this same subject, we may mention that train oil rubbed on the legs and bellies of horses, cows and oxen, will free them from the annoyance of flies and the stings of venomous insects. Unlike the Esquimaux, who feed on this disagreeable substance, insects cannot even bear its smell.

**RIPENING SEED FOR DOUBLE FLOWERS.**—One great cause of all the ill-success in attempting to grow double flowers is commencing the work too late. It has been thought sufficient to begin with the seed, but a great deal is to be done before that. We know how early the buds for the succeeding year's flowers are formed in perennial plants. Doubling of flowers from which the seed is to be saved for the new progeny are about to be formed. The foundation is to be laid then, and the work must be perfected by the culture of the plants raised from the seed thus produced. When the plants raised from these seeds have acquired about a third of their size, promote their free growth by all possible means. This is the period at which the buds of flowers take their final form. Allow only a few flowers upon each plant to ripen, and do not let the roots be exhausted by opening more than are intended to be set for seed. In the common way, the flowers weaken each other, and part of the seed is always bad. As the seed which follows the first flowers is the best, let these alone stand, and take the rest off in the bud.—*Midland Florist.*

**BEGONIA INCARNATA.**—As a useful plant for cutting flowers from during winter, this species of Begonia or Elephant's Ear has no superior, being one of those plants the commercial florist grows in quantities, to supply cut flowers for bouquet making. Its color is good by artificial light,—a point of great

importance, and it produces flowers in great abundance, which are graceful either on the plant, or cut and placed in the bouquet, vase, or basket. It is a native of Brazil, and luxuriates here in an artificial temperature during winter, ranging between 50° and 65°, the latter only from sun-heat, and it is advisable to keep the night temperature somewhere near 50°; much higher its beauty is of short duration, while if occasionally as low as 45° it will cause no injury. It will also flower well in the window, although somewhat lighter in color, from absence of light.

**A NOBLE OAK.**—There is standing on the estate of Lee Steere, Esq., Ruspur, Sussex, England, an oak (*Quercus robur*), that has braved the storms of at least a century and a half, and bids fair to stand as much longer. Its height is thirty-seven feet; circumference, five feet; from the ground, ten feet; from the ground to the first branch, nine feet. The branches cover an area of nineteen square perches.

**ROSES.**—For a neat surface-dressing for autumnal roses, wood ashes and guano have proved most excellent fertilizers, in the proportion of half a peck of guano to a bushel of wood ashes. Apply a quarter of a peck of the mixture to each tree in a circle of three feet in diameter round the stem, and letting it remain undisturbed on the surface. The ashes retain the moisture from the dew and showers, and the effect in giving a more vigorous growth, with an abundant crop of flowers in autumn, has been very apparent. This dressing should be given in February. Soot in heavy, cold soils is also very good for surface-dressing; this should be applied in January or February, about a quart to a tree in a three feet circle, and lightly forked in in April.

December and January are the best months for applying the strong liquid manures such as solutions of night-soil, soakings of a dunghill, &c., poured on the surface; they need not be stirred until spring. One to two gallons poured on the surface twice in the winter and the surface *slightly forked* two or three inches deep, will give great satisfaction.

Hybrid Perpetual and Bourbon Roses bloom much more abundantly in Autumn if they are removed annually in *November*, particularly in poor, unfavorable soils. Replant in the same place, giving each a good shovelful of rotten manure mixed with the soil, and top-dress in January with ashes and guano. The annual removal of roses on manetti stocks, planted in poor, light soils, is absolutely necessary, for unless they are removed they will not bloom freely in autumn.—*T. Rivers.*

**NEW CHRYSANTHEMUMS.**—The London *Gardener's Chronicle* of June 15, thus notices three new Chrysanthemums just received in England from Japan:

"Much as was expected whenever Japan became accessible, we did not anticipate any new races of Chrysanthemums. The semidouble, full double, daisy-flowered, anemone-flowered, and pompons, seemed to represent all that this class of plant was likely to afford. But it is not so. Mr. Veitch has sent home two very distinct forms, evidently the representatives of many a beautiful production yet unborn. Two of them represent the same form, the two varieties differing only in color and size. Their peculiarity consists in the ligulate corollas being all, or nearly all, drawn out into extremely narrow sharp terminations, now and then inclining to fork. These may be called Star Chrysanthemums. The third is quite of another kind, close headed, incurved, with all the corollas divided into two irregular unequal lips. It represents what may be called Dragon Chrysanthemums, in allusion to their ugly yawning jaws. We have no further information about them, but as live plants have reached Messrs. Veitch & Son, we may expect to see them at our next autumn shows."

**THE CHERRY FOR ORCHARD-HOUSES.**—This delicious little fruit, probably the gift of Lucullus to the Italians, requires very free ventilation if kept under glass. The very earliest is the Belle d'Orleans, and, as such, is suitable for orchard-houses. The Duke tribe are splendid, and the New Royal is highly spoken of. Some late kinds are useful to keep, if there is space for them in the house, and they can be kept in muslin bags. The treatment of the spurs is like plums, and very easy, because the groups of round flower-buds soon form at the base, and by pinching freely in can be kept fruitful. It is a capital plan to *break* the shoots instead of *cutting* them; and as cherry shoots grow very freely, they must not be overlooked: if so, then it is best to break them *partially through*, and let the broken ends shrivel up before cutting them off. If grown as bushes in the house, spur them in *more closely*, and shorten the branches freely. A damp situation is quite unsuitable for a good cherry tree, and they require calcareous matter in the soil.—*London Journal.*

**ON FORCING VIOLETS.**—About the latter end of September, or beginning of October, I commence forcing violets. Commence by placing a layer of faggots on the surface of the ground, and so continue to the height of three feet; then put on a layer of strawy litter on the top of the wood, so as to prevent the soil falling through; on the top of this

place a layer of turf all over the bed, after which the frame is put on, and filled to about eighteen inches of the glass, with good rich mould. When the mould is settled in a day or so, take the plants up with a ball of earth attached to them, and plant them in the frame, putting a little dry earth between the plants, and giving them a good soaking of tepid water; the frame is closed up for a day or two, until they have taken fresh root. After the plants are established, put a lining of stable dung all round the frame; the heat of the dung affords a bottom-heat to the violets, and by replacing the lining when required, a degree of heat sufficiently to force them to a very high degree of perfection can always be maintained.—*Floricultural Cabinet.*

**SPIRALS OF PLANTS.**—It is a well known fact that certain plants grow spirally, some tending to the right and others to the left. Some new light has lately been shed upon this subject by Professor Wiedeman, who, in a communication to the Royal Society, London, attributes the phenomena to positive and negative electric currents. He states that in some experiments made by him with iron wire, he found that when he twisted it in the manner of a right-handed screw, after the passage of an electric current through it, the point at which the current entered always became a positive pole; and when he twisted it to the left hand, the point of entrance became a negative pole, and the wire magnetized. Currents of electricity flow through all plants.

**PREMIUMS FOR GARDENERS.**—At a recent meeting of the Imperial Horticultural Society of France, at Paris, premiums were offered for the longest term of service. The first-class silver medal was awarded to a Mr. Margingnon, for forty-six years' service, and to eight others similar medals for terms ranging from thirty to forty-six years. We note the name of M. Naudin, famed as a sound writer on horticulture, for thirty-two years' service.

**THE SPAWN OF FUNGI** is proving quite a new disease to British gardeners. Their journals are filled with accounts of its wide-spread and destructive effects.

**SEEDING OF WELLINGTONIA GIGANTEA.**—*Revue Horticole* says a plant only seven years old has borne seed at Thetford, and it is hoped it will therefore soon become common.

**PINUS SINCLAIRII**, Lindley remarks, is the same as *P. Benthamiana*; is probably also sold for it.

**CRYPTOMERIA JAPONICA** is popular in Japan as a hedge plant.

**PINUS FRIESEANA.**—Called after Mr. Fries, the eminent botanist at the University of Upsala, Sweden, is the Pine of Laponia, which Linnæus and Wahlenburg, without any further comment, classified with *Pinus Sylvestris*. It, however, differs from the latter by standing higher on the mountains than Norway Spruce—*Abies excelsa*—whilst *P. Sylvestris*, as a general thing, grows at less altitude than *A. excelsa*. Further, by its cracking bark, which does not scale off like that of *P. Sylvestris*. Lastly, the leaves are more rigid than *P. Sylvestris*, and their axis from the branches is a larger one.—*Regensberger Flora*.

**PISTILLATE STRAWBERRIES.**—Dr. Lindley says in a recent *Gardeners' Chronicle*, that with the exception of the Hautbois variety, if any one has ever yet discovered a sterile strawberry in England, he has yet to hear of it. It is remarkable that climate should so affect the reproductive organs, as the great number of sterile seedlings our country raises exhibit.

## Horticultural Societies.

### PENNSYLVANIA HORTICULTURAL SOCIETY.

The regular monthly meeting was held on Wednesday evening, the 17th ult., at Concert Hall. As no competitive displays are made at the midsummer meetings, the objects exhibited were few in number, yet quite noteworthy.

Mr. Robert Buist presented a collection of Phloxes, of great variety and beauty; also, six Gloxinias, a truly choice and handsome display, and two new plants, exhibited for the first time, the *Heterocentrum album* and *Maranta capitata*, the latter an ornamental foliage plant of compact habit, robust growth, and large, rich, dark green leaves, very pleasing in form and character.

A. Feiton, gardener to H. Duhring, Esq., displayed the finest collection of vegetables we have seen this season, including seven varieties of Potatoes, Peas, Carrots, Beets, Squashes, Cucumbers, Tomatoes, Lettuce, Cabbage and Kohl rabi; also, Cherries, Currants, some very fine and large Black Currants, and two dishes of the famous Hornet Raspberry, the largest and one of the highest flavored and most productive varieties known.

Mr. A. L. Feiton contributed a large dish of Lawton Blackberries, of fine size and quality, fully ripe, quite early for this variety.

Mr. Harrison exhibited samples of Needham's White and Dorchester Blackberries, and of the Allen Raspberry. The first mentioned fruit is of a purple bronze color, of small size, growing in clusters like bunches of grapes; the flavor is somewhat between the Blackberry and Mulberry. The Dorchester is a large, handsome, glossy black fruit, very sweet and about a week earlier than the Lawton.

The Treasurer presented his semi-annual report.

C. H. Rogers, Esq., and John Stone, gardener to W. W. Keen, Esq., were elected members.

The Committee on procuring a new room was continued.

Mr. Saunders presented some leaves of exotic grape vines which had been punctured by an insect, live specimens of which were produced and proved new to most of the members. He first observed them last year, and had found no effective means of destroying them.

Mr. Buist, whose vines had suffered most from the same cause some five years ago, stated, as an effectual remedy, the syringing through the entire vine with a strong decoction of one pound of quassa in five gallons of boiling water, applied cold. It does no injury to the young foliage.

Mr. Mitchell brought to the notice of the Society the Aquarius or Hydropult, a cheap, simple and convenient combination of the garden hose, engine and syringe.

The subject of mildew was introduced by Mr. Saunders, and many interesting facts as to culture, mulching and shelter were elicited. A desire was expressed that kindred subjects be introduced at future meetings for discussion and to elicit information and the experience of cultivators, which, it was believed, would excite increasing interest in horticultural topics, and very much add to the usefulness of the Society.

### FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.

The Fruit Growers' Society of Western New York, held a meeting at Syracuse, on the 25th of last month, and from a report of its proceedings which we find in the *Rural New Yorker*, we condense the following extracts:

I. What three varieties of Strawberry are the most desirable for amateur or market cultivation?

II. What varieties of Gooseberry can be successfully grown in this country?

III. The best method of preventing the ravages of the gooseberry and currant worm?

IV. The best varieties of Currants, and the best method of cultivation for market?

V. Is it advisable to recommend the culture of the Black Currant extensively?

VI. The best varieties of Raspberry, and the best method of cultivation?

VII. Is it desirable to cultivate the Blackberry as a garden fruit?

Nearly all who spoke concurred in placing the Wilson Strawberry as one of the three desirable varieties. The Wilson, Triomphe de Gand, the Hovey, the Early Scarlet seemed to be those which were most esteemed.

The questions discussed were as follows:

The first question called out considerable discussion, but it was all summed up in what Mr. Barry, of Rochester, said:

"We cultivate over fifty sorts, and it is difficult to select three. Can recommend twenty good strawberries for amateurs. Wilson is the most profitable market berry. The Crimson Cone held sway in the New York market for twenty years, but its reign is now disputed by the Wilson. Triomphe de Gand is excellent, productive enough, and about as hardy as most of our native varieties. Early Scarlet retains its popularity for an early variety, but Jenny Lind ripens at the same time, is riper and larger, and certainly of as good quality. When it becomes generally cultivated, experience may show that the Scarlet possesses some superiority over it for general culture, but it is now very promising. Peabody's celebrated strawberry has proved worthless."

The second question elicited the general opinion that the American Seedling was superior to the Washington; and that the latter was affected with mildew sometimes, while the American was not.

Mr. Ellwanger said:

"I consider what is called the American Seedling one of the best of the American varieties. It is cultivated in some nurseries as Houghton's Seedling, but it has a slender, erect growth, while Houghton's Seedling is trailing. It is very productive. The fruit is not so large as Houghton's Seedling, but this sometimes mildews, while the American Seedling never does. Of the English varieties the Whitesmith is the best."

Mr. S. N. Holmes, of Syracuse, said:

"What can I do to grow gooseberries free from mildew on a heavy soil? Have had but poor success." Some suggested good drainage, but Mr. Holmes said his garden was pretty well drained.

Mr. Ellwanger recommended taking up the plants every second year, pruning both roots and tops, and setting them out again. This would usually prove effectual. Crown Bob was next to the Whitesmith of the English sorts for freedom from mildew.

In answer to the third question: One member recommended syringing the under side of the leaves with a decoction made of one pound of whale oil soap dissolved in six gallons of water with half an ounce of aloes. But another said that he had laid aloes, soft soap, nux vomica, lime, &c., and had seen the worm eat the leaves with the stuff on them. Digging the ground in the fall, and leaving it rough seems to have the effect of purging out the insects.

The fourth question elicited the opinion that the white grape currant was the best for market and the table. The white and red Dutch were each pronounced good varieties. Mr. Barry said:

"Manure for the currant is fully as important as pruning. Few persons have any idea how much manure a currant bush needs. The currant has fine roots growing in a small compass, and unless these are supplied with plenty of food, the fruit will be small, no matter what the variety may be. This often causes disappointment to those who expect large fruit."

The fifth question, as to Raspberries, elicited the following notice of a number of sorts, from Mr. Sylvester, of Lyons:

"Doolittle's Black Cap is very good, hardy and productive. Obtained a few years since a variety called American Red Cap, that I like. A year or two ago obtained from the neighborhood of Syracuse a variety called Southern Black. It is perfectly hardy, and appears to be larger than Doolittle. The Orange nearly hardy, and the best of the half-hardy kinds. Bagley's Perpetual is perpetual only in form—suckers. Ohio Ever-Bearing is very much like Black Cap, but gives a crop in the ordinary season, and then flowers and bears again in the fall. Had seen fruit and flowers on the plants when winter sets in. For those who want a little fruit out of the ordinary season, it is a good kind. The Antwerps are good when laid down for protection during the winter, which should be done by amateurs."

In response to the inquiry relative to the Blackberry, there did not seem to be any direct answer. All concurred that the Rochelle Blackberry was liable to be injured by the frosts, and needed protection. It does best on a light soil.

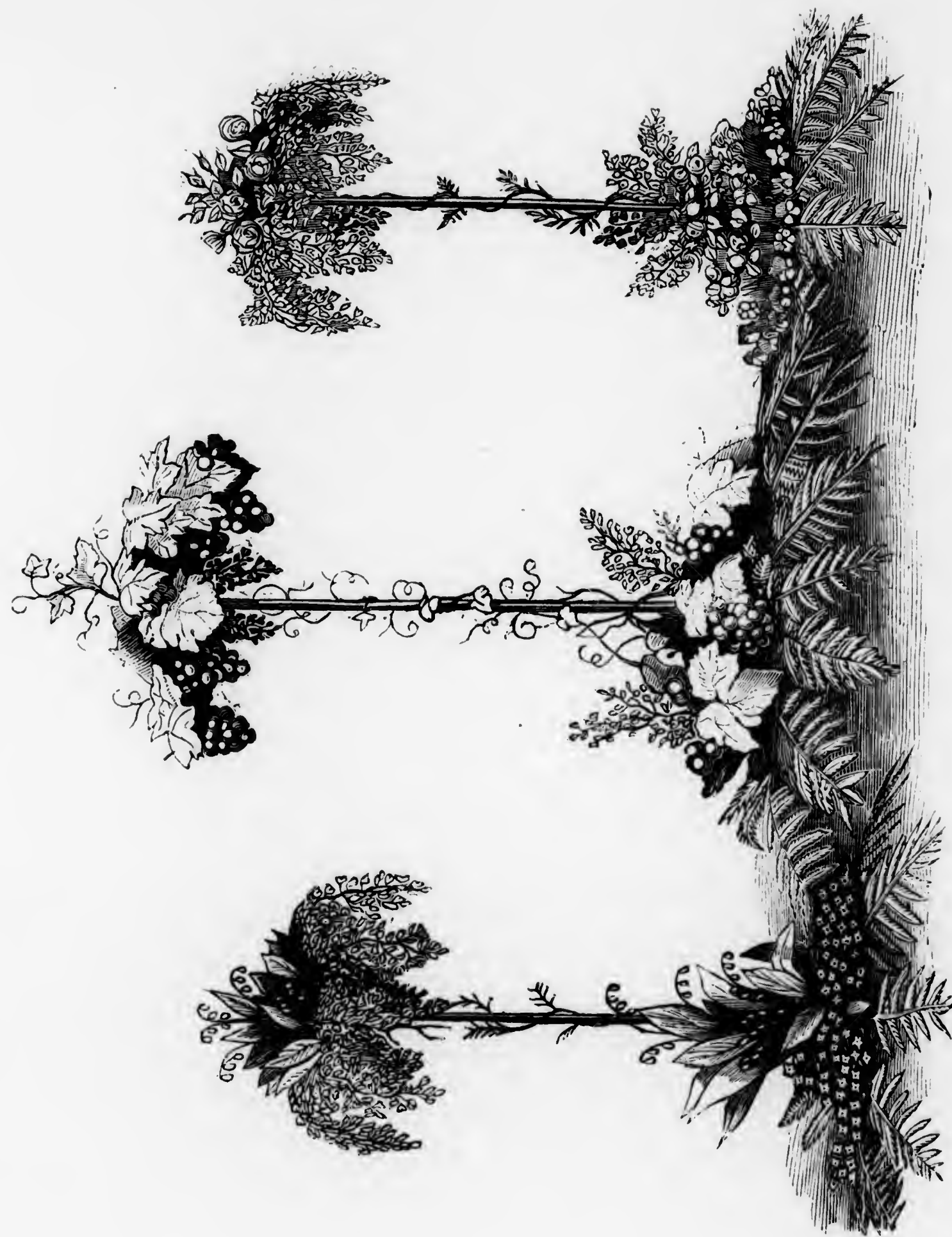


TABLE DESIGNS AND DECORATIONS.

# THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

SEPTEMBER, 1861.

VOL. III.—NO. 9.

## Hints for September.



### FLOWER-GARDEN AND PLEASURE-GROUND.

THE present state of national affairs has a great tendency to lead parties from the city to the country. Fashion has lost much of its urbic charms; and this, with a wide-spread demand for economy, will lead many to rural life, who would a year ago have not even thought of it. Hence the flower-garden and pleasure-ground department of our journal, and every thing in connection with the laying out and improvement of country homes, will, at this season, possess more than usual interest.

Too often improvements are commenced without any idea of what it will cost to maintain them after completion. It is not unusual to find places that have been handsomely laid out, in a disgraceful state of neglect, the owners finding that they cost considerable more than they supposed. We should proceed with such improvements precisely as we would in getting a horse and carriage. Every one knows that the annual depreciation of these is about ten per cent.; and no one who wishes to keep them up to the original standard, ever gets them without preparing himself, or endeavoring to foresee how he is to meet the additional drain. Our experience is, that very nearly the same provision has to be made for gardening and ground-work that horses and carriages require. If we expect to keep up a place to the standard of its first completion, it will require an annual outlay of ten per cent. on its first cost to maintain it.

Very much of one's original capital is also wasted in ground-work, through having no pre-conceived methods of arrangement. The architect prepares his plans with great care; and it can be seen before-

hand the position of every room, and the spot that every stone will occupy in the building; but if inquiry be made about the gardening affairs, "don't know, haven't decided," is the usual reply. The gardener and architect should be consulted together, and not a spadeful of earth be broken for the building till every garden arrangement has been forecast and decided on. This, of course, will cost a little more for plans and specifications for groundwork, but it will save immensely in the end, especially if all the heaviest part of the work can be so clearly specified as to provide for its execution by contract.

In providing for groundwork, much that is often done is entirely useless. Soil from excavations is often carted a long way at great expense, that could in most cases be advantageously employed close by in giving variety to the surface of the adjoining ground. Eminences and rocks, unsightly in the rough, are often removed only at great expense. These, by adding to them in some respect, or by judicious planting or covering with vines and creepers, may be transformed from blemishes to beauties at a trifling cost. So, small foot-paths are often dug out as deep as carriage-roads, and stone enough employed in the filling up to bear a weight of tons. All of these costly errors may be avoided by an intelligent plan of operations, and by the employment of honest experience at the head of affairs.

As the planting season arrives, it is as well to repeat what we have often remarked, that the relative advantages of spring and fall planting are about evenly balanced. Failures follow all seasons. *How to plant* is of far more importance than *when* to plant, and the selection of stock to plant, of far more importance than the time when it is done. A tree that has been once or twice before transplanted, and again carefully and intelligently taken up, may be successfully removed at either planting season, with the odds of perhaps one hundred to five in its favor. But a tree never before transplanted—such, in fact, as a tree from the woods, or left standing in the nursery from the seed-bed, is very risky at any time, and depends rather on the weather following transplanting for the first few weeks for any probability of success. In selecting trees for planting, then, be very particular to ascertain that they have an abund-

ance of fibrous roots, and are carefully removed. In this region, we would plant evergreens at once, after or in prospect of the first good rain. Deciduous trees we would plant just before the final fall of the leaf, shortening off the ends of those shoots that were not quite mature. After the 15th of October we would not plant evergreens, nor deciduous trees after the first of November. Early or not at all should be the motto.

Propagation of stock for next year's budding, should proceed vigorously. The best way to propagate all the common kinds of bedding plants is to take a frame or hand-glass and set it on a bed of very sandy soil made in a shady place in the open air. The sand should be fine and sharp, and there is, perhaps, nothing better than river sand for this purpose. The glass may be whitewashed on the inside, so as to afford additional security against injury from the sun's rays. Into this bed of sand cuttings of half-ripened wood of the desirable plants may be set, and after putting in, slightly watered. Even very rare plants often do better this way than when under treatment in a regular propagating-house. In making cuttings, it is best to cut the shoot just under a bud,—they root better, and are not so likely to rot off and decay. A cutting of about three eyes is long enough for most strong-growing things, such as geraniums, fuchsias, &c.

Small-growing things, of course, will take more buds to the one cutting. From one to three inches is, however, long enough for most cuttings. They should be inserted about one-third of their way under the sand, which latter should be pressed firmly against the row of cuttings with a flat piece of board,—not, however, hard enough to force the particles of sand into the young and tender bark, which is often the first step to decay. For a few cuttings, they may be inserted with a dibble; but where many are to be put in, it saves time to mark a line on the sand with a rule or straight edge, and then cut down a face into the sand, say one or two inches deep, when the cuttings can be set against the face like box-edging.

All amateurs should practice the art of propagating plants. There is nothing connected with gardening more interesting.

Many kinds of bedding plants of succulent or sub-fleshy growth, can be taken up from the flower-beds on the approach of frost, and cut in, say one-half, and packed thickly in boxes of soil, and kept in a rather dry and cool cellar through the winter. Such fine plants make a much better show in the beds the next year than plants of the present season's striking. A cellar is one of the most useful appendages to a garden. Were we to have only *one* choice, we

should prefer a cellar to a greenhouse for its general usefulness.

We have had many inquiries recently about cold pits for the protection of half-hardy plants through the winter, and in reply reprint the following from one of our back volumes:

Those who have no greenhouse, and yet are desirous of preserving many half-hardy plants through the winter, employ *cold pits*. Choose the driest situation in the garden, and sink about five feet in depth. It is important that no water can be retained at the bottom. The pit may be of any length required, and about five feet wide, so as to accommodate six feet sash. The inside of the pit may be built up of boards, or, if something more durable and substantial is required, brick or stone. The body of the frame may be built up a few feet above the level of the surrounding soil, and the earth which comes from the pit be employed in banking up to the upper level of the frame. Shelving should be made for the inside so as to extend from the base of the front to nearly the top of the back, on which to place the plants in pots. In the space which will then be under the staging, hard wooded and deciduous plants, as lemon verbena, fuchsias, &c., may be safely stored, while the more succulent kinds are shelved overhead. The plants to be preserved in such a pit should be potted early, and be well established and healthy before being pitted; much of success depends on this. The less water they can be made to live on without withering through the winter the better will they keep. Straw mats must be employed to cover the glass when freezing time commences, and when the thermometer is likely to fall below 20°, straw or litter should be thrown over. Board shutters are also excellent, as it keeps the snow out from the straw and litter, which sometimes makes the mats very awkward to uncover when we would like to give air. Very little light or air will be required through the winter when the plants are not growing. If a good fall of snow cover the pit, it may lie on undisturbed for two weeks or more without injury. When a warm dry day offers, the sashes may be raised if convenient, to dry up the damp. Many kinds of border plants can be kept over winter this way with little trouble.

As soon as Dutch bulbs can be obtained, they should be at once planted. Of all fertilizers, well-rotted cow-manure has been found best for them, and especially if mixed with a portion of fine sand. They should be set about four inches beneath the surface of the ground, and a little sand put about the root when being planted. A very wet soil usually rots the roots, and a dry one detracts from the size of the blooms. A soil in which the generality of garden vegetables do well, is one of the best for these plants.

#### FRUIT-GARDEN.

TREES that have long stems exposed to hot suns or drying winds, become what gardeners call "hide-bound." That is the old bark becomes indurated,—cannot expand, and the tree suffers much in consequence. Such an evil is usually indicated by grey lichens which feed on the decaying bark. In these cases a washing of weak lye or of lime water is very useful; indeed, where the bark is healthy, it is beneficial thus to wash the trees, as many eggs of insects are thereby destroyed.

Whitewash is frequently resorted to by farmers; but the great objection is its unsightly appearance,—the result is otherwise good. The great opposition to washes formerly was, that the pores of the bark were closed by them,—this was on the supposition that the bark was alive; but the external bark of most trees has been dead years before the time of application; and the "breathing," if so the operations of the pores can be called, is through the crevices formed in the old bark, by the expansion of the growing tree by which the living bark below has a chance of contact with the air. No matter what kind of a coating is applied to the bark of a tree, it will soon crack sufficiently by the expansion of the trunk to permit all the "breathing" necessary.

In preparing for planting trees, the soil should be stirred up at least two feet in depth. Of course, the trees should be planted in the holes only so deep as they stood in the ground before, rather higher, if any thing, as the soil will settle. Good, common soil may be filled in the holes if the natural soil is very bad; but any thing applied as manure may be stirred in the surface-soil after the trees are planted. Some object to making deep holes for planting trees, as, if the soil is stiff, they become wells, collecting water from surrounding soil, and rotting the roots. It is best to underdrain such soils before planting. If this cannot be done, it is best to plant such ground in the spring. The water objection is a fatal one for fall planting in such ground.

The preservation of fruits through winter is a very important, but ill understood subject. Mc Mahon's directions on this subject are pithy, and little has been added to the general knowledge since his day. He says:

"Winter pears and apples should generally be gathered in October; some will be fit for pulling in the early part, others not before the middle or latter end thereof.

"To know when the fruits have had their full growth, you should try several of them in different parts of the trees, by turning them gently one way or the other; if they quit the tree easily, it is a sign of maturity and time to gather them.

"But none of the more delicate eating pears

should be suffered to remain on the trees till overtaken by frost; for if they are once touched with it, it will occasion many of them to rot in a very short time. Indeed, it would be needless, even wrong, to suffer either apples or pears to remain on the trees after the least appearance of ice upon the water, as they would be subject to much injury, and receive no possible kind of benefit afterwards.

"Observe in gathering the principal keeping fruits, both pears and apples, to do it when the trees and fruit are perfectly dry, otherwise they will not keep so well; and that the sorts designed for *long-keeping* be all carefully hand-pulled, one by one, and laid gently into a basket, so as not to bruise one another.

"According as the fruits are gathered carry them into the fruitery, or into some convenient dry, clean apartment, and lay them carefully in heaps, each sort separate, for about ten days or two weeks, in order that the watery juices may transpire, which will make them keep longer, and render them much better for eating than if put up finally as soon as pulled.

"When they have lain in heaps that time, wipe each fruit, one after another, with a clean, dry cloth, and if you have a very warm dry cellar where frost is by no means likely to enter, nor the place subject to much dampness, lay them singly upon shelves coated with dry straw, and cover them with a layer of the same.

"Or you may wrap some of the choice sorts, separately, in white paper, and pack them up in barrels, or in baskets, lined with the like material. Or, after being wiped dry, lay layer about of fruit and *perfectly dry* sand in barrels, and head them up as tight as possible. In default of sand you may use barley-chaff, bran, or *dry* saw-dust.

"Another method, and a very good one, is to be provided with a number of large earthen jars, and a quantity of moss, in a perfectly dry state; and when the fruits are wiped dry as before directed, your jars being also dry, lay therein layer about of fruit and moss till the jars are near full, then cover with a layer of moss.

"Suffer them to remain in this state for eight or ten days, then examine a stratum or two at the top to see if the moss and fruits are perfectly dry; and if you find them in a good condition, stop the jars up with good cork plugs, and cover them with some melted rosin to keep out air. The pears and apples to be used this way should be of the latest and best keeping kinds, and such as are not generally fit for use till February, March or April.

"After the jars are sealed as above, place them in a warm, dry cellar or room, on a bed of *perfectly dry* sand, at least one foot thick; and about the middle of November, or sooner if there is any danger to be

apprehended from frost, fill up between the jars with very dry sand, until it is a foot thick around and over them. Thus you may preserve pears in the greatest perfection for eight or nine months, and apples twelve.

"Be particularly careful to examine every fruit as you wipe it, lest it is bruised, which would cause it soon to rot and communicate the infection, so that in a little time much injury might be sustained in consequence of a trifling neglect in the first instance; but, above all things place your fruit, whatever way they are put up, completely out of the reach of frost.

"The common kinds, for more immediate use, after being sweated and wiped as before directed, may be packed in hampers or barrels, layer about of fruit and straw, and placed where they will neither be exposed to damps nor frosts."

#### HOT AND GREENHOUSE.

In the greenhouse, repairing and thorough cleansing must not be delayed. Painters say this is the most advantageous month to paint wood-work. Whenever the night temperature falls to 40°, any tender plants in pots should be housed, without waiting for "the first week in October." Things nearly hardy, as azalea, rhododendrons, oranges, &c., do best out "to the last." Any desirable plant for forcing, that may be growing in the open border, if potted early in the month, will do very well for that purpose. Weigela rosea does excellently this way; as also does Jasminum nudiflorum, Forsythia viridissima, many Spireas and Persian lilacs. Roses and other things intended to be forced early, should have as much air and be kept as dry as possible without injury. Hyacinths and other bulbs should also be potted as soon in the month as they are obtained; the former are best planted an inch deep. The earlier bulbs are potted the finer they flower,—you may get *catalogues* of any number of kinds or colors at the *auction marts*. If you get ten per cent., as represented, when they flower, you will be favored. Mignonette, rhodanthe manglesii, and similar ornamental annuals essential for winter blooming in well-kept houses, should be sown at once. Many things for next season's flowering, must not either be forgotten. The pansy, calceolaria and cineraria, are in this class. Plants of these that have been kept over the summer, will require a re-division, and kept in a close frame a few days afterwards, till they get re-established. Propagation of all things will still require constant attention. It should always be an aim to possess one duplicate plant, as a provision against accidents. In many cases, young plants are preferable to old ones; so that the old ones may be destroyed when these are obtained.

In the hothouse, the *æschynanthus* will soon be the chief ornament of this division. Their number has increased so that they have become quite a feature. If the pots seem full of roots, they may still have another shift. They prefer very fibrous peat; or, if that cannot be had, turfy loam, mixed with a portion of coarse moss. They will, however, do pretty well in small pots. Achimenes and gloxinias, as they go out of flower, should be kept dryer and cooler. Look well after a good stock of pentas, cestrum and habrothamnus; they will go far towards keeping up the interest of the department in winter. Justicias and acanthaceous plants generally will probably require another shift if fine specimens are desired. The atmosphere, if the house be light, can scarcely be too moist for them. Plumbago rosea is one of the most valuable stove plants we know for winter flowering; it requires a strong heat. Clerodendrons, as they go out of flower, should be kept in a very airy situation, and rather dry, preparatory to being cut down and treated like a pelargonium for another year. Many begonias will be past their best flowering stage; very little watering serves them; they are very liable to damp off by incaution in this respect. It is difficult to lay down rules for orchideæ, so much depending on the circumstances under which they are grown. Those which have finished their growth,—as many dendrobiums, oncidiums, catasiums, &c., whose flowers appear just before new growth,—should have their supplies of moisture gradually lessened. The temperature, also, is better gradually lowered a few degrees, and they should be allowed more light than usual. The period when they are about completing their growth is the most critical, as any check at this time spoils the prospect of much blossom for next season. Those which flower from the young growth, as *catleya*, *laelia*, *broughtonia*, &c., will require their moisture and heat rather increased than otherwise till after their flowering. *Vandas*, *angræcums*, *saccolabiums*, and other strong-rooting aerial kinds, will require constant humidity, until it is evident, from the points of their roots, that they desire to stop growing. We are often asked "how often orchids require to be syringed?" If the situation in which they are growing be favorable,—that is, retains in its atmosphere a regular humidity,—they will require very little attention; in many cases not requiring the syringe once a week. Where this cannot be affected, the syringe must be oftener applied. As a rule, I think no better one could be offered, than to syringe orchids just so much as will barely keep moss attached to their block and baskets green and growing. The real terrestrial orchids will require no moisture at all after they have completed their growths, until they show signs of pushing again. Care against checks

in temperature and humidity, is one of the secrets of successful orchid growing. Those which are at rest do well in a temperature of 60° at the lowest. Those which are growing well should be kept at about 80°.

## Communications.

### THE EMILY GRAPE AGAIN.

BY S. MILLER, LEBANON, PA.

It is said that every man has sins enough of his own to answer for, and should not be loaded with those of others. On this principle I reply to Mr. Tompkins, page 169, present volume of your journal.

Yes, friend Tompkins, there is a true Emily Grape, and is said to be very good, but I know it to be of foreign parentage, and therefore of but little value out-doors. I will send you one in the fall, or some other good grape instead if you prefer, and inform me. Since I have discovered the error, I have been replacing true Emilys as fast as I can propagate them, and it is perfectly right for any one to demand it.

You, Mr. Editor, quote a part of the controversy at the Pomological Convention, and wind up by saying that Mr. Raabe denies having sent it out.

Let Charles Downing, of Newburg, N. Y., or J. B. Garber, of Columbia, Pa., tell where they got their Emilys. Let Thomas M. Harvey, of Jenner-ville, Chester Co., Pa., tell us whether he did not see that very same spurious Emily, (Black Virginia, as Mr. Raabe called it,) in Mr. Raabe's garden on the same day that Mr. Raabe proclaimed in the discussion room, that he had put it away years before. Here I have quoted good authority. *These* men, than whom more honorable ones are not to be found anywhere; on these I call to let the public know how this matter stands. It is high time that this saddle gets put upon the right horse.

All the Emily vines I sent out were propagated by Mr. Raabe, from whom I bought them when small. It is only fit for stocks, to graft or inarch others upon; for which purpose it is well adapted, as it is a very hardy vine and a vigorous grower.

### HORTICULTURAL PROGRESS.

BY OLD PACKER, ROCHESTER, NEW YORK.

In your editorial on the Californians, you charge them with being fifty years behind the times; but I think they are not more than fifteen, in corroboration of which I will relate a fact. Fifteen years since, I wrote to a friend of mine in London to purchase me some Victoria Rhubarb plants, and after waiting what I conceived due time for my plants, I

received in their stead a letter from my friend, stating that he had been to a firm in the King's Road, Chelsea. (Messrs. Knight's,) and they informed him that it could not be packed to send to America under a great expense of glass cases and personal attention on the voyage.

What would we now think of packing rhubarb in glass cases to send to Kansas or Nebraska, which occupies frequently as long a period as the voyage from Europe?

Much I have seen imported by being merely pitched in, pell-mell, amongst dry moss in a box, and on its arrival here opened out in fine condition, much of it not grown over an inch after its confinement in darkness for weeks. After this, be easy with the Californians.

While writing, I would be glad to be informed if it is about correct to receive two hundred seeds of Double Zinnia, and only half to grow, and that half single, with the exception of five plants. This has been my fortune with two hundred seeds from European head quarters.

Will the five plants I have, perpetuate their double quality in their seeds? For they are beautiful and I do not wish to lose them. From present appearances, it looks to me as if the wet retained by the dying corollas will destroy the seeds if any. Can I hope for double plants saved from the single flowers? How is it? Oblige by telling me how you proceed to save seed, for I see you exhibited at the Philadelphia Exhibition.

[Good for the Californians. Still we had no intention of bearing hard on them any further than the simple circumstance we related went. In many respects their progress in horticulture is marvellous, while we could find much ignorance quite as reprehensible in older States. Our aim was to illustrate a national neglect by the instance quoted.

The Zinnias exhibited from Mr. Meehan's Nurseries were also from "head quarters." About two-thirds came single. This is to be expected from this class of double flowers. Just as in the Dahlia and the Gillyflower, (we do not like the modern name of "Stockgilly,") more of the seedlings will prove single than double.

The only advice we can give is to save seeds from the doublest and most luxuriant flowers, and observe the usual rules in these cases "made and provided."—Ed.]

### BLACK APRICOT STOCK FOR THE PEACH.

BY P., DELAWARE CO., PA.

WHAT fruit grower is a stranger to disappointment and vexation? Diseases among fruit trees appear every year to become more prevalent, and often, when I have been admiring a flourishing young

tree, some little worm in secret was working its destruction; and in a few days, that which was so beautiful and green, becomes a withered stem with blackened and unsightly leaves. I have long been trying to discover stocks that were not liable to be eaten up by worms, on which to graft the peach and apple, and I flatter myself that I have at last found one adapted to the peach. Others may have made the discovery, but regarded it of too little importance to be made public.

The black or purple Apricot, (*Armeniaca dasycarpa*), will grow from cuttings with about as much certainty as the Quince; but perhaps it will be found preferable to raise it from layers, as the stools throw out an abundance of long shoots, which strike root readily on being laid down. On rich, mellow ground it is scarcely less vigorous than the Peach, but it is much more so than the plum, and it is perhaps the best foreign stock on which the peach can be worked. It is entirely free from the peach worm that destroys both the peach and common apricot, and it has no special enemy. It is long lived, and said to be perfectly hardy at Montreal in Canada.

As a stock it buds freely, but cannot be worked so late as the peach, and will survive the mutilation of its roots and careless transplanting better than the peach, for the reason that it readily supplies itself with new roots. It never throws up suckers from the roots, and, if girdled by mice or cut off below the collar, it invariably dies.

The fruit of the dasycarpa ripens with some varieties of the vulgaris; is quite inferior to them in flavor and equally shy in bearing, and valuable only for its hardihood and strong growth, which makes it suitable for stocks.

To raise these, or indeed any other kinds of trees, from cuttings with success requires that the conditions for developing roots should be favorable. They do not, however, require bottom-heat and bell glasses, but merely a bed or plot properly prepared, and which may be used every year. I have been very successful when I spread a few loads of sand some six or eight inches deep on a low, flat piece of ground by the side of a small brook, making a bed that always keeps damp, but is never surcharged with water.

I have not had the peach growing on the dasycarpa for more than five years, but these look more healthy than some worked on peach stocks about the same time, but I have the dasycarpa flourishing on peach roots that have stood about twenty-five years, and look as if they might stand for half a century to come, while peaches budded at the same time on similar stocks have long since died.

The borer will sometimes attack the peach when budded some distance from the ground, but the

higher it is worked the more likely it is to escape; besides, the worm is more easily discovered and destroyed than when it is nearer or beneath the soil.

With black apricot stocks, I think, we might, in a degree, master the Yellows as well as the worms, but this remains to be tested. We propagate the Yellows when we work healthy scions on sickly stocks grown from seeds born in diseased trees. Nurserymen buy their seed in the market, which have been carelessly collected from all sources, and then they distribute the trees in all directions, so that we have little prospect of ever getting rid of the disease until we use stocks unmistakably healthy.

The Apple-borer has annoyed me no less than the Peach-worm. In order to protect my trees, I have carefully lapped something around their trunks near the earth, but then the rascals would get into the trees above the lapping two feet from the ground. I have tried soda-wash, but one application in a season is not sufficient to prevent the worms, though it improves the appearance of the bark. One white-washing is a better preventive, but not a sure one, for the bark scaling off in patches leaves places for the worm, and unless those who put on the wash are careful, they are apt to leave a circle around the tree close to the ground untouched by the lime just where the fly inclines to deposit her eggs.

Many hold the opinion that white washing is destructive to trees, but my experience leads me to a contrary belief. I know that if we grease the trunk of a tree all over, we kill it; and so, if we grease an egg all over, we destroy its vitality, and it will never hatch. But the egg-shell itself is porous enough to admit a sufficiency of oxygen to the embryo chick. Nor is a scale of whitewash less porous than an egg-shell. Does the living part of the stem of a tree require a circulation of air or oxygen more than the egg during incubation? If it does, then lime would benefit it by causing it to shed its moss and lichens which obstruct circulation more than thin scales of whitewash.

I prefer lime to soda because it adheres better, or not so likely to be taken off by the rains, and perhaps we might add something that would make it still more offensive to the worm. Salt might benefit it, but as yet I have tried no more certain way to get rid of the worms than going around with the proper implements and digging them out.

There is one thing, however, I have noticed, in looking through the orchard, two American Crab (or Crap) apple trees have stood for a number of years without being touched by the borer, while every other apple tree in their vicinity has been attacked.

Is this Crab tree (*Malus coronaria*) proof against this borer? and does it make a good stock to graft upon? If both of these questions can be answered in the affirmative, I would recommend crab stocks; but I would graft them high, say three or four feet from the ground. If there is a difficulty in getting these stocks from seed, we might resort to double-working our trees, so as to have crab stems, while the roots and tops were of common apple. This would add something to the first cost of the trees, but might be a great saving in the end.

The crab stock would have a tendency, no doubt, to dwarf the trees, and perhaps render them more prolific; but crab apples appear to run into varieties, some making much larger trees than others, and it might be desirable to choose the largest varieties for stocks. Soil and situation must make some difference in size, but the largest crab tree I ever saw was on thinnish clay land.

From a trial of one season only, I find that the Chinese pear (*Pyrus Chinensis*) may easily be grown from cuttings of six or eight distinct species of the pear that have been tried, this promises to be the freest to strike root. It is a strong grower, hardy, and is probably a large tree when fully grown; it would, I think, make stocks as cheap as the quince, and far more congenial to the pear. It forms a perfect union on the pear much better than the pear on the quince, and as it takes root freely, it is possible it would bear transplanting better than stocks of the common pear. The fruit of this tree is large, coarse, and unfit for the dessert; it may, however, have some value for cooking.

#### THE INDIAN OR CHINESE AZALEA: ITS INTRODUCTION, CULTIVATION, PROPAGATION AND DESCRIPTION OF THE BEST SORTS, NEW AND OLD.

BY AN OLD FLORIST, PHILADELPHIA, PA.

MR. EDITOR:—Permit me to take you and your readers back to a period of nearly fifty years, when the first Azalea indica was introduced from China into Europe. It is of the same family with the Wood Honeysuckle, and Mountain Laurel Rhododendron of this country. It received very little attention, being considered by the best growers there as a difficult plant to manage with any degree of success, and frequently received a very conspicuous part in an English hothouse. It must, however, be admitted that the common Azalea indica, with a flower of a brick-dust color, and a foliage, even in its best state, of a questionable green, was unlike our modern improvements.

Several dissertations appeared in the proceedings of the London Horticultural Society, on the best method of treatment, but no impetus was given till the intro-

duction of Azalea alba and phonicea, over thirty years ago. Loudon's *Gardener's Magazine* was then the text book of European gardening and culture, as the *Gardener's Monthly* is now that of the United States. The collections about Philadelphia were then in a very limited condition; but even at that period I saw several plants at Flushing, Bart-ram's garden, Landreth's and Hibbert's. None of them, however, viewed the plant as the one to rival all others for beauty of flower, profusion of bloom, and variety of color, surpassing every tribe of plants for winter decoration in the greenhouse or parlor, of 1861. From December till June, these plants, with very simple management, continue with a profusion of flowers. The Wardian Case, got up by Captain Ward, of the Royal Navy, contributed greatly to the introduction of all the known varieties from Canton to England.

In about 1824, the first white and double purple Azalea reached Philadelphia, and I strongly believe that the identical plant of the white is yet to be seen in good health, in one of the private collections of our city; the original purple died some years ago. The American climate suited their constitution much better than the English climate.

Plants of Azalea indica, six feet high, and clothed with flowers and foliage from bottom to top, were frequently seen at our horticultural meetings in 1834-5. Several seedlings made their appearance, such as Nova blanc, elegans, &c. And in a few years after another lot came, and such as Copeii, Hiretii, &c.; then in 1837 came the new charms *Variegata* and *Lateritia*, brought from London by a Scotchman. From that period till now, the Azalea has had one continued progress, the English and Belgians, using all their art to out-rival each other in the production of novelties with names of Emperor and Empress, Kings and Queens, Presidents, Generals and Standards. The foundation of all these varieties were laid from the sorts introduced into England by Captain Ward, and more recently the Azalea vittata and its varieties introduced by Mr. Fortune to the London Horticultural Society's Garden, from whence they have been disseminated to all the plant-growing world, and such is the diffusion of knowledge through the English, French and German periodicals that every new article in the horticultural world finds some purchaser, many of them arriving in this country as soon as offered in Europe.

The collections of Nurserymen and private growers in the United States, embrace every valuable acquisition that has been offered in the Azalea way up to June, 1861. You must not think it presumption in me to say that there are growers and propagators of this plant amongst your readers fully equal to any in any other country; the climate being highly

favorable to the development of growth and profusion of flowers.

(To be continued in our next.)

### ABOUT CUCUMBERS.

BY PHILOCUCUMO.

MR. EDITOR:—I have no garden, and I am no botanist. I can not tell an umbrella-carrying plant, *umbellifera*, from one with legs and noses, *leg-umino-se*. I can not raise cabbages nor dig potatoes. Therefore it may seem clear to you that I have no business whatever with or in the *Gardener's Monthly*.

Excuse me if I correct you. If I cannot dissect flowers or raise vegetables, I can admire the former and eat the latter. Eating, Mr. Editor, is my strong point. My taste for good things is a pretty respectable one. In proof, the tasting committee of the horticultural society of the western portion of my State generally claims my unofficial services. I am ready and proud to give them, and I will add that the judgments of my highly discriminating palate have invariably met the approval of the knowing, *alias* scientific public.

Consequently, I represent the eating class of your readers. Or, are you not aware that there exists such a class of subscribers, who, anxious to eat the latest and the best novelties, take in and study your highly esteemed journal? And, by the way, don't you think vegetables ought to take equal rank in your journal with fruits? Strikes me they are a little neglected, and yet I would like to read a little more about them. I would like, in fact, to invest my dollar equally in flowers, fruits, vegetables and botany.

Now, as a representative reader I feel also called upon to contribute my mite to the good work. Today I shall speak of cucumbers. I shall not touch on the origin, rise and progress of cucumbers, nor quote Latin, Greek, and Hebrew to show what sort of thing they were with those ancient and departed nations, nor compute the age of the cucumbers plants, nor try to demonstrate why, as "*cowcumber*," it is allied to Zoology, nor get enraptured over its flower so yellow and its runner so fast, nor describe the monstrous and hideous insects who have declared that the cucumber vine is their world. I shall go direct to the eating part, concerning which, I last night read a passage in an old and venerable folio, called: "The Travels, Adventures and Observations of Baron Baldrian von Knyphausen, Ambassador Extraordinary of His Serennissime Highness, the Margrave of Anspach, at the Courte of Her Brittanick Magestic Queene Anne, during his sojourn in England. Translated from the Original German Text, by Doctor Hugh Browne, LL.D., F. R. S. London, 1706." The Baron Baldrian,

after having several times declared himself a thorough German in patriotism, still a "Kosmopolitan" in matters of taste, says: "(September first.) Up by boat to Hampton to meete the Courte. Saw the Duke (Marlboro') there, and many fine ladyes. Tolerable dinner. Awfully bad Cou-combers. Barbarous way of treating the Cou-comber.

"The younge and greene thing was brought raw on the table, and the ladyes, with theyr daintie fingers, peeled them and cut them in thick slices." (Precisely as American folks do now-a-day.) Our Baron next proceeds to give his cosmopolitan recipe, which we transcribe as follows:

"Let your little woman (God bless her) peel your cucumber, and slice it as thinly as ever she can, by six o'clock of a morn, and set in ice-water in a deep plate, put salt liberally on the slices, mix them and cover the plate with another inverted one. By eight of the clock let her pour away the water, which the salt has drawn out, and repeat the exact same process over again. By ten of the clock, pour away again the water drawn by the new salt; put some more salt on, equally a sharp dose of pepper, and mix thoroughly. When the clock strikes eleven, your little woman will again pour the water off, season again with pepper and salt, add an onion or two, finely cut up, likewise add her pretty handful of parsley, also cut very finely, inundate the whole with good vinegar, and let stand an hour or so. By noon you take your dinner, eat your cucumber-salad, and thank Providence for your wife."

To which your petitioner has only two things to add: first, thank your wife, as well as Providence, and immediately after; next, never use metal spoons or forks, if you can help it, in manipulating cucumbers.

My chemical friend and commentator, after having read so far, adds sententiously:—The palatability of the cucumber's fibrous substances is only obtainable by the expulsion of its aqueous contents and the admixture of antagonistic condiments. All of which is respectfully submitted and warranted to eat well.

### NOTES ON ENGLISH SOURCES--GRAPES.

BY C.

A CHEAP lean-to vinery, thirty feet long and ten feet wide, may be built for twelve pounds—about sixty dollars. (Who would be without such even for their amusement?) On the vine-borders and in the pots he (T. Rivers) uses a top-dressing of soot with the greatest advantage; it is applied over the whole surface in March and allowed to remain undisturbed during the whole summer. He has used it for three years, and generally strews it at the rate of a peck to ten square yards. It acts as an absorbant of heat and as a manure. Would not charcoal

dust with a little wood-ashes and sulph. of lime ox. gypsum answer as well, for all cannot procure soot to any amount here.

New grapes for vineries without fire heat, and prices sterling:

*Buckland Sweetwater*. 21s. Berries large, round, greenish white, sweet and juicy and very good; valuable for setting its fruit better than Sweetwater.

*Champion Hamburg*. 7s 6d. Berries round, purple, like Black Hamburg, but larger.

*Chasselas Vibert*. 5s. Berries round, large, pale amber; very juicy and refreshing; ripens ten or twelve days before the Royal Muscadine; very hardy and excellent. "This is a French seedling from the Sweetwater; its berries are very large, and when fully ripe of a golden yellow color, with the flavor of the Royal Muscadine; its leaves are more deeply serrated than those of its parent."

*Muscat de Juliet*. 5s. Berries round, purple, medium size, rich, juicy and excellent. This grape will ripen well on a wall in the South (England), and well adapted for pots.

*Muscat de Sarbille*. 5s. Berries round, purple, medium size; of a peculiar rich Muscat flavor, and like the Juliet will ripen on a wall; is hardy and well adapted for pots.

*Trentham Black*. 7s 6d. Berries large, round, purple, juicy and rich, with a peculiar, refreshing flavor like the May Duke Cherry; a great bearer and will be valuable.

*Duc de Malakoff* and *General Marmora*. Two very large white kinds, the largest white known.

For vineries with fire heat:

*Bowood Muscat*. 10s 6d. Very large, the largest of the Muscats. Berries pear-shaped, and when ripe of a rich amber color, with a rich Muscat flavor.

### PLAN OF BLOCKING-OUT FOR STOCK.

BY G. H. WHITE.

NOT having seen any form for blocking-out and staking stock published, allow me to give our *modus operandi*; thinking, perhaps, it may be of service to new beginners. Here you have it. Say

#### BLOCK No. 1. SECTION FIRST.

| Apples set 1860.    | STAKE. | BAL. | ROWS. | FEET.              |
|---------------------|--------|------|-------|--------------------|
| R. I. Greening..... | 1      | —    | 20    | 39                 |
| Baldwin .....       | 2      | BAL. | 16    | 104 $\frac{3}{4}$  |
| Golden Russett..... | 3      | "    | 11    | 67 $\frac{1}{2}$   |
| Northern Spy.....   | 4      | "    | 4     | —                  |
| E. Spitzenburg..... | 5      | —    | 2     | 10 $\frac{10}{12}$ |
| White Pippin.....   | 6      | —    | —     | 102                |
| Wagener.....        | 7      | BAL. | 4     | —                  |

#### SECTION SECOND.

Pears on Quince, budded 1860.

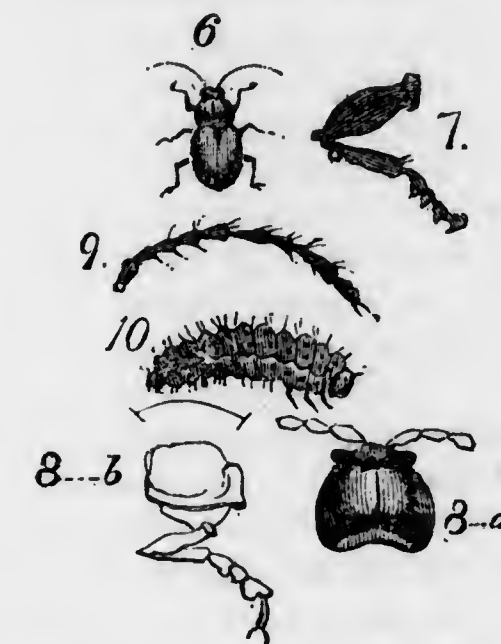
In this way continue, having as many sections as

there may be *kinds* of stock in the block. Number the *front* of the stake having the name of the variety on the opposite side. When a variety commences down in a row, place a stake at the commencement, with a like number thereon, which tells us that in *that* row the variety begins. Block books should be paged and indexed for convenience.

### INJURIOUS INSECTS.

BY S. S. RATHVON.

(Continued from page 239.)



*Graptodera chalybea*. Illig. Fig. 6. Length, about three-twentieths of an inch; form, oblong oval; color, variable above from a dark purple, violet, Prussian-blue, greenish blue, and deep green to a bright green. The hinder part of the thorax is marked with a deep, transverse furrow; the under side of the body is a deep greenish blue, and the antennæ and the feet are dull black. The principal points of difference between this insect and *Gastrophysa cyanea*, which it so nearly resembles at an imperfect view, are these: its hind thighs are more developed, making it a *leaper*, rather than a *flyer* (fig. 7)—the transverse furrow near the posterior margin of the thorax (fig. 8 a and b)—the less thickened antennæ (fig. 9)—and its whole form being less oval. The former insect, when surprised, leaps and falls to the earth, where it hides, if it does not hide itself beneath a leaf without leaping; whereas, the latter lets go its hold and falls to the earth at the least possible interruption. *Graptodera* belongs to the "Flea-beetles," technically called the HALTICADA; whereas, *Gastrophysa* belongs to the true *chrysomelans*. Fig. 10 is the larva, which feeds upon the grape leaves, the present insect feeding upon the tender buds from early in the spring until midsummer, and even later. The female commences laying her eggs about the middle of May, and the larvæ of the first brood are matured about the middle of June. This may be advanced or retarded according as the

weather is favorable or the contrary. The larvæ which I obtained at West Chester on the 12th of June, were nearly matured, and these, together with others which I obtained at Lancaster, were put in a wooden box with a glass lid, and about two inches of earth at the bottom. Grape leaves were placed in the box for them to feed upon, which were from time to time replenished as they became dry. On the 22d of June, some of these larvæ commenced going into the ground, and by the twenty-fifth they all had disappeared beneath the earth. Upon subsequent examination, I found that they form a small, oblong cavity of earth, which seems to be hardened—no doubt hardened by a mucus voided by the insect—and tolerably smooth on the inside, in which it undergoes its transformation to the perfect state. I could not discover that it formed a distinct pupa case, but on the contrary, it seemed to be confined in its cavity, like a young bee or wasp in its cell, which, when broken open reveals the naked insect. In about two weeks after the larvæ go into the ground they are ready to come forth a perfect beetle as described above, and go mechanically and instinctively through the same course as their progenitors. These larvæ do not eat holes through the leaves, or commence at the margin and eat all as they go, they only eat off the upper or lower surface—usually the latter—causing it to wilt and turn inward, and where they occur in great numbers they leave nothing but the shrivelled nervures remaining. When we reflect that the mature insect eats the buds and tender ends of the grape vines and afterwards the larva eats the leaves, we may form some idea of its destructive character. Dr. Harris, in his work on "Injurious Insects," page 115, says that Mr. David Thomas gave a description of these insects and their larvæ, which was published in the sixth volume of *Silliman's Journal*. "Mr. Thomas found the vine leaves invested by a small, smooth, chestnut-colored worm, and suspecting this to be the larva of this destructive beetle, he bred them in a tumbler with a little earth in the bottom, and in a fortnight after burying themselves in the earth he found some beetles in the tumbler, and hence, there is no doubt the former was the larva of these beetles." There must be some mistake here—these must have been the larva of some other species than the one under consideration. The earth in which my insects underwent their last transformations was gathered from the street and could not have been impregnated with other insect larvæ; moreover, I anticipated mine, and took most of them out of the earth myself before they were quite ready to come forth themselves. There are, however, six species of these insects catalogued besides fourteen species of *Enomychus* and eighteen species of *Disonycha*, all of which

are nearly allied in form and habits to the former, and therefore Mr. Thomas' insect may have been one of these. The larva of *Graptodera chalybea*, is not "a smooth, chestnut-colored worm." It is, when mature, about a quarter or three-eighths of an inch in length, and of a dull black or bistre brown color, except between the segments and underneath, where it is a dusky whitish; the whole body is tubercular or rough, and from each tubercle diverges two or three short, stiff hairs; it has six short, blackish feet, and two rows of tubercles or warts on the abdomen below, which bear some resemblance to the prolegs of *Lepidopterous* larvæ, and at a superficial view they would be taken for such. I have thought it necessary to give these details of this insect, because there does not seem to have been much published heretofore in reference to it, but more especially because it seems to have been very destructive at various periods in times past to the grape vine, and from its redundancy in various localities the present season, it may become so again.

[To be continued.]

#### DISEASES IN THE BUTTER PEAR.

BY "FRIEND," PHILADELPHIA.

I HAVE in my garden a specimen of a White Doyenne or Butter Pear tree, which I have several times threatened to either cut down or re-graft. I have kept it where it is principally in hopes that I might discover some cause for the cracking that every year attends it. I have tried, in former years, lime-water on the foliage, and guano-water and soap-suds at the roots, but beyond this I have done nothing. But I have never got any good fruit from it. Six years ago, the spot where it is growing, was a vegetable garden, but since then the spot has been included in my ornamental grounds, and on one side of it is now a lawn, and on the other side is a carriage road. For the two past springs I intended to graft it with Bartlett's, but it has been neglected both years, until the season got too late. Judge of my surprise, however, to have, this year, one of the best and handsomest crops I have ever seen of the kind. A few on the tree are knotty and scrubby, and yet a few cracked and spotted with black, but the majority are as healthy and clear in skin as a pear can well be. They are not quite ripe yet, but when they are, I propose to send you a few, if they should chance to be a rarity with you. I notice that the scrubby ones are mostly confined to the north side of the tree, and the good ones on the south and west, which is partially shaded by trees that have grown up since the pear tree was planted. Can this have any thing to do with the returning health? It is also worthy of note that wherever the pears are healthy the growth is more luxuriant than I have even noticed the tree

to bear before. And I have even noticed that a poor weak growth is usually associated with cracked and knotty fruit.

You will excuse me for referring to an opinion that I remember you to have given in the *Gardener's Monthly*, that the disease was caused by a want of potash in the soil. As no application of any kind, potash or otherwise, has been given to the tree, its disease could scarcely have resulted from the want of it.

[Our friend can send along the pears. We shall appreciate both them and the kindness that prompted the gift. As to the potash, we have certainly said that we knew a cultivator who always had cracked Butter Pears, and after applying a dressing of potash to his orchard, always had healthy fruit. But we have never attributed the potash application as a *direct*, but only a *secondary* cause. To make our meaning plain, we do not suppose that cracking is the result of a want of potash, but the result of *ill-health*. Cold winters, bad stocks, or a hundred things may have produced this state of ill-health, and as many things may produce a re-action. If the relation between diseases and their remedies were always direct, there could be no failures in cures, whether in the animal or vegetable worlds, but every thing would act as with mathematical precision. But as the relation is but secondary, and only act by influencing healthy vital action, which is in turn to act on the disease, other things besides potash may as easily cure the cracking, if it has any bearing on general health.

Our correspondant will know the old saying that, "what is one man's meat is another one's poison;" not that there is no essential difference between meat and poison, but because the action of each depends on the state of each person's system. So, with trees.—Ed.]

#### REMARKS ON THE GENUS CRINUM.

BY D. BARKER, HARTFORD, CONN.

THE greater part of this beautiful genus being natives of hot countries, require the temperature of the stove to grow them with success, with a liberal supply of water during the summer months; but during winter the quantity of moisture should be very much diminished, or many of the bulbs will perish. We have found, however, those with columnar stems require a good supply at all times, as the habit of their foliage is decidedly perennial; but it is by far the safer plan during the winter months to rather under-water than over-water, more particularly those kinds of slender growth.

The compost we have found best for crinum is a good loam from an old cow pasture, where it can be found of a friable texture, without any other mixture whatever. We consider peat, leaf-mould

and rotten manure, prejudicial to the growth of the crinum than otherwise. Plenty of drainage in the pot is very essential, in order that the plants may, during their period of growth, receive the proper amount of fresh water requisite to the proper development of their foliage and flowers. The size of the pot must depend on the habit of the bulbs, which those acquainted with the habit of the genus will understand. To those who are not, we would advise for good bulbs of procerum, cruentum, rigidum, crubescens, and its several varieties, placed in pots varying from ten to sixteen inches over, more or less, according to the strength of the bulb. For full sized bulbs of Americanum, Loddigesianum, yeilanicum and broussonetianum, we have used pots from eighteen to twenty inches in diameter. It is a fixed fact, that to bloom any of the genus well, they must have plenty of pot room. Whenever it is observed that the young leaves of any of the crinums turn yellow, or commence to decay, they must be allowed a short period of rest. Too much moisture in too low a temperature are often the causes of such an effect. In potting, the whole of the neck of the bulb must be kept above the soil, and all the obsolete covering, which are the remains of the decayed foliage, should be stripped off, leaving the bulb and stem clean and free from any decaying substance.

We have found, with few exceptions, the whole genus to succeed best when plunged up to the rims of the pots in boxes of sand, placed over the hot-water pipes, and during the hottest part of the year it is very essential to inundate the boxes, but not to keep them flooded. Some of the species at the approach of winter will require the pots to be turned on their sides, and be kept quite dry until they show signs of growth,—when all the earth may be carefully shaken from the bulb, pulling off all the decayed coats, without injuring the roots. Repot in soil as above recommended, subjecting them to the same treatment.

#### A SUCCESSFUL PLANTING.

BY G. H. WHITE, COLDWATER, MICHIGAN.

HAVING had excellent *luck*, as one would say, in putting out maples and evergreens, I must relate it by the way of encouragement to others: The first week in April, 1860, we set out in front and on one side of our farm (in the road) four hundred and seventy-two maple trees. First plowed the ground deep,—had men digging up trees while others were setting out,—cut them all to ten feet in height, covering the top with grafting wax; holes were dug large, that the trees might not only *live*, but *grow*. Mulched them with tan-bark,—then all the surplus stone,—so much in the way in the road were put around them,—after which they were



staked, and now we are rewarded by seeing all but four of them alive and doing well.

The second week after we set four hundred and fifty Norway Spruces, eight by sixteen feet, put up through the centre of our grounds, from which alleys lead each way, ten feet in width, dividing the farm into fourteen blocks. These trees were from the well-known firm of Smith & Hanchett, Syracuse, N. Y. They average from three to seven feet in height; all but twelve are now alive and growing finely.

#### MISCELLANEOUS NOTES.

BY W. R. P., FLUSHING, N. Y.

I MAKE the following notes in response to queries in various periodicals.

*Double flowers are produced by nature* as well as by art. Witness,—Double *Thalictrum anemonoides*, Double *Rudbeckia hirta*, Double *Rosa Pennsylvanica*, Double *Trillium*, and other species all found in a state of nature. (1).

*Grape vines can be grown on level Missouri prairie land*, provided the land be so underdrained, that the saturation of the soil during winter is thereby prevented. The Concord, Holmes, Clinton, Hartford Prolific, Ariadne, August Coral, Early Amber, Ohio Prolific, Pond's Seedling, Braddock, Ramsdell, Troy Hamburg, Venango, Warren's Seedling and Monticelli are some of the most hardy varieties, and doubtless they would all succeed in Missouri and Illinois.

*Strawberries—proportion of staminate to pistillate.* One row of the former to ten of the latter is all sufficient, but there must be a judicious selection of a staminate that blooms at the same period as the pistillate, its companion. The Hovey cannot yield a full crop when the Early Scarlet is its companion, as the latter blossoms too early. Such injudicious selections are the cause of reduced crops.

[1. Mr. Prince's note will be interesting to the young student of vegetable physiology and morphology. Though double flowers are usually considered as the result of cultivation and the gardener's art, it is questionable whether we have not rather to thank unassisted nature for most of them. In addition to those named by Mr. Prince, the Double *Convolvulus panduratus* was found wild, we believe, in Georgia, by William Bartram, and Mr. Meehan once found a double *Saxifraga Virginiensis* on the hills of the Wissahicon, in Pennsylvania. Most of the double flowers of our borders are not of such often raised from seed, and it is therefore probable that they were first found in a wild state. *Spiraea filipendula*, *Campanula persicifolia*, and others, for example. All attempts to cultivate the common *Zinnia* into double ones, Vilmorin tells us, failed; but last season,

double varieties from their native country were introduced.—ED.]

#### GRAPE CROP IN CENTRAL MISSOURI.

BY E. A. RIEHL, BOONEVILLE, MO.

THE grape crop promises to be an entire failure here this year. About two weeks ago the weather was pretty hot; since it has rained much,—so much that it is decidedly *too moist* for grapes, and nearly one-half are already affected by the rot. There is no use talking, we must adopt some different mode of culture, if we would succeed in growing the grape successfully in this country. I think the grape can be grown with uniform success, but not when treated as now. I shall at some future time furnish an article on this subject if it will be accepted. Other fruit is splendid, and plenty of it; apples, pears, peaches, plums, apricots, &c., we have as many as the trees can mature. This promises to be the best fruit year in the West that we have had for many years.

[Shall be glad to hear from you as proposed.—ED.]

#### PRESERVATION OF ICE.

BY J. C. B.

AN article in your last number on ventilating ice-houses, leads me to present my views of the principle on which the preservation of ice is based; for, although the writer of that article is undoubtedly right in his facts, he omits, in my estimation, the chief element of the utility of ventilation. I say advisedly, its utility, for ample experience has shown the absolute necessity of ventilation for the more perfect preservation of ice. Experience has elicited three points of the first importance in constructing an ice-house: 1. An imperfect conductor of heat of moderate thickness to surround the ice. 2. Provision for drawing off the water of the melted ice. 3. Ventilation. Can we refer these requisites to the operation of a single principle?

When ice melts, it absorbs 140° Fahr. of heat, and this would tend to preserve the surrounding ice from melting, were it not that the warmth of the summer air, penetrating a mass of ice, or even the average summer temperature of the soil, more than compensates for the cold produced, and the melting continues. The heat of liquidity, therefore, although retarding the melting of ice, is insufficient for its preservation.

When water passes into the form of vapor, whether vaporised by heat in the form of steam, or rising at common temperature as an insensible vapor, it absorbs 1000° Fahr. of heat from surrounding bodies. In the latter case it passes off with the air, and if the supply of fresh air be constant or continuous, it is

easy to perceive that the cooling influence of evaporation will be very great. That solid ice itself rises in vapor below 32° Fahr., may be observed in winter by the gradual disappearance of thin layers of ice on the pavement or steps in front of a dwelling. Much more rapidly does ice or water evaporate at 32°, and water still more readily above 32° in a current of dry air, or air not already saturated with moisture. Under such conditions, the amount of heat-absorption, or cooling influence of evaporation, is sufficient to retain ice in the solid form.

A few facts may serve to illustrate the cooling effect of evaporation. At the temperature of 50°, carbonic acid can only be maintained in the liquid state, under a pressure of five hundred and twenty pounds per square inch, or 34½ atmospheres; whereas, solid carbonic acid quietly fumes away in the open air, the heat carried off by the vapor sufficing to keep the remaining acid in its solid condition, even at summer temperatures.

The alcarazzas or porous earthen jars, employed in the tropics for cooling the water they contain, act on the same principle; for the water transudes through the pores to the outer surface of the jar, and by its evaporation lowers the temperature of the remaining water by many degrees.

If a piece of ice be wrapped in a single thickness of flannel, and exposed to a current of air, not surcharged with moisture, the flannel will freeze fast to the ice, proving the surface to be below 32° Fahr., and little or no water will form. The flannel allows the little water that first forms to enter into its numberless pores, where it evaporates from an almost endless surface of woollen fibres. Cotton and linen do not answer the purpose as well, because capillary action fills the spaces between the fibres with water, and evaporation only takes place from the moderate surface of the water. The cooling influence of the flannel wrapping on the lump of ice, may be inferred from the fact, that as a little ice liquifies the liquid evaporates, so that the heat both of liquidity and of vaporization are absorbed, amounting to 1140° Fahr.

Let us apply the principle of evaporation to an ice-house, of which the lump of ice in flannel is a perfect type. Experience has shown the advantage of surrounding ice with an imperfect conductor of heat, such as shavings, saw-dust, charcoal, and even pine boards. It has likewise shown that only a moderate thickness of these is necessary, just as a single thickness will, in a favorable position, actually keep a lump of ice dry. Now, if they were used because of their non-conducting property, a considerable thickness would be required; in fact, many feet, and the greater the thickness, the more complete the preservation of ice. Since this condition of thick-

ness is proved by fact to be unnecessary, the non-conducting property is not the cause of the preservation of ice, if, indeed, it be of any influence whatever. The same conclusion may be drawn from the depth in earth to which the outer temperatures gradually penetrate, whether winter or summer, and yet earth is a very poor conductor of heat.

All the substances employed around ice are porous, admitting the passage of air through them, or into their pores, and these pores present an indefinitely extended surface. A portion of water enters the pores without choking them, and thus an immense surface is offered for evaporation, which, be it remembered, only occurs from a surface. The entrance of dry air into the moist pores and its exit, charged with the vapor of water, carries off the 1000° Fahr. of latent vapor-heat; and by thus cooling the ice, prevents its rapid melting. Hence the advantage of ventilation for preserving ice; for when the door of an ice-house is kept closed, the confined air becomes saturated with moisture, and cannot escape, evaporation ceases, and the external warmth, entering by radiation and conduction, is expended in freely melting the ice, in spite, too, of the non-conducting coverings and surroundings. Hence, too, the excellent preservation of ice, alluded to in your last number, in a board shanty, which was open all around, and therefore admitted air all around; it was a lump of ice from Brobdignag, wrapped in pine boards for flannel.

Experience has shown the necessity of draining off the water, which will be produced from the imperfections of the best ice-houses. Immerse our flannel lump of ice in water, and it will soon melt, because evaporation only takes place from the small surface of the water; but put it on slats, so that dry air can pass around it, and the amount of evaporation from an endless surface keeps the lump almost dry. So, if the lower tier in an ice-house be in water, we have only the cooling effect of melting ice, 140° Fahr. and in addition evaporation from a surface of water, equal only to the area of the house, both which are far outweighed by the penetrating warmth from without. The ice, therefore, continues to melt towards the bottom of the house; but when the water is drained off, a circulation of air (supposing the house to be ventilated) evaporates water from the enormously extended porous surface of the moist shavings, &c. The whole cooling effect then becomes: 1. The very small amount of heat absorbed by the melting ice. 2. The large amount removed in the continuous escape of moist air. This heat being absorbed, rendered latent, is abstracted from the ice and its adjacents, and melting is greatly protracted.

We should, however, guard against the too free

admission of air. If shavings, &c., were put very loosely into the sides of an ice-house, the free circulation of air would let in too much summer heat, and really present less surface, because less pores. On the other hand, if the sides were built of a non-porous substance, evaporation could not take place on them, and the exterior warmth not to be excluded, would melt the ice freely. A porous, absorbent material, tolerably well packed, offers the most favorable condition for the sides of an ice-house, by offering the largest evaporating surface. The top covering cannot, of course, be packed; the bottom porous layers become so from the weight of superincumbent ice. If the house is constructed with stone walls, a layer of porous material must be put between them and the ice, and provision made for the air to pass to the bottom of the structure.

Having thus presented the results of my observation and reflection, I must bring my long article to a conclusion, for which last result I may, doubtless, presume upon the thanks of your readers, who generally prefer hot-houses to ice-houses. I believe, however, that I have reduced the three great results of experience in the construction of an ice-house to one principle—evaporation.

#### A CHAPTER ON GRAPE-OLGY.

BY J. B. GARBER.

MR. EDITOR:—Any "news" on "Hardy Grapes" is peculiarly attractive to me; so, when our favorite *Monthly* for August came to hand, I, as usual, turned to the contents to see if there was a chapter on Grape-ology! and sure enough I was gratified to find Mr. Woodward giving us valuable news on "indigenous grapes." All right. Mr. W. will probably add some desirable varieties to our already extensive list. The more the better; "try all and hold fast to those that are good;" the inferior varieties will find their regular level soon enough. Strange, though, that Mr. W. should call the "Delaware a seedling from our native grapes!" I would like to know his reasons for that (to me strange) opinion. Can he tell us from what *species* of our natives it originated? Is it a *labrusca*, *cordifolia*, *riparia*, or what?

It is now clearly ascertained that the original plant of Delaware is still alive and bearing fruit. It is now in the garden of Mr. Provost, in Pottstown, transplanted from Frenchtown in New Jersey, by its present owner, a son of old Mr. Provost, and who still has the original vine in good condition—now over sixty years old! If it were a seedling from a native grape, then the question naturally arises, whence came that seed? Was it brought by birds from some distant locality? Did it drop from

the clouds?—or, or whence came it? Is it not far more likely that some German emigrant brought it in his breeches-pocket from the "Fatherland?"

Mr. Woodward also refers to Professor Ravenal's theory, "That the seeds of our native grapes produce male and female plants, and that seedlings from foreign or *Vitis vinifera* are all female," or, perhaps, more properly, hermaphrodite—male and female on the same plant.

My object, more particularly, in writing, is to overhaul your own comments on Mr. W.'s article. In your remarks, trying to disprove a theory (yet to be proved,) and "to prevent the error," as you are pleased to call it—"from becoming widely disseminated." I was greatly amused at your "arguing all round the bush" without once touching on the main question—you signally failed in refuting Prof. Ravenal's theory. You say, "it is well known that the petals of a flower, and its stamens, are the most easily affected by external causes, of any part of a plant, and that they are so affected, changed and altered, is a fact of every-day occurrence. Sometimes parts become abortive; at others, excessively developed," &c. You refer to double flowers; to the Green Rose, to the Strawberry, &c., and to the Cannon Hall Muscat Grape requiring "artificial impregnation under glass, as its own flower is deficient in pollen." Granted, every word you say! But, my dear sir, your arguments do not even touch Prof. Ravenal's theory. That the foreign grape produces barren or imperfect flowers, nobody, I presume, will deny. All your proof in the matter is "that foreign grape seedlings do often have imperfect (mind, imperfect) flowers!" You don't say male flowers. Now, let me just here ask you a simple question, friend Meehan:—Did you ever find a seedling of a foreign grape have true *bona fide* male flowers? Not abortive, barren, imperfect, &c.; but real, genuine, male flowers, without a stigma or vestige of an embryo grape in the bottom of the tiny flower, lacking the female organ?

I was called to examine a barren grape vine some six or eight weeks since, by a mutual friend in Lancaster—a good botanist, entomologist, &c., indeed, well informed on all subjects. He was trying all manner of experiments to make it bear fruit. The plant was in profuse flower at the time. On an examination of the flowers, I found there was no stigma, no embryo grape in the flower. I told him at once that the plant was a male, and all his "experimenting," to the end of the world, would not produce him a berry! His only plan was to graft it with some other variety, but I regret to say, I could not convince him of his error.

Thus, you see, we "ignoramuses" can occasionally have a good laugh at our "scientific savans,"

in return for like favors. Your "abortive," "imperfect," or excessively-developed flowers, or any other terms that can be "scared-up," will not correct the supposed error which you wish to guard the public against. So far as Prof. R.'s theory is concerned—that our natives produce both male and female plants from the seed, and the foreign *all* female—no "dusting of pollen" on one of these male plants will bring fruit, and no "forcing," "starving," or other "artificial stimulus" either, "nix cum rouse." As to the foreign grape producing all bearing plants from seeds, I am not informed, as my own experiments in that line have all resulted in failure. I have raised seedlings from many foreign varieties—raisins, Malaga jar grape, Hamburgs, Muscats, Frontignacs, Chasselas, Sweetwater, El Paso, California Mission grape, &c. I could rarely get them to live beyond the first year. Occasionally one would survive, only to be cut down by mildew the second or third year. I never could succeed in getting a single foreign seedling to show flowers!

I have also raised seedlings of our native grapes from almost every section of our country. I have always had a portion of males, or barren plants; sometimes one-half, more or less. As soon as the tiny blossom opens, I examine if there is an embryo grape or stigma in the flower; if not, then I know it to be a male, and the plant is at once cut down, or grafted. My plan of raising seedlings is to plant the seed in pots kept in the greenhouse over winter, then late in spring plant them out in the open ground; protect by covering in winter while small, &c. I have also, as a matter of course, raised many seedlings of the wonderful Delaware. These act very much like their foreign cousins. I have now only five or six promising plants of this variety from many hundreds of seedlings; two or three may show their inflorescence by another year. I have sent seeds of Delaware to many friends in various sections, including Utah, California and Oregon, and all from whom I have heard on the subject, say "they can do nothing with them." Even on Kelley's Island, Ohio, that justly celebrated grape locality, Delaware seedlings "mildew," and won't grow.

Last spring a year, I gave a pot full of Delaware seedlings—over a hundred—to a friend in Columbia, who is a careful gardener. A few weeks since, I inquired of him, "How are the Delaware seedling grapes coming on?" "Why, oh yes, I recollect. Why I lost every one of them; they would not grow, and they would die!" Are not such facts pretty conclusive evidence that the Delaware grape is not "aboriginal" to America?

If "stamens are transformed into petals," then petals may be transformed into leaves, leaves into branches, &c. All is "transformation," and we

will not know where we stand.

Do tell me, friend M., if *stigmas* also may, under any circumstances, be transformed into stamens, or males into females, and *vice versa*.

[Mr. Garber's questions are more easily asked than answered. He is evidently ignorant of the difficulty the botanist experiences the moment he comes within the line of cultivation. He might as well ask Mr. Woodward what species the *Fuchsia Venus de Medici* of our gardens belongs to. A gardener acquainted with its origin might answer that it was intermediate between *Fuchsia fulgens* and *F. longiflora*; but it would puzzle a botanist to know that fact by any scientific rules. So with the Delaware Grape. Science is equally at a loss to decide to which species to refer it, though the balance of characters would lead most of them to consider it as a variety of some American species. Mr. Garber does not so consider it, and he is entitled to his own opinion—for it is nothing more than an opinion—expressed in the term he himself employs, that it is "far more likely" to be of the foreign breed. We do not see the wisdom of discussing over and over again mere likelihoods which depend for their force on the state of each reader's judgment as to the value of evidence. When Mr. Garber can give us any facts respecting the original seedling vine, we shall, with pleasure, publish them.

The most valuable part of the article is Mr. Garber's account of his experiments with seedlings, which we publish with pleasure. On these subjects he is evidently more at home than in the questions of vegetable transformations; which, until he exhibits a better acquaintance with what is now known as the science of morphology, we would prefer not to discuss with him.

As to laughing at "ignoramuses," the record of the *Gardener's Monthly* shows that that is not our sin. The true searcher after truth feels that he knows too little himself to afford to laugh at the ignorance or blunders of others.—Ed.]

DISEASE OF THE QUINCE STOCK.—We have observed what appears to be a new disease affecting the dwarf pear.

The quince root of the dwarf pear dies of this disease, and, as a necessary consequence, the trees die also. The injury appears to have been done in winter; but in many instances the pear has opened its leaves and made some growth before any obvious indications have appeared. It is readily distinguished from fire-blight, in affecting the whole tree at once, and not limb by limb as in the fire-blight, and the leaves only wither and turn brown, instead of black, as in the last-named disease.—Country Gentleman.

## The Gardener's Monthly.

PHILADELPHIA, SEPTEMBER 1, 1861.

All Communications for the Editor should be addressed, "THOMAS MERRHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY, Box 406 Philadelphia."

Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

### LAWNS--THEIR FIRST YEAR'S MANAGEMENT.

SHOULD lawns be mowed often the first season of seeding down? The question is often asked. Our experience is against the practice, but so many good gardeners recommend it, that it will serve a useful purpose to bring the subject prominently forward.

We need not here descant on the importance of proper lawn management. The beauty of English lawns is proverbial; and the highest aim of our gardening is to have lawns like them. Our hot and dry climate is a difficulty of great magnitude, and we have to pursue a different course of practice from that which they follow if we would invite comparison with them. It does not therefore follow that what they do will, in all cases, serve us; and so the very common argument "the English mow their new-sown lawns frequently the first year," need not be considered as a thing of course for us.

It is certain that they do mow frequently and get good lawns, but we are inclined to think this result owing rather to the favoring conditions of climate. They would probably get as good or better lawns without mowing. We have reason, at any rate, to assume that these good lawns are in spite of the practice.

So far as our American climate is concerned, we are, at any rate, bound to say, that we never saw a good lawn follow close mowing the first season, and that we firmly believe most failures arise from the too frequent use of the scythe. It is very common to see a lawn green before mowing in August, become quite brown, and the grass die completely out in patches after being cut. The usual remark is that it was "cut too close." This answer grants half our argument. We would go further, and say it should not have been cut at all.

Not only does practice show close-cutting when young to be an injury, but science explains why it should be so. In order that our lawns should remain green through our long summer drouths, it is essen-

tial that we do all in our power to induce the grass-roots to descend deep beneath the surface. This is not necessary in the moist English climate. Here it is, and we do it by deeply trenching or subsoiling the ground, and burying rich manure as far as possible beneath the surface. When the top dries out, the subsoil thus can part with moisture from its reserves, and besides this the roots are encouraged to go as low as possible. But mowing the young tops prevents not only the descent, but the actual formation of roots.

The roots of the most stubborn weeds, even the Canada thistle, can be totally destroyed by cutting off the foliage occasionally through the season. The effect is the same on grass. All taken from the top when growing is so much detracted from the roots. No vegetable species is an exception to this law.

It should, therefore, be an object to allow the roots of lawn grass to go as deeply as possible the first year, and this depth will be just in proportion to the infrequency of the mowing. After the sod has once been well formed, mowing may be frequent; but in all cases the first spring mowing should be very early, so as to induce a young growth near the surface, as if it be left long before the first cutting, and the lower leaves yet yellow and sickly, when the top is mowed off the bottom will scarcely recover, in hot weather not at all; and when once every bit of green foliage is lost, the grass root will die as certainly as its blades have done.

We would let a lawn the first year after seeding grow to its full length, cutting it only once, or even suffering the crop to rot on the ground. The only care we would give would be to carefully hand-weed it of the coarser growths; and this on no account or at any cost would we neglect.

### AMMONIA AND VEGETATION.

WE have before us two essays which afford much food for thought to practical men. One is a sketch from a French magazine, *Annales des Sciences Naturelles*, published in 1858, containing a paper by the celebrated M. Boussingault, on the influence which ammonia and its nitrates exert upon the production of vegetable matter, and the other a pamphlet entitled—"On the Source of the Nitrogen of Vegetation." By Drs. Lawes, J. H. Gilbert, and Evan Pugh. Extracted from the Proceedings of the Royal Society of London for 1860.

The relation of ammonia to vegetation and the matters connected therewith, are ones of great importance to the cultivator. In their bearing particularly on the subject of surface manuring, and of burying manure in the soil, a clear understanding

would give much more confidence to the parties engaged in the several practices and discussion thereof. It is not enough to point to results and say, "Behold, I get as good crops from the manure I now merely spread on the surface, as I did from double the quantity I ploughed into the soil." The scientific cultivator has the right to ask the reason why; and until then to say, "When we pass through a field of newly spread manure, and smell the escaping ammonia, by so much as we know escapes, by so much do we know the manure has lost in value." As this reasoning is sound, how can the beneficial results of surface manuring, accompanied, as it must be, by loss of ammonia, be accounted for? Such works as these now before us, tend so far to explain the apparent enigma.

It was at one time supposed by a class of scientific men, that plants had the power of feeding on the nitrogen, of which the atmosphere is in part composed, and that some of the oxygen the plant exhaled from the surface of the leaf was part of this rejected air, the balance being from decomposed carbonic acid. Another class contends plants have no such power; but that all assimilable nitrogen must be presented in the form of ammonia or some of its nitrates.

We have never been able to understand why a plant should not have the power to use the nitrogen of the air, as it passes through its system, as well as to have first to decompose ammonia in order to get at the necessary element. If it has not the power, it may be a wise provision of nature, that not only man and animal beings generally, should have to get their "bread by the sweat of their brow," but that the same law pervades every atom of life, vegetable or animal, so that even the vegetable cell should be doomed to exercise its vital force on the decomposition of ammonia in order to gain its "bread," instead of being allowed lazily to lie with its mouth open, inertly absorbing nitrogen quietly floating by it. However, be this as it may, Boussingault shows that free nitrogen is not used by the plant, and that all found in its structure is derived from compounds.

In one of his experiments, he employed the sunflower, and sowed the seed in powdered brick, watering it with pure distilled water. In three months, the plants had gained a vegetation of 0.392 grammes when dried, the carbon they had acquired from the decomposition of the carbonic acid of the air in that time was 0.114 grammes, and the nitrogen only 0.0025, scarcely, in fact, perceptible. Though in dire necessity, and suffering from the "pangs" of want for this essential element, and with the air passing through its system composed of it, in a free

state, yet it could not or did not touch it. One would think this simple experiment conclusive.

So small a mass of vegetable matter in such a period of time showed that some other elements of fertility were wanting. So he applied phosphates of lime and other minerals, alkaline salts, carbonates, and silicious matters, but with no better results than if they were not there, for, from seeds weighing 0.107 grammes, the dried vegetable matter, after three months' growth, resulted in only 0.498 grammes, of which, only 0.0027 grammes of nitrogen were found, or about the same as in the other experiment.

Failing, though, with the free nitrogen of the atmosphere, to derive benefit from all other fertilizers, he added nitrogen in its compound form, and with the most astonishing results. From seeds weighing as above, 0.107, he obtained in the same time, 21.248 grammes by weight, of which 1.1666 were of nitrogen. Thus, he had proved first, that nitrogen can only be used by a plant when presented as a compound; and secondly, that growth was unimportant without, and very great with it.

The essay of the other three gentlemen takes up the subject where Boussingault seems to leave it, and goes to consider the amount of nitrogen yielded by different crops over a given area of land, and of the relation of these to certain measured or known sources of it. As the pamphlet is not a long one, and the subject is concisely treated and clearly expressed, we have commenced re-printing it in our last, and continued it in another column. It will be seen that with the numerous natural sources of combined or assimilable nitrogen at the command of vegetation, a very small proportion of the ammonia contained in stable manure is wanted by the plant, as a general rule, and only in exceptional cases of great natural poverty, and that the loss by evaporation is not one that will be readily missed by the plant under such circumstances. The oxidation of the other matters in the manure, which surface-manuring affords so superior a means of effecting, is evidently a much greater gain to the cultivator.

### PARTIZANS IN HORTICULTURE.

WHEN we hear parties assert that such or such a variety is absolutely worthless, or of the highest excellence, and when our own experience opposes such assertions, we do not imagine that they are ignorant, prejudiced, or actuated by motives of selfish interest in what they say. In fact, we have usually found, on inquiry, that they were perfectly honest in their opinions, and that the facts warranted what they said. In some instances of nurserymen, we have found parties with a large stock of a variety

for sale, and yet honestly condemning it, and recommending their own customers not to buy them.

We make these remarks because it is not uncommon to see a sort of clanship, or party-feeling, in favor of, or in opposition to some varieties of fruits, and a disposition very prevalent to doubt the honor of those whose experience may seem opposed to that of others. We have been careful not to admit such reflections in our columns. Though we pass freely the results of individual experience for or against any variety whatever, we have frequently taken the liberty of expunging from such valued articles, any remarks undervaluing the experience of others, which many writers are inadvertently liable to make in hurried communications. Soil, locality, and culture are often more than sufficient to account for the most diverse results, and should lead us all to hesitate before we unreservedly condemn any variety on our own experience alone.

A particular case in point is the Allen Raspberry. Our pages teem with the most unqualified praise of this fruit on the part of some growers, while others as freely universally condemn it, and in our personal experience we know of cases where the warm advocacy of and opposition to this fruit has engendered bad feeling and ill will.

Recently, we called on a party noted for his opposition to the Allen, at his request, to see his bed. As he stated, it was with him totally unproductive. Shoots came up and were allowed to grow by the million, and thick as grain in a wheat field. The soil in which they were growing was rather dry and thin, and most of the flowers had "gone blind." Occasionally a perfect berry might be seen, and here and there a fruit comprising a single pip or so; but the whole was a complete failure, undoubtedly.

We were narrating our experience to a neighbor, (we may as well name him, for we are sure he will not object,) Mr. James Gleason, of Mount Airy, and he replied by inviting us up to see his Allen. We went. He had half a dozen popular kinds besides, including the Hornet amongst them, but the Allen beat them all,—a long way surpassed them,—not in one, but every quality. There was double,—we use the word advisedly,—double the quantity of fruit,—double the strength of stem, and the vigor and general health of the plants superior to all, and the quality in many respects beyond any others. The soil was not wet, but it was heavy; had been deeply trenched, and the situation was low. Suckers were not there in legions, because the plants were well cultivated between the rows, and suckers not wanted were received as weeds, which they legitimately were, and treated accordingly. An "inexpert" would probably have pronounced the plants in one of the cases spurious,

but we were not to be deceived in that way, and could not help feeling that when treated as Gleason's were, and as any other one might treat it, the Allen was one of the best of raspberries, and its introducer deserving the best thanks of the community. We might point to other fruits, but this one instance, so well known, and so ably handled as it has been by other parties, will serve our purpose. We wish to guard horticulture from the danger of partizanship, and to keep before the reader's mind the fact, that soil, climate, culture and local circumstances, have so much to do with the character of fruits, that men may honestly differ on the most opposite extremes, and be frequently both right for all, and give the fruit every thing that was claimed for it. Truth may often come from an apparent opposite, just as Baily makes his Lucifer say, and appropriately to our subject:

"There is less real difference between things  
Than men imagine. They overlook the mass,  
But fasten each on some particular crumb,  
Because they feel that they can equal that,  
Of doctrine, or belief, or party cause."

#### VITAL FORCES IN PLANTS.

UNDER our regular "Horticultural Societies" heading, we give the proceedings of a recent meeting of the Cincinnati Horticultural Society, in which a paper, by some unknown gentleman, appears worthy of particular attention.

In some recent articles, and in others by some of our correspondents, similar views have been expressed to those which the writer advances. There cannot be a doubt but that in the close attention that has been given to the question of vegetable nutrition the past few years, the important one of the action of the vital forces on the elements of fertility has been considerably overlooked. Enough, however, is now known to convince thinking minds that for want of a better knowledge of the relation, plausible theories of manuring are really worthless, and much injury and loss to the cultivator have been the result. Still much that the writer advances we think untenable; but receiving the paper only as we were about to send to press, we have thought proper to refer to it, hoping to get time to return to the subject some day.

#### TABLE DESIGNS AND DECORATIONS.

It is common for fashion to run in praiseworthy directions, till it goes beyond good taste, when it meets unqualified opposition in every respect. Thus, designs of cut flowers became popular, and horticultural societies believed it as useful to offer prizes for them as for the best pot plants, or the most

superior bunch of grapes. Gradually, these designs proved monstrosities—gardens, buildings, and natural objects—birds, beasts and fishes became subjects of imitation, and the most gross and miserable caricatures of such things, if they only made a "show," and excited the gaze of the populace, were sure to receive handsome premiums.

Then it became a question whether horticultural societies were really established for the encouragement of such perverted taste. Public opinion experienced a revulsion. The opposite extreme began,—till at length the legitimate claims of cut flowers for any other purposes than mere nosegays or baskets are scarcely recognized at any of our exhibitions.

It is the same in Europe as here. Recently, however, a gentleman of taste, Mr. Dilke, in view of the lack of encouragement given to this branch of decorative gardening by the horticultural societies, offered



handsome premiums at a recent London exhibition for the best table designs formed of fruit and flowers.

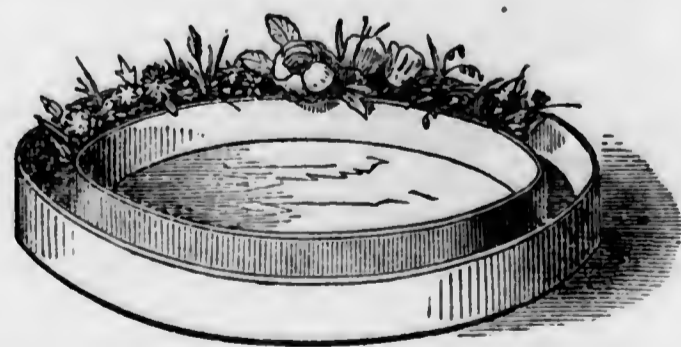
It is gratifying to note that this part of the exhibition proved the centre of interest. Ladies of the nobility entered the arena as competitors, and the subject was considered worthy of the efforts of the most refined minds that England could produce.

That our readers may understand the style of taste in this matter that prevailed on the occasion, we have engraved as a frontispiece the design that was awarded the first prize. The union of the delicate leaves of the fern with the bolder outlines of the fruit, combines a strength and elegance of beauty that is a

happy test of perfect taste. In some respects the design might be improved. The central columns are not proportionate in weight to the rest of the design, but on the whole it is beautiful and cannot fail to suggest a great improvement in our usual mode of table decorations. Indeed, it is seldom that our tables—even those set out with the greatest pretensions to beauty and taste of arrangement—have more than the common bouquet of flowers for adornment. To our mind, the bouquet form does as much violence to correct principles in such situations as the most uncouth design. Its form and arrangement is particularly for the hand, and for motion. It has to be of the most formal shape, and the flowers set close and somewhat thick to enable them to be carried well, and without soon drying up. As they stick up in the glasses on the table before us, they seem to appeal pitcously to us to be taken in the hand, and to be placed to their legitimate uses—nose-gays as they are. We hope to see them banished from our festal boards, and the "design" of flowers, with its infinite scope for tasteful displays, and natural beauty universally substituted.

The simplest of all dinner table floral arrangements is the vase. To illustrate its beauty for such a purpose over the bouquet, we take the foregoing illustration from our contemporary, the *English Cottage Gardener*. Of course, it would be out of the power of any American collection to furnish the rare orchidea necessary to fill it in the style represented, but they seem to convey the idea. Stiff flowers are required, of course, to arrange in the centre, and slender racemes for hanging over the sides. Fresh green moss is used for packing the stems of the flowers into, and if this is pressed in tight, and the flowers sprinkled occasionally with clean water, they will retain their freshness and beauty nearly as long as the common bouquet.

As it is all in connection with the subject, we reproduce, from our first volume, a beautiful design for a centre-table.



Since we first published it, we are pleased to meet with it occasionally in the drawing-rooms and parlors of our friends. For the sake of new subscribers who have not seen, or old ones who have forgotten, we are sure that those who have already profited by the first hint, will not object to the repetition.

As a table decoration, it is becoming very fashionable in France to employ fruit trees in pots. For ourselves, we do not admire the taste. It savors too much of the pretentious and affected. Yet, being in vogue in that country, it must, of necessity, find imitators in this, where it is only necessary to declare a fashion to be the French style in order to obtain for it general adoption. The following is a sketch we made last season, of a peach, grown in pot, and



to them who have not seen examples of this mode of cultivating fruits, it will give a fair idea of their general appearance for decorative purposes.

#### EDITORIAL CORRESPONDENCE.

NEW YORK, August 3d, 1861.

"Isn't it very hot to day?" is the startling inquiry of every friend I meet. Of course, with the thermometer amongst the nineties, I reply that it is hot—very hot, and the inquirers seem much relieved by my confirmation of their suspicions. You in Philadelphia have no idea of the intensity of a New York 90°. Talk of "sweltering," but you must come here to understand that term in all its expressiveness. With your drier air, 96° or 98° is far more Icelandish than this 90°, surrounded, as we are by the sea, with its necessarily moister atmosphere.

It is bad enough to have to attend to business even with the aid of refreshing circumstances at the best in these hard times; but it is positively cruel to force oneself to it such a day as this, so I determined to abandon this crucible which so sorely tried my flesh, and betake myself somewhere into the

country in search of some cool and shady nook where I might forget the sufferings of city show, and derive comfort from the charms of nature.

To a New Yorker the Central Park is now the Mecca of rural life, so far as a day's pleasure is concerned; but from all I could learn it is not yet calculated to mitigate the horrors of a genuine hot day. The large trees which the New York press so vauntingly styled a complete success a few months after transplanting, are now considered a failure, and are not likely to afford a very delicious shade for some years to come; and the trees of medium size, that under ordinary circumstances should, by this time, have made a considerable advance, are in a state of rest, and are kept from going backwards only by constant and copious applications of water, which it is supposed will eventually supply the original deficiency of root. Moreover, I was told that the chief beauty of the park was the opportunity which it afforded to see and to be seen of men. Here the latest style of bonnet, or the most fashionable cut of coat, was so interestingly blended with the study of natural history and the beauties of the landscape-art, as to be considered synonymous, and occupied the almost exclusive attention of the patrons of the park. As for the park itself, my friends assured me, that independently of the above considerations, it was positively tedious. Every part is, in a great measure, a counterpart of the other. The first impression on entering is, that it is done to perfection. The faultless curves,—the planelly moulded and exquisitely modulated surfaces,—the little clumps of bushy shrubs, on gentle rises, just where correct taste would decide little clumps should be,—rocks jutting out here and there, just sufficiently to testify strongly to the surrounding victory of art over them; and the body of water here expanding to the magnitude of a lake, there losing itself around some distant curvature of surface—on this side reflecting the sun's smiles on some overhanging bluff, on that wearing a dark brow of sadness at the overshadowing beauties of a mass of shrubs. In fact, you cannot but enter the park to be at once convinced that in managing the four great elements of the landscape-gardener's art—earth, sky, wood and water—the designer of the Central Park has managed to make the most of his materials. But having passed the threshold to progress through the work, you encounter the same style of road, the same mounds, depressions and rocks. The little clump you see is the same in outline and general feature as the one you saw before, and set precisely in the same manner, on a very similar mound, and the whole planting arrangement, in the main, suggests but a continued round of the same idea. Though the walks are broad, and the execution of

all the details perfect, the mind feels shackled.—"Thus far canst thou go, and go no further," is whispered at every step, until, panting for freedom, the spirit bursts from its bonds, and relieves its tedium by changing the study of the park for that of the peculiarities of the park-goers. This I was told by parties of taste; but whether the criticism was just or not, I was not in a proper frame of body or mind to test personally; and, moreover, it is in all probability, unfair to form a decided opinion on the effect of so great a work until the work itself should be more nearly completed. So, passing the Park idea, I concluded to take a quiet trip to Flushing, to the NURSERIES OF PARSONS & Co., whose well-known and beautiful establishment I had not the pleasure of seeing for some years.

Taking the boat from Fulton Street Wharf, a few minutes brings us to Hunter's Point, from whence, less than a half hour's ride carries us to Flushing; a quiet village, bearing the aspect of retired respectability. Five minutes' walk found me on the higher ground of the village, by which the Nurseries are situated. I have no note of the extent of the grounds, but judge they comprise about seventy acres. The offices are considerably in from the entrance, and the approach lined by many fine specimens of rare shrubs and trees, which in themselves repaid a visit to Flushing. Near the gateway, there is a very large specimen of an upright Sugar Maple, as perfectly fastigate as the Lombardy Poplar, and well worthy of extensive introduction into landscape scenery. I had no knowledge before that such a variety of the Sugar Maple was in existence. A very large Weeping Sophora is very striking through a marked strength of beauty which it adds to the usual elegance of "Weeping" trees. A large *Kentucky Coffee*, one of my favorite trees, grew near by, reminding me how unfortunate for planters it was that its great beauty, when of middle age, was not more generally known. Its stiffness while young, no doubt, is the cause why it is not better appreciated. Amongst other good things near, the following were particularly noted: *Abies orientalis*, one of the best specimens I have ever seen; about 12 feet high. Its reputation as a slow grower is, no doubt, gratuitous. It certainly was not earned by this specimen. A fine *Pinus monspeliensis*, one of the allied group of Austrians, and of *P. Pyrenaica*, of the same group, and one of the most valuable for hardness of beauty we have not seen excelled. *Pinus nivea* was also very fine, and more nearly approaching the White Pine in appearance than I had before supposed, having hitherto seen but much smaller specimens. *Pinus horizontalis*, a fine specimen. This is not a distinct species, but a spreading form of the Scotch Fir. *Picea Frazerii* was by far the best looking

specimen I ever saw, and evidently suits our latitude much better than its next brother the Balsam Fir. The *Douglas Spruce* is quite hardy here. The finest specimen is about twenty feet high and very beautiful. Some fine specimens of *Picea cephalonica* are here—some few losing their leaders through birds resting their weight on them, and Mr. Parsons suggests that where there is such risk, the leader should be protected by a small stick tied as a stiffener while young. Probably the finest *Magnolia Soulangeana* in the world is here; the branches sweep the ground, and occupy over eight hundred square feet of surface. A very large and fine *Magnolia macrophylla* stands near this, the parent no doubt of many a score throughout the Union. The *Weeping Beech* is one of the finest I know of. I inquired of Mr. Treumpy, the foreman, how he succeeded in obtaining so large a stock of young ones in face of the generally supposed difficulty of propagating without the aid of two year old wood? But he says that with good, healthy and strong one year old wood he finds no difficulty. All these were grafted about an inch or so from the ground. I noticed a great many dwarf trees that had originated on the establishment, that well deserve the attention of the proprietors; particularly a *Dwarf White Pine* and a *Dwarf Hemlock*. Such plants are just the thing for small city gardens, and peculiar positions in larger ones. The firm seems to have been fortunate in raising such new varieties, for I also saw a very curious form of *Norway Spruce*, superior, in my opinion, to the foreign variety *monstrosa*, as also an erect and compact growing variety of *White Pine*. Much might be done for landscape-gardening by attending to the selection and separate propagation of these marked varieties, which are often much more distinct in habit and striking characters than genuine botanical species are, and produce a decided effect in the laying-out a place tastefully. The *Taxus erecta* thrives well here; it is decidedly hardier than any other variety of the English Yew, and the only one that has stood out here entirely uninjured by heat or cold.

Of the newer evergreens and plants that have proved here quite hardy, but of which I saw no very large specimens so as to judge of the final effect their mature growth would give, I notice *Picea lasiocarpa* var. *Parsonsiana*, which, if it retain as it grows its present appearance, will be a most beautiful Pine. *Picea Nordmanniana*, though not new now, yet one of the scarcest and highest in price. *Picea pectinata pendula*, or Weeping Silver Fir. *Picea amabilis*, *P. nobilis*, and *P. Hudsonica*. Amongst other hardy and very desirable things we noted *Torreya myristica*; *Picea sibirica*, a golden variegated American *Arborvitæ*; *Juniperus glauca*, a very grey and striking variety of the Red Cedar; and *Thujiopsis borealis*.

In the deciduous shrub line, *Cercis Japonica*, the new Japan Judas Tree, has proved very hardy, and very beautiful in flower. *Andromeda arborea*, a rare and beautiful small tree, and an ill-used native at that, I was pleased to see in considerable quantity. Also, a curious dwarf Snowball, called *Viburnum nanum*. The *Siberian Arborvitæ* seems the hardiest of all, and is surpassed by none of the newer kinds in beauty. The *Rhododendron* thrives here to perfection, and has no cause to join in the universal charge that Americans neglect their own most beautiful of plants.

Perhaps the most interesting part of the Messrs. Parsons' establishment just now was their plant-house department. The attention paid the past few years to leaf plants has imparted a new order of interest to greenhouses in summer, and has in no small degree, lent their aid to make Parsons' houses as beautiful as they are. They have here three houses devoted to these and other stove plants, all heated by two of Hitching's \$150 boilers, both in one stoke hole sunk at some distance from the houses. The arrangements were very tasteful, quite unusual for a commercial establishment, and whoever has this subject in charge for them deserves great credit. Amongst those that more strikingly forced themselves on our attention for beauty of marking or elegance of form in their foliage were *Caladium Belleyinci*, *Begonia Roi Leopold*, a new seedling *Begonia* of Van Voorst's, called Mrs. Stewart; *Begonia Sandersii* *semperflorens*, an important improvement on the original; *Solanum quiteense*; *Begonia Griffithii*; *Dracæna ferræa*, a splendid plant for associating with statuary in conservatories; *Caladium Wightii*; *Dioscorea variegata*, which Mr. Treumpy finds to do very well in deep shade; *Dracæna terminalis*; *Allocasia metalica*, more beautiful than I had even anticipated it to be from the descriptions given in the journals; *Cyanophyllum magnificum*, as magnificent really as any one may choose to imagine it; and a new seedling *Begonia* with the dwarf habit of *rubro-veina*, but much more beautiful in my opinion than *B. rex*. There was also a new *Cissus* called *C. porphyrophyllum*, very distinct from *C. discolor*, and will, no doubt, have as popular a run.

I must not omit to note the tropical and grand appearance which the different varieties of the Plantain tribe give to the plant stove; nothing grown can excel them in this particular. I was not aware, till informed by Mr. Parsons, that in the tropics the bruised leaves are used as a poultice for burns and blisters, with the best results, and I could not help thinking it a strange coincidence that a very different plant, but with the same common name—plantain, should have a similar reputation in Europe and other

countries. Shakspeare alludes to this fact when he says, in *Romeo and Juliet*,—

*Romeo*—"Your Plantain leaf is excellent for that."

*Benvolio*—"For what, I pray thee?"

*Romeo*—"For your broken shin."

It has often been a question with botanists, how a name of evidently Italian origin, and given by the old Romans to another plant, got to be so long ago given to an English plant; but it is quite possible that the virtues mentioned by Mr. Parsons were well known to the ancients, and on their conquest of England they gave the same name to a plant they there found to possess the same medical properties with the true plantain of their former homes.

Amongst the Ferns and Lycopodiums worthy of special notice were *Pteris tricolor*, and *P. argentea*, *Asplenium Ballangerii*, *Alsophila radies*, *Blechnum Braziliensis*, *Lycopodium apodum*, *Selaginella lepidophylla*, *Polypodium apendiculata*, *Lycopodium atrovirides*, and the most beautiful thing of the kind I ever saw in the shape of *Lycopodium Cunninghamii*. Along the border of the staging, as an edging, *Lycopodium apodum* was employed very successfully. Among the miscellaneous plants, well worthy of the attention of the amateur, I noted *Mussenda frondosa*, an old, but yet little appreciated plant. The same may be said of *Clerodendron fragrans* and *C. fallax*; *Lilium giganteum*, just out of flower; *Papyrus antiquorum*, very useful for imparting gracefulness to bouquets; *Cypripedium venustum*, not surpassed by any newer plant; *Tydeæ Eckhautii*, and T. Mrs. Lefevre, and *Impatiens Jerdonia*.

The *Fuchsias* were nearly out of bloom; but of those still lingering, *Garibaldi*, *Fanny Douglass*, and the very double kind—*Solferino*—were the best.

In our walk through the nursery, we were pleased with the very healthy and vigorous look of the *Standard Pear* quarter. Mr. Parsons attributes their success to deep trenching and rather light dressing of stable manure, as opposed to the heavy applications it is frequently thought necessary to stimulate pears with. The soil in which they were growing was a heavy loam, one we should call rather clayey.

On the opposite side of the road to the nursery is the residence of one of the firm, Mr. S. B. Parsons, and by his kind permission, I enjoyed the privilege of a stroll through the grounds. The taste displayed in the laying out afforded a striking contrast to the pretentious failures so common in suburban residences. One of the commonest errors is to plant close up to the house, by which all the beauties of the planting or natural scenery of the grounds is effectually shut out from the windows. The desire of shade in summer usually prompts this; but Mr. P.'s house, while it boldly stands separate and independent of all the planting arrangements, provides

for luxurious coolness by a wide and airy piazza extending round the warm aspects of the building. The view of the whole grounds and the distant views from the piazza are, therefore, all that can be desired, and the result comes up to our *beau ideal* of what American landscape gardening should be—good taste in arrangements—but all so "fixed;" (pardon the vulgarism—it is in the present case appropriate) that we can easily see and admire without having to toil through a broiling sun to earn the enjoyment.

I returned to New York by the five o'clock train, and in the cool of the evening, having spent one of the most pleasant days I have had for some time, and to hear with surprise from some of my New York friends that it "had been a very hot day." Poor things! They know not the pleasures of gardening, and its capacity of submerging our bodily sufferings in the lethean stream. The day was indeed hot for them, but I had lost all recollection of this inconvenience in the many interesting things the Parsons' establishment afforded me.

#### THEORY OF THE PRESERVATION OF ICE.

In another column we have an article from the pen of one of our distinguished scientific men on this subject, which we think, for the first time, attempts an exposition of the scientific principles on which the preservation of ice depends. It is remarkable that in all treatises on the applied sciences, this subject should have been overlooked; and we are sure that the paper will not only be read with interest by all engaged in ice management, but be received by the purely scientific community as a valuable contribution to knowledge.

#### Scraps and Queries.

☞ Communications for this department must reach the Editor on or before the 10th of the month.

☞ The Editor cannot answer letters for this department privately.

INSECTS—A "Regular Subscriber," West Grove, Pa.

—The insects you send that "has appeared on your fruit trees in considerable numbers within the last few days" have no business there. It is the Pine-tree Beetle (*Prionus unicolor*.) It is a decided enemy, and you may give no quarter to any you find. The smaller and gray beetle is a species of *Saperda*, which one we do not know, but near enough to the Apple Borer (*S. bivittata*) to warrant you in destroying all you can find. The smaller mosquito-looking insects have been recently noted by entomologists, and little seems to be known of them. They have been observed to appear in quantity for the first this sea-

son. When we can discover further about them we will make a note for you.

*E. H., Monteroy, Pa.*—Your specimens are Rose bugs (*Melolontha subspinosus*.) They come out of the ground in June; live on any kind of vegetation for about a month, and then the female enters the earth to deposit its eggs. The larvæ from these feed on the roots of all kinds of vegetation, so that in every stage they are injurious. The only remedy we know is to wage war against them in the beetle state. Applications of hot water will readily destroy them. A good assistant to you in this warfare would be a lot of ducks. You have to take them young, when with a little attention they may be taught to catch hundreds of insects a day. One little fellow that we have has become so expert at the business that few of even the most active insects escape his dash at them. Of the common house-fly, not one in ten misses his stroke. Unlike others of feathered domestics, the duck does little injury in a garden.

**NAMES OF PLANTS**—*G. H. R., Booneville, Mo.*—No. 1 is Rose Gloire des Rosamene. No. 2, called with you "clematis," is *Wistaria sinensis*. No. 3, called "Chinese Lilac," is *Philadelphus Gordonianus*.

**PLANT FROM PIKE'S PEAK**—*H. A. Terry, Crescent City, Iowa.* I enclose a pressed flower and leaf of a new plant that I received from Pike's Peak last season. It is a trailing plant, something like *Convolvulus minor*, and sends up hundreds of flowers, which when fully expanded are as showy as the Snowball and possess a delightful fragrance; the leaves are glabrous; stem red, and smooth like Purslane; an annual; a most lovely plant and exceedingly desirable. If you can tell the name of it, please do so through the *Monthly*. I will send you seeds if you desire. I have *Callirrhoe involucreta*, also from Pike's Peak.

[Your plant is *Abronia umbellata*, a very desirable plant, but not before in cultivation that we know of. Very glad you have succeeded in obtaining it, and should be obliged by the seeds offered.]

**PROPAGATING BLACKBERRIES**—*H., Galesburg, Ill.*—This is best performed by root cuttings. Early in winter, cut up roots into lengths of about three inches, and mix with an abundance of soil in boxes, and place in a moderately damp cellar till spring; then plant the roots in the open ground in the same way as cuttings, only keeping the tops of the roots a little beneath the surface of the ground.

**PROPAGATING TREES AND SHRUBS**—*H., Galesburg, Ill.*, asks the question, but it is one covering too much

ground to be replied to in this small space. So far as trees and the larger shrubs are concerned, Meehan's Hand-book of Ornamental Trees would give the necessary information. Of shrubs, there is no work extant we can refer to.

*W. W., Morrisania, N. Y.*—The white flower is *Gloxinea tubiflora*. The red, too small a specimen to name. Probably a *Gesneria*. The variegated leaf is *Chimaphila maculata*, or winter green.

**J. B. GOOD FOR THE LAST TIME.**—The advice given some time since to our private correspondents, and in our last issue, that a criminal court, and not a public paper, is the proper arena to discuss swindling transactions, seems to have had a due influence on Mr. Good, for we learn that he has decamped in disguise for parts unknown. His effects have fallen into the hands of third parties, and we are informed, amongst other things, disclose the fact that he did actually receive the letter and money alluded to by Mr. Kohly in the June number, in spite of his protestation in the July number that he did not.

**CROMWELL'S SEEDLING PEACH**—From *Mr. Cromwell, Baltimore, Md.*—This is somewhat like the Early Newington, but larger, and we think better than that well known and valuable variety. They commenced to decay so soon after receipt, that we could not hand them to the Philadelphia County Committee of the Fruit Grower's Society of Eastern Pennsylvania as requested, and for the same reason we had no opportunity to compare them with other kinds so as to get a definite idea of its distinctiveness from other described varieties; but so far as we can say from memory alone, we think it a good addition to already known early peaches; ripe in Baltimore last week of July.

**RAISING SEEDLINGS.**—A correspondent fears that the remarks in our last may have a tendency to discourage the raising of seedlings, and fruit improvement suffer in consequence. We hope not. There cannot be too many seedlings raised, and it is one of the most interesting of horticultural occupations. All we hope to see is, their being named and disseminated as improvements on what we already have, discouraged until properly proved and tested, much better than has been the rule hitherto.

**LINNÆA BOREALIS.**—We have to thank a Canadian friend J. G. F., for specimens which we have forwarded to the author of the *Linnæa* articles at Haddonfield, N. J. H. would gladly reciprocate the

favor by sending any plants or specimens of his district that might be of interest to him.

**BAD WRITING.**—We have a set of what appears to be horticultural inquiries from a New York post mark, but as we were utterly unable to read it, we supposed it to be written in some foreign language, but no professor of any modern tongue within our circle of acquaintance is able to translate it for us. We have come to the conclusion that the letter is either in the ancient Sanscrit or modern Nipponese, of which tongues we must confess our profound ignorance. Had we been able to understand the manuscript, we would have gladly tried to answer the inquiries for our correspondent.

**BEGONIAS**—*N., near West Chester,* asks:—"Can you inform me how to propagate Begonias? Also, in what kind of soil they do best? Are they better shaded from the sun?"

[The larger and fleshy leaved Begonias are raised by leaves. These are cut into small pieces and set edge-wise in sandy soil, with a moist heat of about 60°. Young plants shoot up from where the veins are cut across.

Any coarse, spongy soil, moderately enriched with partially decomposed vegetable matter, suits Begonias, and the variegated ones are best grown in partial shade. Some of the summer-blooming ones, however, do well as border plants, and do not mind a little sun.

Begonias can also be propagated easily by cuttings put in at this season of the year.]

**BLACK CURRANT WINE**—*A. S., Montgomery Co. Pa.* asks:—"What kind or which kind of Black Currant do the French make their wine of? as you published some time since that they made wine of it. Can not you give a good recipe for making Black Currant wine? It is rather late now, it is true; however, if not too much trouble, it would be good another year."

[The kind used by the French is the Black Naples. We should be glad to receive a good recipe from any correspondent of experience. The gentleman named in the other part of the letter is one of honor and standing in our community. Some error, no doubt.]

**LAWN MOWING MACHINES.**—A Canadian correspondent made some inquiries about mowing machines in a letter which we have not now by us. We believe the inquiry was as to their real merits, the best kinds, and whether they could be had at Buffalo.

We think so well of them that no lawn of any extent should be without them. The best we know are those made by Swift, of Fishkill Landing, New York. We are not sure that any are made at Buffalo. With care, mowing machines do not often need repairs. We saw a person recently using a Shank's machine who said it had been in constant use for five years.

**HELIANTHUSES**—*C. F., Cincinnati, Ohio,* asks:—"Will you be good enough to tell me whether there are any other colors except yellow of the *Helianthus multiflora* (double Sunflower)? I prefer it to the *Dahlia*, if a variety of colors is to be had of them.

[There are no other colors.]

**DOUBLE BROMPTON STOCK**—"Subscriber."—Any fine variety of this can be readily increased by cutting, and the variety thus preserved.

## Books, Catalogues, &c.

[Continued from page 247.]

**ON THE SOURCES OF THE NITROGEN OF VEGETATION;** with special reference to the Question whether Plants Assimilate Free or Uncombined Nitrogen. By John Bennet Lawes, Esq., F. R. S., F. C. S.; Joseph Henry Gilbert, Ph. D., F. R. S., F. C. S.; and Evan Pugh, Ph. D., F. C. S.

Passing to the subjects of collateral inquiry, the first question considered was, whether plants growing under the conditions stated would be likely to acquire nitrogen from the air through the medium of ozone, either within or around the plant, or in the soil; that body oxidating free nitrogen, and thus rendering it assimilable by the plants.

Several series of experiments were made upon the gases contained in plants or evolved from them, under different circumstances of light, shade, supply of carbonic acid, &c. When sought for, ozone was in no case detected. The results of the inquiry in other respects, bearing upon the points at issue, may be briefly summed up as follows:—

1. Carbonic acid within growing vegetable cells and intercellular passages suffers decomposition very rapidly on the penetration of the sun's rays, oxygen being involved.

2. Living vegetable cells, in the dark, or not penetrated by the direct rays of the sun, consume oxygen very rapidly, carbonic acid being formed.

3. Hence, the proportion of oxygen must vary greatly according to the position of the cell, and to

he external conditions of light, and it will oscillate under the influence of the reducing force of carbon-matter (forming carbonic acid) on the one hand, and of that of the sun's rays (liberating oxygen) on the other. Both actions may go on simultaneously according to the depth of the cell; and the once outer cells may gradually pass from the state in which the sunlight is the greater reducing agent to that in which the carbon-matter becomes the greater.

4. The great reducing power operating in those parts of the plant where ozone is most likely, if at all, to be evolved, seems unfavorable to the oxidation of nitrogen; that is under circumstances in which carbon-matter is not oxidized, but on the contrary, carbonic acid reduced. And where beyond the influence of the direct rays of the sun, the cells seem to supply an abundance of more easily oxidized carbon-matter, available for oxidation should free oxygen or ozone be present. On the assumption that nitrates are available as a direct source of nitrogen to plants, if it were admitted that nitrogen is oxidated within the plant, it must be supposed (as in the case of carbon) that there are conditions under which the oxygen compound of nitrogen may be reduced within the organism, and that there are others in which the reverse action, namely, the oxidation of nitrogen, can take place.

5. So great is the reducing power of certain carbon-compounds of vegetable matter, that when the growing process has ceased, and all the free oxygen in the cells has been consumed, water is for a time decomposed, carbonic acid formed, and hydrogen evolved.

The suggestion arises, whether ozone may not be formed under the influence of the powerful reducing action of the carbon-compounds of the cell on the oxygen eliminated from carbonic acid by sunlight, rather than under the direct action of the sunlight itself—in a manner analogous to that in which it is ordinarily obtained under the influence of the active reducing agency of Phosphorus? But, even if it were so, it may be questioned whether the ozone would not be at once destroyed when in contact with the carbon-compounds present. It is more probable, however, that the ozone said to be observed in the vicinity of vegetation, is due to the action of the oxygen of the air upon minute quantities of volatile carbo-hydrogens emitted by plants.

Supposing ozone to be present, it might, however, be supposed to act in a more indirect manner as a source of combined and assimilable nitrogen in the author's experiments, namely,—by oxidating the nitrogen dissolved in the condensed water of the apparatus—by forming nitrates in contact with the moist, porous, and alkaline soil—or by oxidating the

free nitrogen in the cells of the older roots, or that evolved in their decomposition.

Experiments were accordingly made to ascertain the influence of ozone upon organic matter, and on certain porous and alkaline bodies, under various circumstances. A current of ozonous air was passed over the substances for some time daily, for several months, including the whole of the warm weather of the summer, but in only one case out of eleven was any trace of nitric acid detected, namely, that of garden soil; and this was proved to contain nitrates before being submitted to the action of ozone.

It is not, indeed, hence inferred that nitric acid could under no circumstances be formed through the influence of ozone on certain nitrogenous compounds, on nascent nitrogen, on gaseous nitrogen in contact with porous and alkaline substances, or even in the atmosphere. But, considering the negative result with large quantities of ozonous air, acting upon organic matter, soil, &c., in a wide range of circumstances, and for so long a period, it is believed that no error will be introduced into the main investigation by the cause referred to.

Numerous experiments were made to determine whether free nitrogen was evolved during the decomposition of nitrogenous organic compounds.

In the first series of six experiments, wheat, barley, and bean-meal were respectively mixed with ignited pumice, and ignited soil, and submitted for some months to decomposition in a current of air, in such a manner that any ammonia evolved could be collected and estimated. The result was, that, in five out of the six cases, there was a greater or less evolution of free nitrogen—amounting, in two of the cases, to more than 12 per cent. of the original nitrogen of the substance.

The second series consisted of nine experiments; wheat, barley, and beans being again employed, and, as before, either ignited soil or pumice used as the matrix. In some cases the seeds were submitted to experiment whole, and allowed to grow, and the vegetable matter produced permitted to die down and decompose. In other cases, the ground seeds, or "meals," were employed. The conditions of moisture were also varied. The experiments were continued through several months, when from 60 to 70 per cent. of the carbon had disappeared.

In eight out of the nine experiments, a loss of nitrogen, evolved in the free state, was indicated. In most cases, the loss amounted to about one-seventh or one-eighth, but in one instance to 40 per cent. of the original nitrogen. In all these experiments the decomposition of the organic substance was very complete, and the amount of carbon lost was comparatively uniform.

## New or Rare Plants.

NEW PLANTS EXHIBITED AT THE RECENT LONDON SHOWS.—Mr. Thompson, of Ipswich, exhibited *Nemophila atomaria maculata*; also three varieties of *Rhodanthe*, called *atro-sanguinea*, *maculata*, and *maculata alba*. The former was obtained among the limestone rocks in the neighborhood of Champion Bay, Western Australia. *Maculata* in appearance is a robust form of *Manglesi*, which was discovered by Captain Mangles, at Swan River. For this a First-class Certificate was awarded. The white variety, which promises to be exceedingly pretty, received a Label of Commendation; but all, owing to the wetness of the day and the consequent absence of sunlight, did not display their charms to so much advantage as they would have done had the day been brighter.

A very fine *Delphinium* was exhibited by Mr. Wheeler, of Warminster, to which the appropriate name of *alopecuroides*, or "like a foxtail," was given, for it was as close and thickly set as any Reynard's brush. The flowers being double, and the habit of the plant dwarf, its very closeness seemed to me to take off from the elegance of its appearance. For this a First-class Certificate was awarded.

From Messrs. Downie & Laird came a new branching Intermediate crimson Stock, not better than some out; and from Mrs. Conway, Brompton, some varieties of bedding Geraniums, &c., much behindhand; and from Mr. Wood, of Bedford Nursery, Hampstead Road, some fancy Pelargoniums, which we might have looked at fifteen years ago.

Mr. Dean, of Bradford, contributed a New Zealand Fern, called *Hypolepis distans*, which will, from its creeping and dumpy habit, be valuable as a pot variety, as it will trail over and cover the sides of the basket or whatever it may be in. For this a Label of Commendation was awarded.

Messrs. Carter & Co., of Holborn, exhibited some specimens of a new double *Clarkia*, very distinct and beautiful, much brighter in color than any of the older varieties, a rich rosy pink, and apparently quite constant in its double properties. A figure of this will appear in the *Floral Magazine*. For this a First-class Certificate was awarded.

The same award was given to a very magnificent scarlet *Verbena*, called *Foxhunter*, from John Miller, Esq., Upway, near Dorchester, brighter in color than any out, apparently a good trusser, filling up well in the centre, and very large. I measured one pip, one and an eighth inches across. Equal in size to *Grand Eastern*, but, of course, with a brilliancy of color it does not possess.

It thus appeared that, under rare circumstances, there might be no loss of nitrogen in the decomposition of nitrogenous organic matter; but that under a wide range of circumstances, the loss was very considerable—a point, it may be observed, of practical importance in the management of the manures of the farm and the stable.

Numerous direct experiments showed, that when nitrogenous organic matter was submitted to decomposition in water, over mercury, in the absence of free oxygen, there was no free nitrogen evolved. In fact, the evolution in question appeared to be the result of an oxidating process.

Direct experiments also showed, that seeds may be submitted to germination and growth, and that nearly the whole of the nitrogen may be found in the vegetable matter produced.

It is observed that, in the cases referred to in which so large an evolution of free nitrogen took place, the organic substances were submitted to decomposition for several months, during which time they lost two-thirds of their carbon. In the experiments on the question of assimilation, however, but a very small proportion of the total organic matter is submitted to decomposing actions apart from those associated with growth, and this for a comparatively short period of time, at the termination of which the organic form is retained, and therefore, but very little carbon is lost. It would appear, then, that in experiments on assimilation no fear need be entertained of any serious error arising from the evolution of free nitrogen in the decomposition of the nitrogenous organic matter necessarily involved, so long as it is subjected to the ordinary process of germination, and exhaustion to supply materials for growth. On the other hand, the facts adduced afford a probable explanation of any small loss of nitrogen which may occur when seeds have not grown, or when leaves, or other dead matters, have suffered partial decomposition. They also point out an objection to the application of nitrogenous organic manure in such experiments.

Although there can be no doubt of the evolution of hydrogen during the decomposition of organic matter under certain conditions, and although it has long been admitted that nascent hydrogen may, under certain circumstances, combine with gaseous nitrogen and form ammonia—nevertheless, from considerations stated at length in the paper, the authors infer that there need be little apprehension of error in the results of their experiments, arising from an unaccounted supply of ammonia, formed under the influence of nascent hydrogen given off in the decomposition of the organic matter involved.

[To be Continued.]



From Mr. Bull came *Phalenopsis Schilleriana*, an excellent thing, but too small to be awarded any thing as yet; *Cyanophyllum speciosum*, not so good as the older variety; *Begonia Xeramis*; *Calceolaria Sparkle*, &c.

Messrs. Veitch & Son sent a very pretty *Calendrina umbellata major*, a rock plant from Chili. For this a Label of Commendation was awarded; as was also a very pretty *Primula* from the snow line of the Andes, and therefore quite hardy.

Messrs. Charlwood & Cummins, of Covent Garden, sent a very beautiful variety of *Nemophila*, called *Discoidalis elegans*, with all the habit and appearance of its parent, but with the petals of a rich mulberry, edged with white. It was considered very striking, and received a Label of Commendation. This will be figured also in the *Floral Magazine*.

Mr. G. Smith, of Hornsey Road, sent two new *Verbenas*—"The Moor," very dark, and *Fireball*, which might have been accepted had not Foxhunter been before it. He also exhibited a very nice stand of blooms of various kinds, including *Grand Eastern*, *Garibaldi*, *Madam Zindier*, &c. For this collection a Special Certificate was awarded. He also sent a good plant of his dwarf bedding *Calceolaria "Canary."*

Mr. Melville, of Dalmeny Park, sent several varieties of *Tropæolums* and *Sweet Williams*. Some of the former were very promising as to shape and substance, but more was required to be seen of them before a judgment could be pronounced.

**HUNNEMANNIA FUMARIÆFOLIA.**—Described by the Horticultural Society as a fine half-hardy Perennial, (flowering the first year,) allied to *Eschscholtzia*, having similar finely cut foliage, and producing bright yellow poppy-like flowers, (with robust and erect habit); it is a desirable plant, with the general habit of *Eschscholtzia*, and adapted for similar purposes.

**CAMELLIA SPIRALIS RUBRA.**—A seedling raised by the late Noel G. Becar. The form of the flower resembles a screw, and is very curious. The spirals are remarkably symmetrical. The color and substance unexceptionable.—*Horticulturist*.

## New and Rare Fruits.

**APPLE FROM MR. CASPAR HILLER.**—A very handsome apple of the size, and much resembling *Sine Qua Non*, but to our taste not quite equal in flavor to that good kind. It may possess other qualities superior to it that would render it worth naming and

disseminating. The following is Mr. Hiller's account:—

"I to-day send you, by Adams & Co.'s Express, a few specimens of an apple which I have called "All Summer." It is a variety that originated in this locality. The original tree died a few years ago, and was probably over sixty years old. The specimens I send are rather above the average size they usually are this season of the year, but as the season advances they become larger. We frequently had them in use from early in July to the middle of September. It is remarkable for its good bearing qualities—it having failed but once in twelve years—that being the summer of 1860. That year the fruit was the size of peas, when it was cut off by unfavorable weather. This year, it and *Hubbardston Nonsuch* are the only kinds in an orchard of sixty varieties that have a full crop of fruit. Habit of young trees very upright, but slender branches, which by the heavy crops become drooping."

**JOCELYN'S BLACK CAP RASPBERRIES.**—Mr. Peck has sent us some of this improved Black Cap, with which we are much pleased. The berry is fully twice the size of the common Black Cap, is more fleshy, very productive, and has the full flavor peculiar to the wild plant. The fruit has brought a good price, and it may prove a valuable kind for market.—*Horticulturist*.

## Domestic Intelligence.

**STRAWBERRIES.**—Concluding our call at Mr. Downing's with the trial of an excellent sample of sparkling bottled cider, we proceeded perhaps two miles farther along the Valley, passing through Downingtown, to the farm of Dr. J. K. Eshleman, President of the Fruit Grower's Society of Eastern Pennsylvania. And here we may take occasion to say that of all the various localities in which the *Wilson's Albany Strawberry* has become a favorite variety, we have never visited any where it seems more completely to have cast all others into the shade, than here in Chester County. Dr. E. could raise five, if not ten times the quantity of fruit from it, as from any other kind, with the same care and on the same land; he has tested sixty-two varieties, so that he is qualified to speak, and out of them all had determined to retain but three—*Walker's*, which he prefers for his own taste, *Burr's New Pine*, and the *Wilson's Albany*. Of the *Wilson's Albany*, he had had twenty quarts from a bed containing sixty and a half square feet; the first year after planting it produces well, the second year still better,

the third year about as much as the first, after which new beds are formed. At the meeting of the Fruit Grower's Association of Eastern Pennsylvania, in June, 1860, there were twenty-five votes given for *Wilson's Albany* "for general culture," while the highest received for any other sorts were eight votes for *Hovey*, and seven each for *Triomphe de Gand* and *McAvoy's Superior*. At the same session *Triomphe de Gand* stood highest "for special or amateur culture," having eleven votes, while *Vicomtesse Hericart de Thury* (can't some ingenious pomologist propose an abridgment of this formidable name?)—how would *Hericart* answer alone, for instance?) stood next, having ten votes.—*Country Gentleman*.

**DESCRIPTION OF SOME NEWER STRAWBERRIES.**—*Bonte de St. Julian*, (Carre.) Early, large, round, very sweet, fine flavor, perfumed; very productive. *Duc de Malakoff*, (Gloede.) Conical, very large, often monstrous, deep scarlet, round or coxcomb, firm, sweet, apricot flavor; plant, vigorous, productive, superior for forcing; has weighed 1½ ounces.

*Empress Eugenie*, (Knevett.) Monstrous berry, has weighed 1¼ to 1½ ounces; ovate or coxcomb, deep glossy crimson, red flesh, juicy, sweet, delightful flavor, exquisitely perfumed; vigorous, very productive; forces well.

*English Lady's Finger*. Oblong form, orange scarlet; white flesh, sweet, high flavor, vigorous, productive.

*Imperatrice Eugenie*, (Gauthier.) Large, conical, bright glossy roseate, handsome, firm, sweet, perfumed.

*La Constante*, (Jonghe.) Very perfect in all respects; large, regular cone, brilliant scarlet, very firm, sweet, perfumed, exquisite flavor; ripens late; plant, dwarf, vigorous, very productive; succeeds in all soils and situations; forces well.

*La Delicieuse*, (Loué.) Large, round or flattened, apricot color, yellowish flesh, very sweet, perfumed; plant, vigorous, productive; very late.

*La Grosse Sucree*, (De Jonghe.) Large, oblong, crimson at maturity; flesh, white, solid, sweet, highly perfumed; vigorous, very productive; quite late.

*La Sultane*, (Nicaise.) Magnificent fruit, large, conical, often too seemingly united, brilliant scarlet, glazed; flesh, white, solid, juicy, sweet, highly perfumed; plant, very vigorous, productive.

*May Queen*, (Nicholson.) Very early, round, rather large, pale scarlet, sweet, fine aroma, excellent; earliest of its class; vigorous, productive; forces well.

*Mrs. D. Neilson*, (Stewart and Neilson.) Large, variable in form, orange scarlet, juicy, sweet, high

flavor; plant, vigorous, productive; ripens very late.

*Napoleon III*, (Gloede.) Large, round or flattened, bright roseate; flesh, white, solid, sweet, delicious flavor; plant, very vigorous and very productive; ripens late.

*Oscar*, (Bradley.) Large, often monstrous, rounded, flattened, sometimes coxcomb; deep scarlet, firm, very sweet, aromatic, exquisite flavor; plant, extremely vigorous and productive; ripens early, forces admirably.

*Princess Frederick William*, (Niven.) Earliest of the pine family, rounded, coxcomb; large size, brilliant scarlet, solid, sweet, high flavor; very vigorous, productive; forces admirably.

*Wizard of the North*. Very large, variable form, bright red, firm, sweet, high flavor; vigorous productive.

*Wonderful*, (Jeyes.) Large, oblong, flattened, bright roseate, solid, sweet, fine flavor; plant, vigorous, very productive; ripens late.—*Wm. R. Prince, Flushing, N. Y.*

## Foreign Intelligence.

**VARIETIES OF PEACH FOR ORCHARD-HOUSE CULTURE.**—We should be much obliged to our friends if they would report what varieties of fruit they find best adapted to orchard-house culture; very little attention has been given to this subject in our country. When engaged, some years ago, in their culture, the writer had *Early York*, *Eliza*, *Druid Hill*, *George the IV.*, and *Early Newington* amongst his most successful kinds. A recent number of the *Cottage Gardener* says:—

A great deal of the success of the orchard-house depends on getting the sorts adapted for that mode of culture. For instance, those that make short joints are prolific, such as the *Grosse Mignonne*, and *Galande* peaches, *Elruge*, *Violette Hative*, *Downton* and other nectarines; but the *Noblesse*, *George IV.*, and trees of that class, are too long in the joints and of straggling growth. My best tree for this year is a *Downton* nectarine on which there are a hundred fruit well set, and most of them larger than a hazel nut.

**WHITE BOUQUET FLOWERS.**—The *Gardener's Chronicle* says:—

We see by a communication of M. Duchartre to the Botanical Society of Paris that there is a great demand for *White Lilacs* for *Ladies' Bouquets* in Paris in winter, and that as the common *White Lilac* will not force well and the flowers turn yellow,

M. Laurent Ainé meets the demand by causing the purple Lilacs de Marly to expand in perfect darkness at a high temperature. This variety forces very well, and thus treated produces flowers of a pure white, which do not acquire any color if gathered as soon as brought into light.

**FORCING CHICORY AND DANDELION.**—Young leaves of this are sometimes obtained in winter by sowing thickly in pots in a hothouse, and cutting the plants over as we do Mustard and Cress. A nice blanched salad is obtained from roots either stored or taken up as wanted in winter, the produce of seeds sown in rows fifteen inches apart in May. These packed with their heads uppermost in earth in pots or boxes will furnish a good produce in any dark place where the heat ranges from 40° to 50°. When much above the latter, the leaves get thin and flaccid. When no dark place is accessible, fill a pot or box, and put another of the same size over it, clapping some moss or clay putty between the pots, and stopping up the hole to exclude light. Dandelions make a good substitute. I have been glad to dig them up in severe winters.—Col. Gar.

## Horticultural Societies.

### PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of the Pennsylvania Horticultural Society for the month of August was held at Concert Hall, on Tuesday evening, the 29th ult.

Although, under the regulations of the Society, no formal competitive displays are made at the midsummer meetings, yet, on this occasion, some objects were exhibited in the highest degree noteworthy.

Jerome Graeff, gardener to George H. Stuart, Esq., presented the *Cyanophyllum magnum*, an ornamental foliage plant of great beauty. The specimen shown, which is only six months old, was in perfect health, highly colored, and of a size unparalleled in the exhibitions of the Society. It was about four feet in height, and the leaves measured three feet in length and sixteen inches in width. The Committee awarded Mr. Graeff a special premium of five dollars, for the skill manifested in the successful culture of this beautiful plant.

Messrs. P. Mackenzie & Son contributed a great novelty, the yellow verbena "Welcome." The flower is clear lemon yellow in color, and has a perceptible, sprightly, yet delicate fragrance. It has never been in bloom before in this city.

Mr. Matheson, gardener to F. C. Yarnall, Esq., exhibited a bunch of exotic grapes, the White Muscat of Alexandria, weighing nine and a quarter pounds. This noble specimen, which has never been equalled in any previous display, and which is probably the largest cluster of this variety ever recorded in the annals of grape culture, was perfect in every respect. The berries were very large and uniform in size, and of excellent flavor. This is only one out of nine bunches on the same vine, the aggregate weight of which is over fifty pounds, a product which has perhaps never before been obtained on a vine of the same age. Specimens of the foliage of large size, indicated the high health of the vine. The special premium of five dollars was richly merited by Mr. Matheson, who was requested by the Society to prepare an essay on his method of grape culture, to be read at the next meeting. Mr. Matheson has this season grown berries of the Black Hamburg measuring four and a half inches in circumference.

J. McLaughlin, gardener to J. B. Baxter, Esq., made a good display of pears and plums, mainly of the old favorite sorts, and among them, a seedling pear, much resembling in shape and appearance the Doyenne Sieulle, and a seedling plum, similar to the Blue Gage. We remarked, also, the Wuchlan Pear, a native Penn-

sylvania seedling, said to be of a very high quality. This collection received a premium of three dollars.

C. Harmar, Esq., brought a specimen of the Juliette and of the Schuykill Pear, the latter a seedling resembling the Regnier, of excellent quality, raised in West Philadelphia.

C. V. Hagner, Esq., presented a branch of a plum tree, profusely laden with fruit, entirely free from the puncture of the curculio, which had received no treatment or attention whatever.

An interesting conversational discussion ensued upon the new grape vine beetle, the *Myochrous villosulus*, the mildew on native and foreign grape vines, the black knot on the plum, the curculio and other kindred topics. The detection of quassia, recommended at the last meeting as a remedy for the myochrous, has since been tried by Mr. Saunders and found to be a most effectual preventive of the thrip, preferable for its convenience and certainty to any other.

It was stated, as the experience of the vine growers present generally, that mildew seldom, if ever, occurred on the exotic grape, unless currents of bottom air were admitted to the vines, and they united in recommending that no bottom ventilation be allowed, and top air only be given to the vines.

An increasing interest is manifested in these informal and instructive interchanges of opinion and experience.

### List of Roses.

Exhibited by Henry A. Dreer, at the June meeting of the Pennsylvania Horticultural Society, June 18, 1861:

**HYBRID PERPETUAL ROSES.**—Géant des Batailles, Madame Maison, Orléans, St. Louis, Dutchess d'Cambaceres, Theres-Appest, Plus IX, Lord Raglan, Pauline Lanseur, Cardinal Patuzzi, Augusto Mio, Caroline de Sansal, Louise Perroney, La Reine, Jacques Lafitte, Docteur Henon, William Griffith, Maria Portener, Queen Victoria, General Jacquemont.

**TEA ROSES.**—Devoniensis, Madame Bravay, Vicomtesse des Cazes, Laurette, Eugene Desgaches, Mad. Barillet Deschamps, Mad. Falcot, Madame Willernoz, Capuri, Ceris.

**BONBON ROSES.**—Marquis d'Balbiano, George Peabody, Aurora d'Guido, Julia d'Fontenelle, Reveil, Omar Pasha, Mad. Nerard, Docteur Berthet, Dupetit Thonars, Souvenir d' Malmaison.

At the previous Meeting of May 20th, P. Mackenzie & Son exhibited:—Azalea variegata, A. Iveryana, A. symmetry, A. Barclayana, A. Gladstonesii, A. Juliana, A. Beauty of Europe, A. Rhododendroides, A. Perryana, A. Lateritia, A. Conqueror, A. Mailandi, A. Eulalie Van Geert, Coleus Blum-eii, Escallonia nana, Cytisus racemosus, Tetratheca Hugellii, T. verticillata, Tonia Asiaatica, Double Crimson Primrose, Allamanda nerifolia, Dactena nobilis, Maranta pertiana (New), Fuchsia Guilding Star, F. Diadem of Flora, F. fol. variegata, Lechenaultia formosa, Genium Amazon, G. Painted Lady (new), Hibbertia Reidii, Caladium argyrites, C. Chantini, C. bicolor picturata, Campylbotrys discolor, Alyssum saxatile, Linum candidissimum White (new), Gardenia radicans major (new), Verbena celebra (new), V. Salladin (new), Lycelmis Hageana (new), Cuphea miniata (new), Gazania splendens (new), Aralia papyrifera (new) the Chinese Paper Plant, Gesneria densiflora (new).

### AMERICAN INSTITUTE FARMERS' CLUB.

At the meeting of the American Institute Farmers' Club, June 24th, at New York, Andrew S. Fuller, Nurseryman, Brooklyn, exhibited a number of his new seedling strawberries and the committee appointed at the last meeting, consisting of Wm. S. Carpenter, L. A. Roberts, and Peter B. Mead, made the following report:

"We have been much assisted in forming a correct and reliable opinion, as Mr. Fuller has growing, beside his seedlings, and receiving the same care and cultivation the following popular varieties: Wilson, Hooker, Boston Pine, Jenny Lind, Triomphe de Gand, Oscar, La Constante, Wonderfull, Wizard and the North, and many others, enabling the committee to compare his seedlings with these. From the great number of seedlings, comprising many thousand plants, 100 kinds might be selected, none of which would be inferior to some of the varieties now propagated for this market; yet the committee believe that the number now in cultivation should be reduced. A selection of six varieties would be a sufficient number to furnish a succession of fruit. This select list of varieties should be adapted to general cultivation. With all the boasted success with new and improved seedlings, there seems to have been little progress made toward completing such a list; the Committee can name but two varieties, the Wilson and Triomphe de Gand, that they could recommend for general cultivation, and the first of these is considered by some far from being perfect. The great effort now being made to ameliorate the condition of this fruit must result in the production of greatly improved varieties, and the committee hope Mr. Fuller will feel encouraged from his past success to persevere until he has accomplished his desire, viz: the production of a perfect strawberry. The committee feel the responsibility of recommending new varieties that have been tried but one or two years. Many of the new seedlings that have lately been introduced have been overrated, and they would caution the public against purchasing any new variety without its first having been tested by responsible parties, for at least three years; for the true character of a strawberry cannot be established

in less time than this. They trust Mr. Fuller will not allow his seedlings to be disseminated this year, but let their merits be established by another year's trial; but this Club appoint another committee who will test their value and report after another year's fruiting, we shall then have something reliable, and public confidence will be established. In testing Mr. Fuller's seedlings, the committee adopted the following requisite to entitle a variety to consideration: Large size, good flavor, high color, firm and solid, great productiveness, foot stalks well up, and good foliage. The committee believe that the following six varieties possess, in a greater degree, the foregoing properties than any other kinds they are acquainted with. They name the following seedlings in their order of excellence, using the numbers heretofore annexed.

No. 5 is named by the committee, Farmers' Club, is of the largest size, flavor very good, color a beautiful glossy crimson, flesh dark pink, solid, firm, foliage good, footstalks well up, very productive, staminate or perfect flower, seedling of the Wilson, first year's fruiting, very promising of being well worthy of cultivation.

No. 53, named Brooklyn Scarlet; size large, flavor best, color brilliant scarlet, shape long, pointed cone, solid, firm, very productive, foliage good, footstalks well up, perfect flower, fruited two years, and shows no deterioration.

No. 29, named at the suggestion of Solon Robinson, was Col. Ellsworth; size very large, oblong, irregular cone, with neck, color dark crimson, flavor good, solid, flesh dark pink, ripens early, foliage good, footstalks well up, as productive as the Wilson, perfect flower, fruited two years, very promising, seedling of Peabody's seedling, and remarkable fine berry.

No. 42, named Great Eastern; extra large, brilliant scarlet flower, good, solid, tolerably firm, very productive, foliage good, footstalks well up, perfect flower, fruited two years. The committee believe this to be one of the largest berries in cultivation.

No. 7, named Ridgewood; size large, flavor best, color dark crimson, solid, tolerably firm, very productive, foliage good, footstalks well up, perfect flower, fruited two years, promises well.

No. 34, named by committee Nero; very large, color dark glossy maroon, seeds yellow and very prominent, solid, very firm, and dark throughout, very prolific, flavor very good, foliage good, footstalks medium, pistillate fruited two years, promises well.

The following varieties, seedlings of 1860, Nos. 1, 12, 23, 45, 43, and 56, the committee consider very promising, and recommend another year's trial. No. 14, though this year not of the largest size, maintains its productive character, and for flavor is not equalled by any berry in Mr. Fuller's collection. The variety reported last year as the *unifolia*, has this year, in a great measure, lost its specific character; and it may be considered more curious than useful.

After considerable discussion, and a full examination of specimens of the fruit, the report was heartily accepted by all the members of the Club, and at the suggestion of Mr. Pardee, the same committee were requested to hold the subject in charge, and report their opinion of the same sorts next year. It was also suggested to Mr. Fuller not to send out any plants of these new sorts until he has given them the test of time to prove them worthy of cultivation.

### CINCINNATI HORTICULTURAL SOCIETY.

Saturday, August 3, 1861.

The Society met this morning, John H. Gerard, Esq., in the Chair. Minutes of the previous meeting read and approved.

Upon motion of Mr. Addis, Messrs. John P. Foster, Robert Buchanan and E. P. Cranch were appointed a committee to prepare a suitable paper upon the life and horticultural history of Peyton S. Symmes, Esq., recently deceased.

#### PAPER ON VITAL FORCES IN PLANTS.

The Secretary then read the following paper: CINCINNATI, O., March 7, 1861.

D. B. Petros, Esq.—Dear Sir: Agreeable to your request for a subject for the consideration of yourself and your horticultural friends, I will suggest that of Motion, or the Vital Force in Vegetation. Much has said by our writers about proper nutrition for plants, while that which is equally as important is barely hinted at, as though to comprehend all that may ever be known on the subject. Vital force, or motive power, is one thing, and food made nutritious for plants by chemical action, is another thing. However nutritious the food may be of itself, it is in a static condition, and cannot be transferred to the plant, or tree, against gravity, unless by some adequate force; mere heat can't move it, while heat may cause fluidity and elasticity. Electricity is used to transfer metals in galvanizing, and as a motive power to machinery, and is doubtless our nerve power, or vital physical principle, derived by combustion of our food and air in our lungs, instead of oxygen, as we are taught, which is merely the heating principle of our natures, instead of vital principle.

I will refer you to Patent Office Reports for 1844, pages 368-371, for interesting experiments in electricity quickening growth of

different vegetables. Browne's American Muck Book, page 13, briefly refers to them. We know that the electrical condition of any matter is affected by any change of its density or composition. That chemical action or decomposition sets free latent electricity; that the stirring of the earth by plowing, giving the air and sun access to the decomposable matter of the soil, produces some change, and promotes electric currents; the earth and atmosphere being in different electric conditions, and the sap being a good conductor, electricity flows and conveys the food prepared by chemical action to where it is needed. Unless this is so, why, in said experiments, did the vegetables grow so much faster? The ground was not made the richer by the electrical arrangement. Was it not because there was additional labor performed in supplying the increase nutriment, as in increasing the labor of carrying the bricks for expediting the completion of a building?

May not Leibig unconsciously derive this motive power by the use of his mineral manures? May not there be greater chemical use of his mineral manures? May not there be greater chemical use of his mineral manures? May not there be greater chemical use of his mineral manures are used, especially if composted with animal and vegetable manures? Will not the variety of composition of such a compost intensify chemical action, promoted by the rains, soil, sun and air, and thus furnish to vegetation an increased motive power, to convey the increased nutriment to plants. If so, then it is a question to consider in connection with greater production and vitality of trees to resist disease.

It is a common thing to hear of peach trees living and bearing forty or sixty years on the high iron lands of Ohio and Indiana. Doubtless, elevation of position has something to do with bearing, while the iron has much to do with the health of the tree and their age. Many will say new ground is the best, because of its greater supply of nutriment. I will say, because of the decay of that nutriment, creating greater vital activity, without which nutriment would be of no use.

Field's Pear Culture refers to use of iron for pear trees.

Nails and iron have been used to save peach trees.

George Graham, Esq., has used iron on pear trees to cure blight. Why? unless because of the electricity generated by the oxidation of the iron, and its being taken up by the sap—as in case of our blood—as a tonic.

I. C. Ferris informs me that he knew of two large pear trees cured of the blight by being struck by lightning.

Electricity pervades all matter, and that matter cannot be changed and retain its latent electricity.

Read Cornhill Exchange, London, of Robert Clarke, Cincinnati, 1860, p. 167, &c., "Why we Grow," and you will find that life is given out by decaying matter to living matter, loss and gain constantly go on, one equivalent to the other.

P. 157.—"But according to the view which I now propose, decomposition is necessary to develop the force by which organization of food or nutrition is effected, and by which the various purely animal functions are carried on; that decomposition not only creates the necessity, but at the same time furnishes the force of recombination." What is this force? is the question.

Leibig's Complete Works on Chemistry, last chapter, pp. 24-33, on chemical processes and change of place as affected by electricity—see.

Without being lengthy, many works on electricity may be referred to, showing it to be the silent mechanic at work for us while we are asleep, building up for us our food, &c., its power depending on the intensity of chemical action going on in the soil, arising from diversity of elements of the soil, its condition of vegetable, mineral manures, nature of the soil, its condition of moisture and porosity, air, sun, heat and frequency of stirring, and the application of this power to what we wish to cultivate, depending on the ground being free of weeds, &c., which will equally appropriate this mechanical power.

If in the above experiments referred to, there had been seeds permitted to appropriate a portion of the power developed by the decomposition of the metals used, there would have been less growth of that cultivated. A certain extent of electricity developed naturally or artificially, is essential to something else, and if that electricity is partly appropriated to something else, the power being divided, the aggregate growth of the tree is but equal to what the one should be; hence the necessity of clean grounds, well stirred, enriched with a variety of manures to favor the greatest chemical action, and development of the greatest amount of mechanical power. If these crude, ill-digested, hasty ideas should prove to be true, on being investigated by competent horticulturists and agriculturists, they should be prepared for the press. Nutriment is one thing, and the motive power to transfer it another. A child might starve if its mother should refuse to carry its food to it. The food would spoil before conveyed, if the child must come to it. The tree must be supplied; neither tree nor food can move of themselves. Nature has furnished in the food itself, during its preparation, its motive power.

You have scientific associates who would probably be glad to make some experiments showing that the same soil may be made to produce much more largely by increasing the production of the motive power. It can be done in a hothouse at a small outlay.

We have valuable manures thrown away in the city, worth more than would support our poor and needy. Ashes, gypsum, blood and tank refuse, if dried and ground with bones, is as good as guano, hoofs, hair, lime, charcoal and annual black night soil,

&c., &c., and their use effective if above suggestions are true.—Iron pyrites can be had cheap.

Nature has bountifully supplied us with all sorts of nutriment as well as the *working power* to combine and re-arrange matter. Contact is essential to promote chemical action; hence, necessity of frequently stirring the soil, to allow new air, new sun-heat and light, promotive of chemical action in soil, from which the *nutriment* power is derived; while nature furnishes chemical action in the leaves of vegetation, by the action of the sun on the sap in the leaves, and the friction of the winds yielding electricity of the air; the atmosphere in its electrical condition, differing from that of the earth, begets the *negative* and *positive* action sufficient to overcome the gravity and transfer matter to where needed.

We see the superior progress and civilization of our day arises from the subjection of physical laws to mental ones, as in the employment of steam power for stationary and moveable machinery, chemistry, electricity, &c.

Much has been said relative to the food of vegetation, while but little is thought and said about these silent means, or *mechanical* principles *quietly* at work in furnishing us food. If this matter is put in the hands of really *competent scientific* minds, disposed and able to give it that attention the subject deserves, good may be derived. Great vitality promotes health and resists disease in our animal systems, and so may vitality in vegetation promote health. New grounds, having the unexhausted elements as iron, salts, &c., do make better trees. There are localities where trees are long-lived and healthy, where the essential elements may pertain to the soil, and which may illustrate my thoughts. Decay of any manures, in soil, necessarily releases electricity, while it is desirable that there should be mineral manures for greater power and continuance; hence, the necessity of knowing contents of the soil. The condition of the ground materially affects the supply of vegetation, with whatever there is of nutriment in the soil; if the ground is hard and woody, or grassy, but little *nutriment* power can be secured, and that little so *subdivided* with that which is useless, that that which is cultivated cannot be built up.

Take a microscope and examine the operations of nature in regard to *motion* during change of properties of matters; mash seed and acidulated water on it, on a glass under a microscope, and observe the varied motions under the electrical disturbances going on; mere absorption of that water could not beget such action or recombination. The experiment will be suggestive of many others. I have very hastily, of a night, and without any attempt to systematize ideas or to do it creditable to myself, or the subject, just penned my thoughts as presented as *mere suggestions* to those more competent; nor have I time, nor ability, to do the subject justice, and I desire others should consider the matter on its *own merits* without regard to the source of these suggestions.

Many residents of the country could afford to drain 100 feet square, for garden grounds, with cheap iron pipes, and connect them with a galvanic battery, continually working during the growing season, materially affecting the growth of vegetation; if the experiments referred to are reliable—the ground being drained, becomes more porous, the air and life promoting greater chemical action, and hence, a greater supply of the motive power.

Life must be preceded by the dissolution of matter of various kinds. By means of telegraphic machinery, operated by electricity, as released from the decomposing metals, we are in union with the world; and was it not for this power, it is doubtful if chemical action could be secured, and if it could be, it is doubtful if, with air the nutriment of the soil. Vegetation would, what we can grow, for want of a power to bring together the various elements composing our food. If these ideas are correct, we should seek a more *familiar* acquaintance with so *ingenious* and so *good a mechanic*, unceasingly employed in supplying our wants. But few, however, are prepared to think that such a *universal mechanic* exists, because but *little known*. We introduce the gentleman, as worthy of our gratitude and highest esteem, and don't doubt but he will treat the most humble, in seeking his acquaintance, in accordance with his known liberality.

"Leibig" is right in claiming use of minerals and other vegetable manures, but neither have seen the above philosophy. Minerals, by creating greater vitality, economize what little nutriment there may be in soil naturally.

Capillary attraction in *dead* and *living* vegetation may be very different. The simple *adhesion* of fluids to *sides* of capillaries in *dead* matter, will overcome but a slight amount of *gravity*, the *sides* of the capillaries *probably* having lost their contractile organs and tenacity for electricity or conducting power. The living capillaries are *probably* endowed with slight contractile organs and powers of conducting electricity, there being a perfect connection between the roots in ground and leaves in the air, by capillaries, to hold and conduct the sap to the leaves, where it is elaborated. The chemical action, during change, disturbing the electric condition of the ascending and descending capillaries, one being negative and the other positive, draws up the sap against gravity, and allows the elaborated sap to be operated on by gravity, and descends. On severing these capillaries, the sap flows down, because the capillaries above the wound have lost the electrical condition resulting from a perfect connection of the negative and positive capillaries or nerves attending each. Hence, a loss of the mechanical power of drawing up the sap; the positive electricity adhering to sides of

ascending capillaries, attracting each drop of the sap, and overcoming gravity, operating on the aggregate weight of the minute column.

No such a column of fluid can ascend a *dead* capillary. The oil ceases to ascend a wick as soon as the combustion ceases, and it is doubtful if the electricity constantly evolved during combustion does not materially promote the ascent of the fluid. A fluid will rise to the upper end of a short wick or tube, but will not flow over, unless the end be bent downward, forming a syphon, the descending liquid drawing up the liquid. Some other power must be seen to account for ascending sap in trees, than mere capillary attraction, or mere adhesion to sides of capillaries. There is no analogy between the limited ascent of a fluid in a *dead* tube, and the great height of ascent in *living* tubes. While fluids will rise many feet in a living tree, let that tree be severed from the earth and die, and then its dead roots placed in water, and a fluid would not rise in it the twentieth extent of its length, showing some living or vital principle at work, attracting upward the sap. There is a power of attraction as well as repulsion; heat radiates because attracted, and thus diffuses and equalizes. So electricity, by virtue of its release during chemical action in the soil, is active in the earth, and also in leaves of trees, the two being connected by nerves, or the conducting power of the capillaries. Those disputing the theory of attractive power of electricity, thus generated, accounting for capillary attraction, should explain why sap will spill out when capillaries are cut, and electric connection between earth and leaves severed. If mere capillary attraction must account for ascent of sap, then dead pieces of trees, or fresh cut parts of trees, would equally suck up the sap. My proposition is sustained by experience.

Elongated cells, or tubes, or capillaries, have a *mechanical form*, the same as our blood-vessels, to serve as canals to convey fluids from which the plant is built up; and while they thus serve such a purpose, we must look elsewhere for the *nutriment power* to the movements of the sap. As yet but little is known of this *nutriment* power in plants and animals. We do know that in every change of density of matter, or chemical change, electricity is disturbed and flows, or is released, and seeks to be industrious in promoting new arrangements, by carrying matter subject to certain laws in recombining. It is not unlikely that the living tubes or capillaries, formed of cells elongated, have a kind of valves, alternately contracting by electric excitement, forcing upward the sap, which valves, could they be laid open under microscope, could be seen; if not, then the tenacity of sap, adhering to sides of tubes, must arise from the perfect electric condition and connection between roots and leaves.

*Motion* presupposes something more than mere *mechanical form*. Our physical systems are powerful *galvanic batteries*, manufacturing the life force, or vital physical principle, during combustion of air and carbon in lungs and chemical action of food in stomach; the heart between the two, positive and negative conditions, derives its force of propulsion of blood through our arteries and veins, from the attractive forces of the two electricities. The mechanical form of tubes may remain, and yet no action or motion can go on within them; there must be *life* derived from *death*, the release of the bound up living principle in dead matter, by its chemical decomposition, and if there is no chemical change going on, no life force can be secured; hence, the force of my proposition, that ground must be frequently stirred up to let in light and heat, and aiding *contact of varied manures* or earthy matter, promotive of chemical action, an essential pre-requisite, to secure life and force, and when thus secured, not allowing that life force to be directed from that which is being cultivated to weeds, &c. This developed mechanical power must be directed only to that we cultivate, and extent of crop depends on extent developed of this life force, and to secure it largely we must furnish the soil with diverse manures, especially mineral manures, as furnishing more of life force, to work up the nutriment from animal and vegetable manures. The greater the diversity of manures the greater the chemical action, provided contact is promoted by frequent stirring and letting in light and heat of sun.

On motion, this paper was made the subject of discussion next Saturday.

FRUIT COMMITTEE'S REPORT, SATURDAY, AUGUST 3, 1861.

PEACHES—From George L. Smith, Warren county, Ohio; unknown; not ripe.

PLUMS—From P. Bush, of Covington, Kentucky, with the following notice: "We think them to be the *Duane's Purple*—he calls them the *Emperor*. Your committee render this opinion with hesitancy, having neither leaves nor shoots to aid in their identification of the variety, but the stone reminds us of the Duane."

"The tree from which these plums were pulled, grows over a cistern, from which water is frequently drawn, and the limbs are so heavily loaded that I had to relieve them of their burden. I had one measuring three-quarters of an inch in circumference.

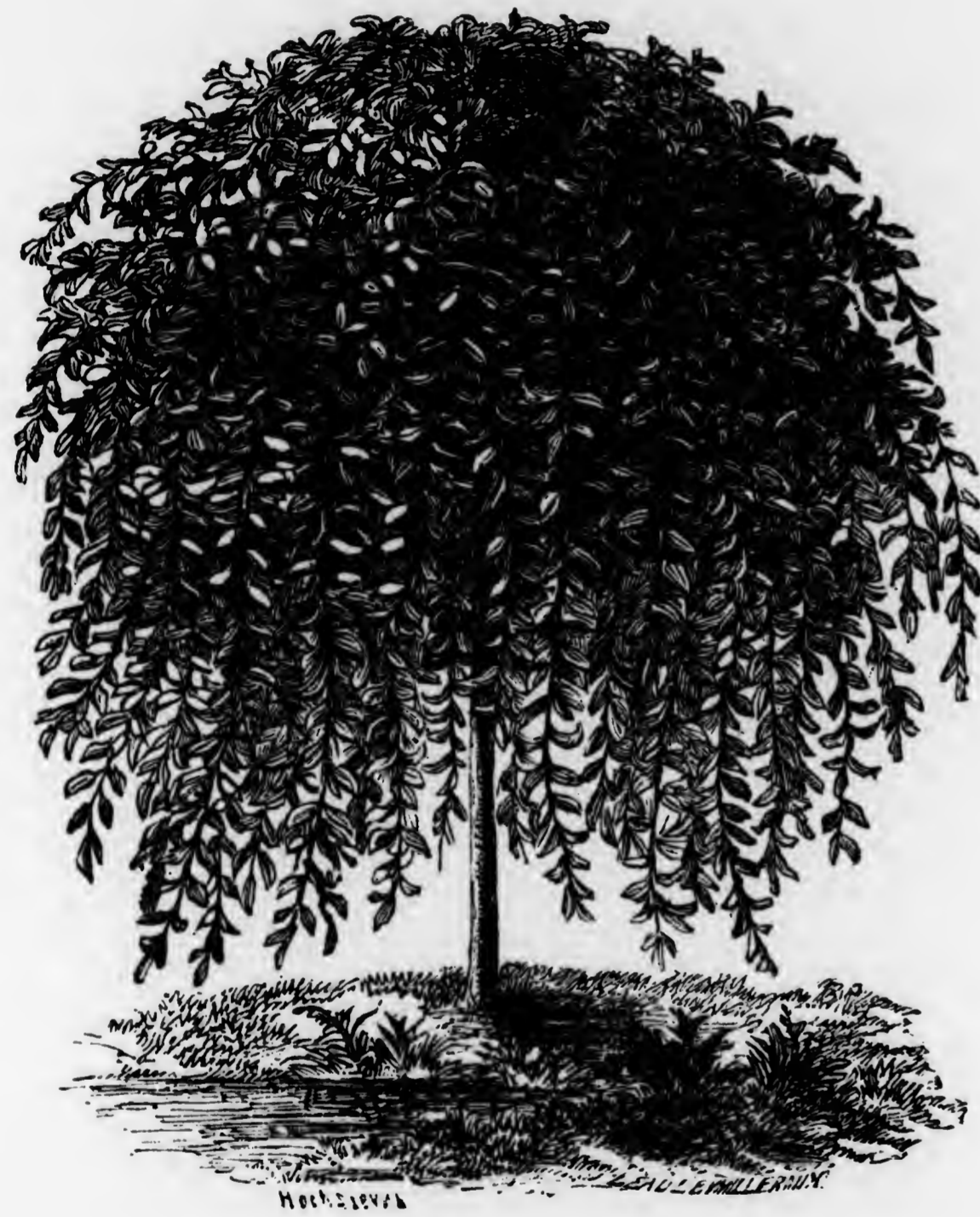
"The curculio have not disturbed them, nor indeed any of my fruit, to any extent."

PEACHES from L. Oakley, Kentucky, Crawford's Early, and Troth's Early, handsome specimens.

Report approved. J. A. WARDER, Chairman.

On motion, the Society then adjourned.

GEO. L. FRANKENSTEIN, Secretary.



KILMARNOCK  
WEeping WILLOW.

# THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

OCTOBER, 1861.

VOL. III.—NO. 10.

## Hints for October.



### FLOWER-GARDEN AND PLEASURE-GROUND.

A FRIEND remarked to us after the issue of our last number, that it was very discouraging to be told that ten per cent. on the original outlay should be the estimated cost of maintaining a place after its completion. He thought if that were generally known, it would prevent many from entering on country life. "My place," said he, "cost me about \$20,000, and I should be sorry to believe that I had to spend \$2000 annually to maintain it in decent order." As our friend's place embraces but five acres, we were surprised at the cost, but found he included *his house* in the sum named. Allusion is again made to the subject as other parties may have misunderstood our remarks. We referred simply to the *garden and its embellishments*. Those few places in the Union that have had \$20,000 spent on pure gardening, will not find \$2000 too high an estimate for their annual maintenance, and never ought to find, in that fact, any discouragement.

From remarks made by other friends, we learn that the observations offered on this subject have attracted considerable attention. We are pleased that they have done so. Gardening suffers no greater injury from any source than from parties who go ignorantly into its pursuit; and we can do both it and the citizen proposing to go into the country, no greater favor than to show plainly what gardening costs, as well as indicate the various ways in which pleasure may be derived from it.

Planting of spring bulbs, tulips, hyacinths, crocus, snowdrops, fritillarias, lillies, &c., and the transplanting of shrubs, and division of herbaceous plants, will occupy chief attention in October. All

herbaceous plants are much better for being protected through winter by a covering of dry leaves, on which a little soil is thrown to keep the leaves from blowing away. Half-hardy roses and vines may be protected in the same way. When they are very long and slender, they are taken down from their trellises, and coiled into circles as small as may be, without risk of breaking them, and then the soil put on. Those things that grow late, such as many kinds of Noisette Roses, should have their immature top shoots shortened a few weeks before the protecting process is commenced. The wound will then heal over, and not cause the decay of the upper portion of the shoots, as is very often the case when they are either cut at laying down, or not shortened at all.

Of course, those roots that suffer by frost, should be taken up before danger. Gladiolus, Madeira vines, dahlias, tuberose, &c., for instance.

Towards the end of the month almost all kinds of tree seeds may be sown, except pines, unless there is any danger from mice or other vermin. It is, on the whole, best as soon as the seeds are at hand, to place them in boxes with more than an equal bulk of sand, and set them out to the weather to freeze. They must be sown out in the spring as early as the ground will work. Some seeds will not germinate till the second year. If they do not appear early in the season, they should be examined to see if the kernels are sound, and if so, they should not be disturbed. Many seeds that usually come up the season after sowing, will not do so if the shells are allowed to dry and harden first. Cherries, peaches, and most fruits, will often lie so, and halesias, roses and thorns, occasionally stay three years. Seed-beds should be selected in a deep, warm and rich soil; and one tolerably free from the seeds of weeds,—on any other it will not pay to raise seedlings. In States where the frosts are severe, seedlings of all kinds that have not attained a greater height than six inches, should be taken up, "laid in" in a sheltered place thickly, and covered with any thing that will keep frozen through the winter. If left out, they are liable to be drawn out and destroyed. Young seedling stock received from a distance, should be also

so treated. In the more Southern States they may be set out at once,—and as much planting as possible be accomplished that will save spring work. Many cuttings will not do well unless taken off at this season and laid in the ground under protection, like seedlings,—the quince, syringas or lilacs, spiraea prunifolia, and some others. In the "mild winter States," evergreen cuttings should be made now, and set out thickly in rows. The leaves need not be taken off, but short, thickset branches laid in under the soil. When rooted next fall they may be taken up and divided into separate plants. In more Northern States, evergreens may not be so struck at this season, unless protected by greenhouses and frames. Where these are at hand, evergreens may be put in, in boxes or pans all through the winter.

#### GREENHOUSE.

We entered so fully into this department last month, in anticipation of winter, that we can add little now. As soon as the cold weather actually arrives, it will be the most interesting of all the branches of gardening. With but a single pane of glass dividing the tropical from the arctic zone, and yet so securely repressing the antagonism of each, we hardly know how any one can forego a greenhouse on some scale or other. If means cannot be commanded for even a small greenhouse, in these days, when improvements have enabled us to so cheaply construct them, at least a glass case with its ferns and leaf plants, will not be out of the question.

We shall have more to say on this head next month.

#### FORCING FRUITS AND VEGETABLES.

We have before took occasion to express surprize that this department of gardening did not receive more attention. The past volume of our journal has contained many instructive articles from contributors, and other valuable hints on cheap and easy modes of advancing crops, that will, doubtless, be referred to at this season, and preparations be made for adopting or testing them,—whether as a source of pleasure or profit, it is an equally delightful occupation, and we should like to see a greater enthusiasm exhibited in its behalf.

Potatoes, peas, beans, cauliflower, radishes, lettuces, tomatoes, asparagus, rhubarb and parsley, are the chief vegetables usually forced; and, among fruits, the apricot, cherry, fig, grape, nectarine, peach, plum and pine.

Grapes every one wishes to grow. For early forcing, they are best grown in pots, that is, where fire heat is used; when a "cold grapery" is em-

ployed to produce them, they are usually grown in the open ground. This is a good season to prepare for the latter mode of culture, so as to have every thing ready to plant out the vines next spring. Houses can now be constructed from one to three dollars per running foot, and capable of growing grapes to perfection, and, in many places, from fifty cents to one dollar a pound can be very readily obtained for the fruit. The borders for the vines need not be expensive. A dry bottom is essential, which must be obtained either by draining, or, what is better, elevating the border above the surrounding soil. A very durable and substantial border may be made by taking out the soil two and a half feet deep, and filling in with bones and broken stone, lumps of charcoal, brickbats, or any coarse material, to the depth of one foot, then filling in the remainder three inches deep with sods from an old pasture, to which about a third of well decomposed cow or horse manure has been added. The border may extend under the vinery, and some ten or fifteen feet beyond. Pot vines are usually fruited the year following that in which they are raised. Plants struck last spring, and grown all summer, will now be ready, either to put away till wanted in spring, or started at once, where sufficient heat is at command. They should be at once pruned to the desired length, usually about six feet, the laterals taken off, the canes painted with a mixture of sulphur and soap, to destroy insects; and those not just now required either put into a cellar or shed, secure from frost to avoid danger to the pots. Those desired to fruit early, should be at once placed in a temperature of 55 to 60 degrees, and the canes bent down to aid in causing all the buds to burst equally. This, however, depends on the condition of the cane itself. A vine with badly developed buds will not break well, no matter how well managed. The buds will only swell under the above temperature; but it is not well to start with much heat.

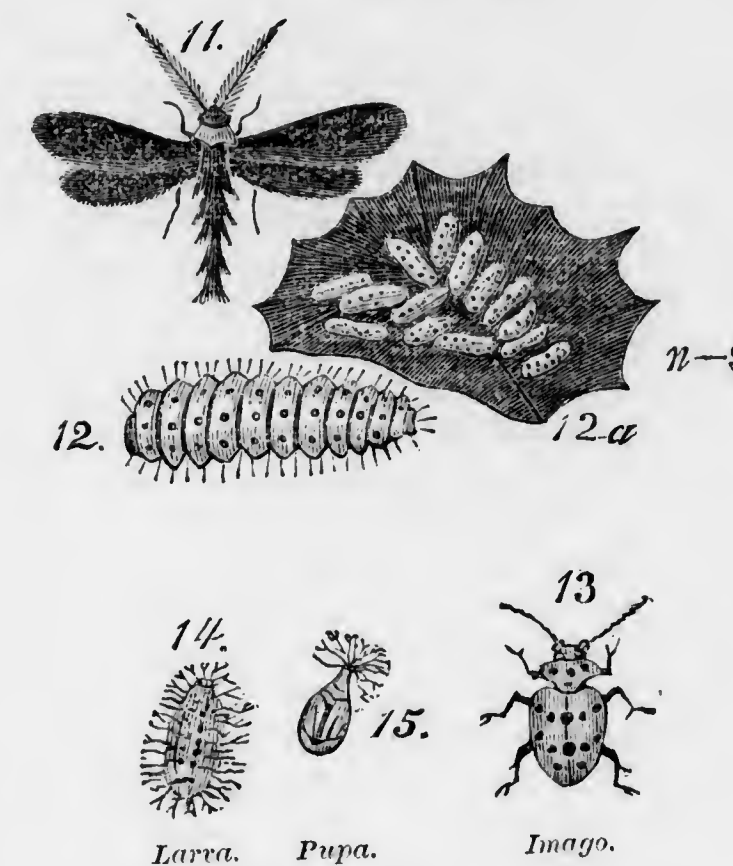
In a house of this character, the fig may also be started at the same time, and the pine grow very well. The other fruits named will not do so well started with these, unless in the hands of greatly experienced gardeners, as the heat necessary to ripen the grapes so early, is too much for them. Dwarf beans, tomatoes and cucumbers, would, however, do very well. These may be sown at once for this purpose. Peaches, nectarines and apricots, do pretty well planted at the back wall of vineries, and especially do they do well in tubs and pots. For the latter mode it is best to grow them one season before forcing, as better and handsomer specimens can be made from one year grafted plants. Now is the time to select those that we may desire to force the next spring. They should be lifted and potted

## Communications.

### INJURIOUS INSECTS.

BY S. S. RATHVON.

[Continued from Page 266.]



11, 12, 12a, PROCRIS AMERICANA.  
13, 14, 15, EPILACHINA BOREALIS.

*Procris Americana.* Fig. 11. Length, about three-eighths of an inch; expansion of the wings, a little more than three-quarters of an inch; color, blue-black, except the orange band around the anterior margin of the thorax; wings, narrow; antennæ, pectinated, and the abdomen terminated by a broad downy tuft. Fig. 12 is the larva; a yellowish caterpillar with sixteen feet, rather slender and cylindrical, and with a transverse row of small black velvety tufts on each segment. These insects are found in colonies on the grape-vine, arranged side by side, in the months of July and August, and sometimes do a great deal of injury to them, by despoiling them of their leaves at the time when they, perhaps, are the most needed. The caterpillar, when mature, is about three-quarters of an inch in length, and then seeks some unexposed place, where it spins itself into a sort of coarse cocoon previous to its coming forth a perfect moth. The specimen now before me was obtained on the first of August. From one to three broods is the produce of each season, according to the latitude of the locality. When these larvæ are touched, they all immediately curl their bodies sidewise, and sometimes fall to the ground, if they do not suspend themselves by a silken cord. All the former insects that I have been treating of as injurious to the grape-vine, belong to

very carefully, and afterwards placed in a cool cellar till February. Those that were potted last spring, and have a good growth, and are established sufficient to warrant an early forcing, may at once be started in a heat of from 45 to 50 degrees, and the heat increased to 55 deg. in the course of a few weeks. They should be previously cleaned, as already recommended, for grapes. Plums and cherries do not do very well forced. The difficulty is in getting them to ripen well. The writer has had the best success when started with peaches at this time. Strawberries force easier than any fruit, and certainly, when gone into properly, will pay even better than grapes. They may be had all the year round when a heat of 60 deg. can be maintained, simply by bringing forward a few every two weeks. The pots of plants should be prepared in September, six-inch size being employed. They should be started in a heat of 50 deg., till the flowers are set, and ripened in one of 60 degrees. They must be kept near the glass, and the red spider carefully watched. Those who have not command of heat, may have them very early by potting good plants, keeping them in a moderately dry place till February, and then setting them in frames. A house fitted for strawberry forcing, is just the place to force asparagus, rhubarb, radishes, peas and potatoes, which do not do well with much heat. Any of these may be started now either in pits or boxes. Peas are scarcely worth forcing, except as a luxury. They will not bear freely unless very near the light.

A cauliflower pit should be in every garden, where leaves or manure can be had. Radishes and lettuce can be forced at the same time, and will be in use before the cauliflower grows in their way. Pits of stone or brick, about six feet under, and one to two above the ground, are usually employed, with glass sashes over. The leaves should be filled in as early as possible, so as to get their most violent heating over, before the plants are set out. A watering as they are filled in assists this, which may be known to be effected by the sinking it exhibits. It is important to have the plants set as near the glass as possible; a few more leaves should, therefore, be added before the six inches of soil required is placed on. The plants, sown in September, should be planted fifteen inches apart, and lettuce and radishes may be sown broad-cast between. Asparagus, rhubarb and parsley, are prepared by taking up the old roots at this season.

AN OLD TURTLE.—Paoli Lathrop, of South Hadley, has had the same marked turtle visit his garden for thirty successive years. The only trouble he makes is to taste the cucumbers.—*Country Gentleman.*

the order *Coleoptera*, but this latter one belongs to the order *Lepidoptera*. There is also a species of *Tenthredo*, a *Hymenopterous* insect that feeds upon the grape-vine in the larva state, and which nearly approximates to the larva of the *Procris* in appearance; yet a little observation will be sufficient to distinguish them. When the larvæ of *Lepidopterous* insects are in a state of rest,—that is, the leaf-eating kinds,—they hold fast with the prolegs and raise up the front part of the body, to which the true or pectoral legs are attached; because the prolegs are better instruments of prehension, being each one surrounded with a little cornet of hooks turning inward. The contrary is the case with the leaf-eating larvæ of the order *Hymenoptera*; for their prolegs not being instruments of prehension, but only instruments of support, they therefore hold fast with the pectoral legs and throw up the hind part of the body when they are in a state of rest.

Besides one species of *Lepidoptera* that resembles the peach-tree borer, and at least three species of *Homoptera*, that attack the stem and trunk of the grape-vine, Dr. Asa Fitch enumerates at least twenty species of *Hymenoptera* and *Homoptera* that attack the leaves, and also ten species of *Lepidoptera*, seven species of *Coleoptera*, and three or four species of *Orthoptera* that attack the same parts of the vine. I cannot in this paper even mention the names of the different species of these, much less give their history. Amidst this host of enemies the grape-vine would have to run a fearful gauntlet, if other contingencies did not occasionally intervene, in order to check their too rapid increase. Many of those referred to by Dr. Fitch are inconspicuous, and others infest particular localities. I have only noticed a few of the most prominent ones. Before concluding this appendix, I must present the destructive *Coccinellan*, or lady-bird, to which I alluded in some former remarks, made at West Chester in June last. *Coccinella epilachna borealis*, Thr. Fig. 13. Length, from a quarter to three-eighths of an inch; tortoise-shaped; color, ochrey-yellow; seven black spots on each wing-cover, three at the base, three intermediate and one near the apex; four black spots on the thorax, one in the middle near the scutum and one on the anterior margin immediately opposite, and one on each side near the lateral margin; eyes, dark brown; legs, yellow, underneath the abdomen brown. This insect, when taken, discharges a globule of limpid yellow liquid of a very disagreeable vegetable odor.

Fig. 14, Larva. Length, three-eighths of an inch; color, a bright gamboge-yellow; six yellow pectoral legs, tipped with brown, and terminating with a single black hook; no prolegs; body divided into a head, eleven segments with black branching

spines standing erect, and a dark orange caudal segment, destitute of spines; the spines are gamboge-yellow at the base, and are arranged laterally and transversely in rows, six rows longitudinally and six spines in each row transversely; on the first segment from the head are only four spines, on the second segment six, and on this and the third and fourth they do not range with the remaining segments; head, much drawn under the first segment; mandibles, brown at tip, robust and short; eyes, brown and projecting from the head; antennæ, yellow and short. In eating, this larva reaches the head forward, and then gradually draws it in under the first segment, after the manner of *Lepidopterous* larvæ; but it does not seem to swallow the pulp, only scraping it off and pressing it together and sucking out the juice, leaving the expressed pulp remain in little ridges. I obtained this larva on the second day of August on a pumpkin-vine, and after letting it fast about a day, (during which time I had illustrations made of it,) I confined it, and placed part of a pumpkin-vine in with it, when it immediately commenced eating most voraciously. When first taken, it exuded a yellow limpid liquid, having rather a disagreeable odor. This larva is not new to me, but I have not heretofore been able to identify it with any particular species of mature insect. It differs very materially in its form from the *Coccinellans*, or at least from those that are *Aphidephagous* in their habits, being larger in size, more gibbous, and the head almost entirely concealed. On the 8th day of August it had passed into the pupa state (Fig. 15), merely fastening itself by the caudal extremity, with the head downward, and pushing its spiny skin backward, just as if a person were to push his breeches down to his heels and there let them remain in folds. The pupa was about a quarter of an inch long, widest at the anterior part and narrowing backward to the posterior, somewhat pear-shaped; the color was a gamboge or ochery-yellow, and it was without the spines that the larva had, but instead thereof, it was sparsely covered with short black hairs. On the 16th of August the mature insect evolved from the pupa, leaving a thin transparent pupa-case behind. This insect has often been detected, in its mature state, eating the leaves of cucumbers, cantelopes, and other melon vines, and it is now also demonstrated—if not previously—that the larvæ also feed upon those vines; and therefore it can no longer be classed with insect friends, although it was for a long time thought to be of that character. Seeing that the larva differs so much in its form and habits from other species of the genus *Coccinella*, the thought was doubtless suggested, whether this insect ought not to be placed into another genus or constitute a new one,—not-

withstanding our aversion to the unnecessary multiplication of genera and species,—and accordingly Redtenbacher constitutes it the sole individual of the genus *Epilachna*.

#### GEORGE STEPHENSON AS A HORTICULTURIST.

BY L.

IN reading that wondrous story of genius, "The Life of George Stephenson; the Founder of the Present Railway System," I have been impressed with the noble simplicity and energy, the indomitable tenacity and daring ingenuity, of the collier boy,—virtues which raised him to one of the noblest positions in life: that of a great benefactor to mankind, and have given him fame which must spread and increase with time. No one can read, unmoved, the story of his struggles and triumphs, nor fail to be convinced that he was, indeed, a hero, compared with whom many who have borne the name were utterly unworthy. "Peace has its victories no less than war," and the achievements of George Stephenson, the constructor of the first practicable locomotive and founder of the present railway system, deserves a higher place in the esteem and admiration of his fellow-men than the exploits of all the heroes of the sword, of ancient or modern times.

To young men flinching or struggling with opposing difficulties, his life gives lessons which should supply fresh vigor. No beginning could have been more humble than his; but he persevered. He had determined to learn, and he did learn. "To such a resolution as his, nothing really beneficial is denied." The whole secret of his success in life was his careful improvement of time, which is the rock out of which fortunes are carved, and great characters formed. He believed in genius to the extent that Buffon did when he said that "Patience is genius," or as some other thinker has expressed, when he defined genius to be the power of making efforts. But he never would acknowledge that he was a genius, or that he had done any thing which other men equally laborious and persevering as himself could not have accomplished. He repeatedly said to the young men about him, "Do as I have done,—persevere."

"Every step of advance which he made was conquered by patient labor." . . . "Whether working as a laborer or an engineer, his mind was always full of the work. He gave himself up thoroughly to it. Like the painter, he might have said, that he had become great by neglecting nothing." . . . "He did all thoroughly and honestly. When a workman, he put his mind and energies into his work; and when a master, he put his conscience

and character into it. The battle which he fought for the locomotive would have discouraged most other men, but it only served to bring into prominence that energy and determination which formed the back-bone of his character. The leading engineers of the day were against him, without exception; yet he did not despair. He had laid hold of a great idea, and he adhered to it; his mind was locked and bolted to the results. "I put up," he says, "with every rebuff, determined not to be put down;" and it was this determined purpose which secured the triumph of the locomotive.

Towards the close of his life, George Stephenson almost entirely withdrew from the active pursuit of his profession as a railway engineer. At home he lived the life of a country gentleman, enjoying his garden and his grounds, indulging his love of nature, which through his busy life had never left him.

He took an active interest in horticultural pursuits, carrying into them the same inquiring and inventive spirit and the same determined persistence which formed so large an element of his character. He was now as eager to excel all other growers of exotic plants in the neighborhood as he had been to surpass his native villagers in the production of gigantic cabbages some thirty years before. He had a fine house built, sixty-eight feet in length, and a vinery one hundred and forty feet. The workmen were never idle about the garden, and the additions to the structures proceeded, until at length he had no fewer than ten glass forcing-houses, heated with hot water, which he was the first to introduce into that neighborhood. At one of the County Agricultural Meetings he said that he intended yet to grow pine-apples as big as pumpkins.

The only man to whom he would "knock under" was his friend Paxton, the gardener to the Duke of Devonshire, and he was so old in the service and so skilful, that he could scarcely hope to beat him. Yet his Queen Pines did take the first prize at a competition with the Duke,—though this was not until shortly after his death, when the plants had become more fully grown. His grapes also recently took the first prize in competition with all England. He was extremely successful in producing melons, having invented a method of suspending them in baskets of wire gauze, which, by relieving the stalk from tension, allowed nutrition to proceed more easily, and enabled the fruit to grow more freely and ripen thoroughly.

He took much pride in his growth of cucumbers. He raised them very fine and large, but could not make them grow straight. Place them as he would, notwithstanding all his propping them and humoring them by modifying the application of heat and the admission of light for the purpose of effecting

this object, they would insist on growing in their own crooked way. At last he had a number of glass cylinders made, into each of which a growing cucumber was inserted. Thus restrained, the unwilling fruit yielded to his guiding hand. Carrying one of the new products into his house one day, and exhibiting it to a party of visitors, he told them of the expedient he had adopted, and added, gleefully, "I think I have bothered them *noo!*"

He was unsuccessful in his attempts to keep bees. The cause of failure was a puzzle; but one day his acute powers of observation enabled him to unravel it. At the foot of the hill on which he resided he saw some bees trying to rise from amongst the grass, laden with honey and pollen. They were already exhausted, as if by long flying, and it then occurred to him that the height at which the house stood above the bees' feeding-ground rendered it difficult for them to reach their hives when heavy laden, and hence they sunk worn out with the effort. He stated the case to Jesse, the naturalist, who concurred in his view as to the cause of failure, and was much impressed with the keenness of observation which had led to its solution.

His country home was the resort of many early friends, who greatly enjoyed his hospitality. With them he "fought his battles o'er again," reverting often to his battle of the locomotive, and was never tired of telling, nor were his auditory wearied in listening to the lively anecdotes with which he was accustomed to illustrate the struggles of his early career. Whilst walking in the woods or through the grounds, he would arrest his friends' attention by allusion to some simple object, such as a leaf, a blade of grass, a bit of bark, a nest of birds, or an ant carrying its eggs across the path, and descant in glowing terms upon the creative power of the Divine Mechanism, whose contrivances were so exhaustless and so wonderful. This was a theme upon which he was often accustomed to dwell in reverential admiration when in the society of his most intimate friends.

In his department George Stephenson was simple, modest and unassuming, but always manly. He was frank and social in spirit. When an humble workman, he had carefully preserved his self-respect. His devoted love of knowledge made his poverty respectable, and adorned his humble calling. When he rose to a more elevated station and associated with men of the highest position and influence in Britain, he took his place amongst them with perfect self-possession. They wondered at the quiet ease and simple dignity of his deportment; and men in the best rank of life have said of him, that "He was one of nature's gentlemen."

### RHODODENDRONS.

[Continued.]

BY A. MIELLEZ, FLUSHING, N. Y.

MR. EDITOR—Before I proceed with rhododendrons, allow me to make a few remarks as to flowers and gardening in general, to serve as an excuse if I should happen to get too much into the minutiae of them.

I presume a good many of your more scientific readers, as well as practical business men, will smile at my attempt to give such simple directions, while I think in doing so they may be of some use to amateur cultivators. Moreover, (I am sorry to say,) there are a great number of so-called business men, who, on being asked for some information, have always got the ready reply at hand, "Find it out yourselves; or, if not quite so impolite to say so, at least think so, giving some avoiding answer.

It is earnestly to be hoped that selfish short-sightedness should soon cease, for the general benefit of gardening and things connected therewith. The more amateur gardeners and the public at large become acquainted with flowers and their management, the better it will be for both parties, gardeners as well as amateurs. Yet there is still another great question arising out of this. Any man, no matter what stage of society he occupies, may learn and profit by flowers. They are a rich source of delight, bestowed by the kind Creator upon mankind. Study them, and I am confident to say, that there is hardly any thing that will give more real pleasure than flowers. Flowers have always been, at all times and ages and with all cultivated nations, (such as Greeks, Romans, etc.,) highly esteemed. Looking at the ornaments of their architectural works, we discern them chiefly to be composed of flowers, studied from natural ones, and it is much to be lamented that in designs of the present time the form of flowers is so utterly neglected. But now I have myself rather more digressed from rhododendrons than I anticipated. What I have to add in respect to grafting large plants, is, firstly, that proper care should be taken to disturb the roots of the plants as little as possible when taken up. If done in summer, the ground around them should be thoroughly soaked previously. Then the ball cut round with a spade and lifted out, not by the stem, but by the ball itself. If large and heavy, pieces of canvas may be drawn underneath, on which ropes with poles are tied, and so be carried easily to the proper place, *i. e.*, where they have to remain while uniting, and there be grafted. It is difficult to handle fresh-grafted plants of large size, without disturbing the grafts. Smaller plants may be taken to a shed en

*masse*, grafted, and afterwards taken to a pit or house. The balls have to be covered with soil, and the whole to be well watered. This will keep a pretty damp air around the plant for some days, during which time they should not be watered. Afterward sprinkle the whole—plants, grafts and all—with a syringe or fine-rose watering-pot, taking care, however, that they get dry once in a day, by giving some air in the morning. The other time keep them pretty close and well shaded till they unite, which will be in about a fortnight, when more air and light is required. In about another fortnight or three weeks they will be ready to be put out of doors again. For inexperienced hands, however, it may be more safe to let them make their first growth where they are, especially if in a pit. It has the advantage of giving more command over them. Here they can be nicely syringed (which promotes the proper development of the leaves) and hardened off in an easy way by giving more air by degrees, and ultimately removing the lights altogether. It will also be good to give them a slight protection for the first winter, which may be easily accomplished if in the position mentioned.

Plants worked in this way should be set out in spring as early as possible, on beds prepared for them in the autumn.

Though rhododendrons, as found in their natural state, more or less grow in peat, experience shows that they will thrive favorably in a more solid ground. Nay, they require this for garden culture, being exposed to the rays of our hot summer sun, which would quite burn them up and cause death to them if planted in peat. The ground should be prepared as follows: First well drained, and if the natural soil should be a sterile one, removed to the depth of eighteen inches, (it is a great mistake for rhododendrons, as well as for many other plants, to fill deep holes with a rich soil,) then fresh, sweet loam taken from an old pasture (only the turf) in moderately broken pieces and mixed with one-third peat or well-decomposed leaves and a little sand. With this the bed is to be filled to a little above the level of the surrounding ground. If the soil is naturally good, it may do to dig in a good portion of peat or leaf-mould.

[To be Continued.]

### FRUIT IN CANADA.

MR. CUSTEAD, Goderich, C. W., under date of August 12th, writes:

Our prospects for fruit in this section of the province (and, I believe, in all sections) are not particularly flattering. Plums, apples, pears and peaches there will be a few of, most bearing trees producing

a few specimens. Currants and gooseberries, about one-half a crop. Raspberries, an abundance. Strawberries, with the exception of Wilson's Albany, have done nothing,—that variety (the Albany) succeeded admirably, and seems the only one of the older varieties worth cultivating in this climate, being less affected by neglect, unfavorable soil or climate, than any other we cultivate, among which we include most of the old popular varieties.

### HYBRID SPIRÆAS.

BY F. PARKMAN, JAMAICA PLAIN, MASS.

THREE years ago, I fertilized the flowers of *Spiræa callosa* with one of the numerous varieties of *Spiræa salicifolia*. In the crop of seedlings which resulted, two proved to be perfect hybrids, combining the characteristics of both plants. The individual flowers are like those of *S. callosa*, but they are arranged on the stalk in a conical, or rather oval, and not flattened form; or, in other words, the inflorescence is not, as in the female parent, a corymb, but a thyrsus. The foliage and habit resemble those of *S. callosa*, though the bud is more compact. I am propagating the plants,—I will send you specimens hereafter.

[Very glad to find that attention is being paid to hybridizing our ornamental trees and shrubs, and that Mr. Parkman has been so successful. Much may, no doubt, be done with spiræas. If we are not mistaken, *S. Billardii*, one of the best of the family, is a hybrid between *S. salicifolia* and *S. Douglassii*.—Ed.]

### THE HEMLOCK.

BY S. L. B., BROOKDALE FARM, MAINE.

THE Hemlock, sometimes called Hemlock Spruce (*Abies Canadensis*), is the most beautiful tree of the family to which it belongs—Pine family, and is distinguished from other pines by the softness of its delicate foliage, smoothness of limbs, and graceful aspect. It is said by Pursh to extend to the most northern regions of Canada, and is so generally diffused throughout North America, that it has, in many instances, been chosen as an emblem of America upon maps and works relating to the country. Its height is from forty to seventy feet, and in diameter it varies from one to three feet. The body of the tree rises uniform until within a short distance from the top, when it tapers rapidly, forming a small, round head.

Emerson, in his "Trees and Shrubs of Massachusetts," says, the branchlets are very small, light and slender, and are set irregularly on the horizontal sides of the small branches, forming with them a flat sur-

face. The leaves are small and flat, from half an inch to three-fourths of an inch long, arranged in spirals around the branches, but disposing themselves by the bending of the foot-stalks in two rows on the sides. The bark of the hemlock is extensively used throughout the Northern States, in the process of tanning, being used as a substitute for oak, and it is said, if the bark is mixed with oak it is superior for this purpose to either alone.

The timber of the hemlock is wanting in strength, the tree often being *shaky*, which cause, Michaux says, is owing to the winds acting with great force on the broad, compact summit of the tree. The wood is not highly esteemed as fuel. The trunk of the tree sawed into boards and other timber, is highly valued, but large specimens of the tree are rapidly disappearing from our northern forests.

As an ornamental evergreen tree, the merits of the hemlock have not been sufficiently appreciated. It is graceful in aspect, of fine-growing habits, while its allowance of trimming and training make it worthy the notice of those who need, in winter, the shelter which it gives, or who admire the ornament of its evergreen foliage. It is a tree of slow growth, and it is very common in our pastures and upon the borders of forests. These are almost the only objections against it, yet, with good treatment, and a good soil, it will flourish well; and surely, there is no tree more beautiful than a hemlock growing in a natural position in the situations just mentioned.

#### A FAILURE IN GRAPE GROWING.

BY COL. D. S. DEWEY, HARTFORD, CONN.

RECORDS of failure are so comparatively rare in the well-filled columns of your *Monthly*, that I am induced to send you one by way of variety. It relates to the so-called Bright's System of Grape-culture.

I had read with great interest all that had appeared in the horticultural periodicals with reference to this method, and, also, in Mr. B.'s own book, and with a mind favorably predisposed towards it, I was relieved of all doubts as to its practicability by an opportunity of personal inspection of the system as carried out in the vicinity of Philadelphia, and particularly on Mr. B.'s own premises.

So, upon my return home from the Pomological Convention, last fall, I immediately made a commencement of carrying out the plan for myself, by setting out one hundred and fifty hardy vines—Delawares, Rebeccas, Dianas and Hartford Prolifics—in two long rows, six feet apart, the roots being planted two feet apart in each row.

(*Mem.*—I have, this Spring, added eight similar rows, containing, principally, Hartford Prolifics, at distances varying from two to four feet in the rows.)

The next move was to arrange one of my green-houses, 48 by 15 in the clear, and of good height and favorable slope of roof, so that I could employ my leisure during the winter in assisting to construct, and fill with suitable material, a row of "detached, divided, and suspended" grape-boxes, twenty-four in number, along the inside front, according to specific details in the book.

In process of time all this was duly accomplished, and in March the vines (principally Black Hamburgs) were set out in the boxes.

A number of vines were also planted in large pots at about the same time, and were placed along, (half-plunged,) in the vacant spots of prepared grape-soil in the border, one or two in each compartment. Thus far "per order," and thus far all right and very promising. But the vines did not grow, and the vines haven't grown, although a part did make a desperate effort at first, and the result, so far as the tender sorts are concerned, is, that the experiment has proved with me a positive failure!

*Post Scriptum.*—Perhaps I ought, in common justice, to add that my stock of Black Hamburg vines consisted of one-year-old layers, of only medium quality; and these "happened" to get rather too cold, and too dry, and too damp, at intervals during the winter, before being planted. I should have preferred good thrifty one and two year olds, from eyes, but, at that time, it was "these or none," with me.

*Nota Bene.*—Owing to the interference of other business arrangements, the vines were not properly watered nor syringed, and may have suffered in consequence. Besides, they were never mulched nor shaded in the least, although directly under and near the lower end of the roof-sashes, which were fixed. The front was also fixed, being a brick wall, instead of upright and moveable sash.

*Addendum.*—The house was neither sprinkled nor medicated, nor systematically ventilated, and it may be that nature rebelled against such neglect. I am the more inclined to this opinion from the fact that the potted vines have performed no better than their neighbors planted in the system border.

*Et Cetera.*—The hardy vines outside have done somewhat better, but they are by no means in a proper condition to prove to a Connecticut community the superior merits of a new Pennsylvania system. To be sure, they have received but little care, owing to the necessary (?) transfer of attention to other matters. They have had no mulching, no special fertilizing, no stakes, trellises or supports of any kind, and but little hoeing and weeding.

*Finale.*—"Poor Mr. Cornelius," says Mr. Meehan, page 84; "we fancy there are no inconsiderable number who imagine his process to lie in his pot,

and not in his principles, and that they have only to slip in a cutting and take out a plant." Poor Mr. Bright! the same imagination may exist in some minds with regard to your "principles!" Now, can't you accommodate such, (if such there be,) by an amendment to your system? Say thirty pages, more or less, in your *third* edition, so that, when an amateur grape-grower is engaged in other avocations which call him imperatively from his favorite pursuit of horticulture, his graperly and vineyard may be in the condition of the boy's musical arrangement, which "whistled itself?" "Slip in roots" and take out fruited vines—that may be the requirement.

Suppose you entitle the new chapter thus;—Dwarfing Made Easy; and Pinching and Stopping Dispensed with.

#### VEGETABLE TRANSFORMATION.

BY J. J. STAUFFER, LANCASTER, PA.

MY worthy friend, J. B. Garber, Esq., "in his article in the September number, on Grape-ology," compliments me as "a good botanist, entomologist, &c., adding, "indeed, well-informed on all subjects." For which I tip my beaver, taking it for granted, that "mutual friends" will not talk ironically, though they may indulge in "a good laugh occasionally at one another," to which I cannot object.

With regard to that "barren grape-vine" on which "all manner of experiments were made to make it bear fruit." The facts are simply these:

Seeds from a *raisin* were planted in a pot, in the summer of 1857. Whether the raisin was the dried fruit from grapes that grew on the warm shores about Malaga, Valentia, or some other raisin-growing country, is immaterial; one of these seeds germinated and put forth its tender branches. In the spring of 1859 it was set out in rich soil, on the south side of a shed, in an exposed or sunny position, where it grew rather rankly, and stood through the mild winter without any protection. No attention was paid to it in the spring of 1860. It grew luxuriantly and flowered freely, but yielded no fruit.

Dr. Wm. B. Fahnestock, a well-known chemist and botanist, remarked on observing it, that he had planted a vine, which for several years had nothing but barren flowers. When he came to the conclusion to try the virtue of *blood* applied to the roots, in order to furnish the necessary nitrogen or stimulant, to his surprise and satisfaction, the vine commenced to bear fine grapes, and continued to bear every year since.

On this, to me, good authority, bullocks blood was applied to the roots in the spring of 1861, but no knife nor training, that being wholly neglected.

The vine threw out numerous slender branches, a profusion of leaves and flowers. It was in this condition when my friend, Mr. G. saw it,—who "told me at once, it was a *male* plant, and that all my 'experimenting' to the end of the world, would not produce me a berry." Adding, "he regrets to say," he could not convince me of my error. What he means by a *male plant* I cannot devise, unless he considers the grape family to belong to the Diceious class, that is, when the staminate or *male* flowers are on one plant, and the pistillate or female flowers on another plant. This plant is evidently a foreigner,—its parent yielded fruit, and this, its offspring, bore *flowers*, though they proved to be barren. He says he "never could succeed in getting a single foreign seedling to show flowers."

Ought we to call this *barren plants* in contradistinction to male flowering and female flowering plants? Truly that is the case; but would it be the same under favorable circumstances, in their native soil or climate? That is the question.

As a botanist, I believe in a certain classification of plants, which is not disturbed by local or accidental variation in certain individuals of the genus or species. The *Vitis vinifera* and its varieties, the Sweet-water, Black Hamburg, &c., all have perfect flowers; while our native species, the *V. labrusca*, and also its varieties, the Isabella and Catawba, are *polygamous*, that is, the *three kinds of flowers* can be found on the same vine, the male, the female and perfect, or hermaphrodite flowers. For this there must be a cause in the woody tissue or functions of the plant, whether in the root, stem, leaves, or other of its organs.

Suppose, for argument sake, we consider the stem or peduncle, examine its central axis or pith, the medullary tubular sheath around the pith, &c. Now, if it happens that, from some cause, whether it be the proper nutriment or what else, the vital forces of the central axis is effected, so that the central point or pistil will not receive its share of nutriment, it will become abortive; and, though its surrounding sheath be active, developing stamens, petals, &c., still the flowers will be barren.

Should this happen to *all* the flowers, as it often does to *some*, we could not properly call it a *male plant*.

I deem it unnecessary to enter upon an elaborate disquisition to prove that plants are organized bodies, requiring certain conditions, suited to the various purposes of nutrition, and that matter held in solution by water or in the form of gas or air, aided by the stimulants of heat, light and electricity, are essential in certain proportions to their full development.

And since carbon, silex, lime, soda, potash, the



oxides of iron and some other metals, enter into the vegetable structure, through the medium of the moist soil. The air of the atmosphere also affords oxygen, both in its simple state and combined with carbon, forming carbonic acid. Nitrogen, the other ingredient of the atmosphere, also enters into their substance.

Is it, therefore, "laughable" to apply blood, or other stimulating manure to plants; or out of the pale of experience, that certain conditions can be supplied to aid vegetable growth or development?

I admit that we may entirely fail in our attempt to discover the precise matter or mode of applying it to plants brought from a foreign clime, exposed to our variable climate, and in a different soil. But time and trials have done much, and may accomplish more; and, to declare that certain things *cannot* be accomplished, is assuming the position of knowing more than he that is conscious of how little we really do know, and says "I'll try."

I confess I do not understand what my friend desires to prove or disprove in his article, otherwise I might shape my argument to show "why I am not convinced of my error."

He asks a question and draws an inference in which I do not see the force, viz: If "stamens are transformed into petals," these petals may be transformed into leaves, leaves into branches, &c. "All is 'transformation,' and we know not where we stand."

I was almost tempted to put plough-handles case, by way of an offset, but prefer being serious. Mr. G. certainly knows that transformations *do* take place; the water-lily along the river banks usually has its stamens and petals so gradually mixed, that it would puzzle Mr. G. to show where the stamens end and the petals begin.

He knows that the normal condition of the Indian Corn is to have a staminate top or tassel; while the ear, with its silk, is the pistillate plant or spike; yet he has met with grains of corn mixed among the male flowers of the tassel. Dr. Herbert, of this city, brought me a tassel of male flowers with a full ear of corn growing from their midst. This is an exception to the law of growth, but corn is not the less a *diversus plant*, nor would a botanist convert this freak of nature into the embellishment of a new species, unless this would become a constant occurrence in that particular kind by promulgation,—it would, however, still be only a variety. One more fact and I have done. Some years ago I moved to Mount Joy, where a grape-vine, called the Isabella, grew in the lot, prostrate among the weeds, supported by a few apple branches trimmed from the trees. In this neglected condition the grapes ripened and were so deliciously plump and juicy, that

I concluded to remove it. Early in spring I did so, to a place to shelter the cistern, near a rich, moist gully. It grew luxuriantly and produced a grateful wide-spreading shade; untrimmed, it yielded a profusion of sweet-scented flowers, but bore no fruit.

Here, then, was another *male* plant, which I know *had borne* fruit, and many others beside myself enjoyed their flavor.

Now don't tell me that it was not the same vine,—that somebody cheated me, by substituting another; for that is plainly out of the question, since I dug it up and planted within an hour's time by my own hands; nor were there two vines in the case. Such is the fact, and proof can be produced, let the cause lie where it may.

[Those who feel interested in morphology or the science of the transformation of one organ of plants into another, will find the flowers of the canna or common Indian Shot of our gardens a beautiful study.

It is said of a cockney showman exhibiting "Daniel in the Lion's Den," that when the child asked "Which was Daniel and which was the lion?" he replied, "Vich ever you please my boy; you pays yer money, and you haves yer choice." If there should be any "ignoramus" disposed to "laugh" at the "scientific savans," when speaking of vegetable transformations, as Mr. Garber tells us there is, it would be well for said "savan" to offer him a canna flower and let him have his choice,—petal, stamen or pistil. He might call them all petals or all pistils; at any rate, he would have the right to his choice, and find few able to contradict him in either event.—ED.]

#### MY EXPERIENCES.

BY OLIVER PEGRAM, OF PEGRAMIA.

Not a breath is stirring, not a leaf moves,—all is as quiet as if the machinery of creation had come to a stop. Silence is almost audible. The only thing to break it is the noise of my pen as it moves along on the paper before me. A real summer afternoon this is. The hot golden sunshine lies on the ground. The air out there in the meadow is stifling,—every thing and every body is at rest, waiting for the hours to glide on and bring relief. The bees alone—those busy workers—are pursuing their avocation; but then they are models—our good examples. And yet, as they swarm now in the garden before me, I fancy they are pursuing that avocation with a drowsy head and heavy wings, and do the thing altogether more from a sense of duty than enjoyment. To be sure, such fancy of mine is against all natural philosophy; but do I care for natural philosophy? Science is a charming nymph

in cool, early morn; she lures me when I have a clear head and feel bright and rosy. On a hot afternoon Comfort is the goddess which I put foremost on the altar of my Penates. To her do I pay court, and with so much a greater relish when I have been about since sunrise, and (as I did to-day) have succeeded in getting completely knocked up by work in the open air. Comfortia—fat, lazy, rusty old goddess—I adore thee!

I have no reason to complain of the means I have to worship her with. Here I sit on a cane-seat,—coolest, and yet an elastic seat for summer sitting. That seat belongs to an easy arm-chair, with a back to it, that fraternally receives my back-bone when I recline, and mighty few chair-backs will do that; most of them, in fact, being, seemingly, made without any reference to human backs. This comfortable easy chair of mine stands behind my literary-table (so called from being literally littered all over with literature in its various shapes). My feet rest on cool matting, made in distant Tauris. Around the walls stand cases, crammed full of all manner of books. Sciences, some of the arts, and a lot of æsthetics are bottled up in these books. As they stand there, they smile at me, and seemingly wait their turn to be taken down and discussed. But, O, Lord of the Mind, thy heat is too great for mind in general, and hardly my body will bear up against it. So, after having thrown myself back in my chair and reviewed the silent books in their cases, the literary litter on my table, the vagrant bee, and the landscape in the window-frame, I take to writing my *Experiences* for the *Gardener's Monthly*. I do so to keep a promise rashly made; and if they partake of a heavy character, the blame might possibly be fixed on the sultriness of the weather.

Of course, my *Experiences* relate to country and horticulture only, and therefore the *Gardener's Monthly* (chorus of readers, "Long may it wave!") folds them in its bosom. The *Monthly* thinks the experiences of an average man may be told to advantage to its readers. I think so, too. To make them has certainly been advantageous to me; and now that I have paid for them in hard cash, in time and in vexation, will they not be acceptable to gardening mankind? Will not mankind condescend to reap with me the benefits and the enjoyments derived from the above experiences, without sharing in the expenditure of the above cash, time and trouble?

I have said that I am an average man. Because, if I were an eccentric or an incentive being, a stupid fellow or a highly intelligent, refined, etc., sort of a gentleman, then my experiences would have no value. So much, therefore, of my general life must be told as to lead my readers into the country.

I was born,—but no matter where,—and am now several years old. I am also a self-made man, inasmuch as I have made myself, and for my own use, all the money I own; but I devoutly hope that I, at the same time, have been making something equally good, namely, developed what faculties Providence has endowed me with, and made general improvements in the domain of my soul. How I have made the money, that problem I will leave to the readers, if they choose to exercise their imagination on such a poor problem. Money is made on red herrings, as well as on white ones, on dry-goods and on wet ones, on thimbles and on ships, and my readers will little care about its origin. When I had made a modest pile, I, of course, thought the time had come to carry out the best wish of my life. I concluded to remove into the country.

#### THE GLADIOLUS.

BY WEST PHILADELPHIA, PA.

SINCE that by seedlings so many fine varieties of Gladiolus of large size, and flowers of almost every shade of pink, scarlet, white, purple and yellow have been obtained, especially among the hybrids of *Gandavensis*, great effects can be derived from the cultivation of those handsome flowers in the decorating and embellishment of parterres and for masses. In order to obtain blossoms from July to September, it is necessary to plant in the latter part of March or early in April, the smallest bulbs; a second portion towards the end of April; a third about the 15th of May, and finally, the last at the end of that month. During these various plantations, care must be taken to graduate the size of the bulbs so as to commence in March with the smallest ones and to reserve the largest for the end of May.

The culture of these plants is of the simplest kind. They ought to be planted in a good vegetable garden ground; very heavy soil does not suit them at all, but they thrive very well in good ground, well manured with well-rotted horse-dung. They are planted in rows from twelve to fourteen inches distant of each other. The bulbs should be set in the rows from six to ten inches apart, according to the size of the bulb, and at a depth of from two to two and three-fourths inches. During growth, and in dry weather, abundant watering is indispensable. In the fall, when the stems of the Gladiolus are withered, they should be cut down, the bulbs dug up and put on shelves in a dry place, not liable to frost, where they will keep until the following year, to be planted and treated as above said.

The bulbs of the Gladiolus, when cut with the stems, will blossom beautifully in water. They will open easily and successively, and make the blossom-

ing last some time; they may, therefore, be used for bouquets and table vases, and by adding a few light-green stems of tamarix, asparagus, or fine reed leaves, great effect is given to their showy appearance.

#### LETTER FROM CALIFORNIA.

BY A MARYSVILLE CORRESPONDENT.

I HAVE seen here some of the finest grapes I ever saw grown in the open ground. The ones I have already seen fruited are much larger than the ones grown under glass in the East. I saw in the Marysville market very fine bunches of the Black Hamburg, Sweet Water, Muscat of Alexander, Reine de Nice, Bowker, Bishop and another variety supposed to be the Black Morocco.

By your remarks, I suppose you have no idea what a fine country this is for the foreign vine. You say a warm, moist summer is what is needed. Now, that is the very thing we have here at Marysville; too much so to be comfortable. You will say, how can it be moist without rain in the summer? You must bear in mind that there is a great number of rivers and streams in this country, which keep the ground on each side very moist—some places a mile or two on each side. The ground on each side is divided into three kinds: the first is called low bottom land; it is generally too wet for any thing but vegetables, which grow to a very large size. It also seems to be the best ground for apple trees, as apples on the dry land burn with the sun before they ripen.

The next, second—bottom. This kind keeps moist near the surface all the summer, in the driest time. By digging down, you can find moisture one foot from the surface, sometimes not so much. The soil is composed of a rich sandy loam, which appears to have been some time filled up with sediment by the river. This land never gets too wet to work; it is fit to plough in twelve hours after the longest rain. This kind of ground seems to suit almost all kinds of fruit trees and vines; the peach, apricot, nectarine and plum every year are loaded down with fruit. There is scarcely a tree but what some of the branches break down; and yet, for all this load of fruit, the trees grow as strong and keep as healthy as if it had never borne fruit. Pears do well, and dwarf pears seem to bear abundantly, but apples seem to want moister ground than this; not but that they will grow well enough, but the sun is so very warm in the summer, unless the tree has a great deal of moisture at the roots to keep the tree growing vigorously, the fruit is almost sure to burn with the sun; but I suppose, as the trees get older the fruit will be more shaded, and they will do better. The early varieties do well, such as the Red Astrachan, Early Harvest, and Sweet Bough; they ripen before the weather

gets too hot. Last year, I pulled the Early Harvest about the 24th of June, quite ripe. Now the grape-vines: The ones mostly grown here have been the Alicant or Black Spanish; it is generally called the Los Angelos. On this place, and on most places, they are planted about seven feet or so each way; they are trained just the same way as a half-standard rose-bush; they are pruned, of course, on the spur system: they are generally staked for the first three years, after that they will stand pretty well alone. Vines trained in this way, after the fourth year, will always average, at the lowest calculation, from ten to fifteen pounds each, and sometimes, in favorable seasons, twenty-five pounds. They are quite as good, in my opinion, in flavor and almost in size, as the Black Hamburg, and I have often seen bunches weigh over a pound. The only thing in favor of Black Hamburg is two weeks earlier, which gives it a better chance of ripening its wood in the fall. We have now planted about one hundred different varieties; most of them will bear fruit this season enough to judge of the qualities, as the vines of the foreign varieties were only one year old last summer. They were propagated from summer layers put down in July, which rooted well, which will give you an idea that the ground must be very moist and warm to root vines in about four months fit to plant out, and the second year to bear a small crop of fruit.

The third kind of land, or upland, I have not much to say about, as it is too dry for almost any thing, unless grain, which I suppose would average about twenty-five to thirty bushels per acre. But I think, in time, the upland will be the land for grapes, as the river fills up more every year in consequence of heavy mining operations in the mountains. As all the mud goes into the river, which is filling up fast, it will make the upland more moist and the second bottom too wet, in my opinion.

#### THE JUNE-BERRY AND OTHER STOCKS FOR THE PEAR.

BY "TYRO," WORCESTER, MASSACHUSETTS.

MR. HUDEIKOPER's article on the June-berry as a stock for the pear, in the August number, reminds me of several articles upon the same subject which were published in the *New England Farmer* some years since. If memory serves me aright, several correspondents stated that such trees did not succeed permanently. I have little doubt, however, but that a few varieties would do well on the June-berry, as there are sorts which will do well even upon the thorn and apple stocks.

Some years since, I set scions of quite a number of different varieties of pears into apple trees; one variety, in particular, made a very great growth the first

season. Next spring, I cut some scions from these shoots, and grafted more branches of the same tree. To my surprise, these last scions would scarcely grow at all, and soon died, while the first are still living. At the same time, I had taken scions from two old pear branches, which were grafted into apple trees, and these, too, made a feeble growth and soon died.

I had also obtained scions from an old pear tree on a thorn stock, and more scions of the same variety (viz., the English Bell), from a tree on pear stock, and set them all into a thorn tree; those cut from the tree on pear roots grew finely and are yet living, while those from the thorn tree grew feebly and soon died.

Since then, I have often thought that perhaps the vigor and constitution of many pear trees may have been injured from having been propagated from trees on quince; at least, I think, that if a pear be repeatedly grafted from one quince stock to another, say a dozen times, the last scions will be found to have lost much of their vigor.

If this be so, it is certainly worth the attention of nurserymen, and it certainly would seem to be the best course to propagate only from trees upon pear stocks. I would also say that I have never known any valuable variety to succeed long, either upon thorn, apple, or Mountain Ash. I have grown fine specimens of the Flemish Beauty upon an apple tree, but the scions were short lived. Some inferior sorts have lasted thirty years, or perhaps longer.

[Propagation, no doubt, tends to fix a habit given to a plant by the stock or any other cause. We do not suppose, however, that it would so materially affect it as to act injuriously in the way our correspondent supposes, but it might be worth looking after.—Ed.]

#### THE INDIAN OR CHINESE AZALEA: Its Introduction, Cultivation, Propagation and Description of the Best Sorts, New and Old.

[Continued from Page 264.]

BY AN OLD FLORIST, PHILADELPHIA.

I HAVE said that there are growers and propagators of the azalea amongst your readers equal to those of any other country, and, of course, it will be presumption in me to point out to such the practice on which they are so well posted. It is, however, to the learner and those who wish to advance that I offer the following hints:

First procure healthy plants,—those of a firm growth where they have been fully exposed to air and a considerable degree of sun. Select them for breadth, *not height*, unless for some special object where standards may be required. Some growers prefer to have them all standards, grafted on stems

from one to three feet high, with the head either weeping, globular or of a parasol form. During the season of rest (say from November to March) the azalea will bear almost any treatment, except a heavy dose of water at the roots every day. Their natural habitat is on hilly declivities. Dry situations, even to rocks and Chinese rock-work, and a cold of ten degrees of frost, if the plants are in a dry state, will not injure them. The plants must have thorough drainage of from one to three inches in the bottom of each pot, the pots being from five to fifteen inches in width. When the plants are wanted to bloom, they can be placed in a sitting-room, forcing-house or hothouse. As soon as they are placed into heat, they must be regularly supplied with water at the root and frequent syringings overhead. If they are permitted to become repeatedly dry when in the heat, the flower-buds will turn brown and drop off quite imperceptibly, and the failure of bloom will be attributed to some other cause.

A fair attention will secure a very liberal show of flowers, and the flowering season can be extended from January to June. When in bloom, the plants must be shaded from the sun, and observe that the roots do not want for water. By good management, a plant will remain attractive for fully four weeks. As soon as done blooming, expose the plants to the sun, giving frequent syringings (three times a week) overhead with water, and keep the roots moist, but not wet, to insure a free growth. When the young shoots are about an inch long, and offer to be very luxuriant, pinch out the tip of the growth to make more branches. If, however, the growth is slow and weak, the shoots do not require topping.

Now is the time to form the head if it has been irregular; and when the blooming is over, cut it freely to the required form. The knife will not injure the success of the plants. Tie all growths into proper shape, as previously observed, and that shape can be just to the grower's taste. No excuse in any way will be accepted. With very simple attention, gentle waterings, and free exposure to the sun, unless a few hours' at mid-day partial shading, will give the foliage a better and brighter color.

I will here remark, that plants kept in a close, dark, shaded situation will be sure to be attacked by the thrip, a very minute insect that attacks the surface of the leaves, and a very troublesome one to get rid of, which we accomplish by dipping the heads of the plants into tepid water, made to the color of strong tea by a solution of tobacco, and repeated till they are entirely destroyed. If the plants are too large to invert, lay them on their sides and syringe their heads freely with the preparation.

**SOIL.**—It has been our lot to hear much stress put upon the soil. "My soil is not good," is a very frequent ejaculation, or rather apology. Good judgment of the nature of the plant will grow them in any free, sandy soil wherein there is a very liberal portion of decayed leaves or soil from the woods. So much importance is placed upon the "soil," that I see some of the Philadelphia nurserymen sending it to all parts South, West, North, and even East. Wherever swamp-muck and white sand can be obtained, proper soil can be composted for azaleas, of one-third sand, one-third swamp-muck, and one-third loam or decayed sod; if such is not "come-at-able," very sandy loam and decayed leaves in equal proportions will suit.

The best season to repot is just when done blooming or in September. They do not, by any means, require large pots. The reverse is the best. The roots are very fine, and do not object to a few waterings with weak manure-water when in a growing state. Bad drainage and over-potting are great sources of evil. The neatest grown azaleas that have ever come under my eye are those of C. Van Vorst, Esq., of Jersey City, and am rather inclined to award his collection the *first prize* for beauty, perfection and rarity, and for an eye notes of something beautiful and valuable, am indebted to that gem of a connoisseur.

An evil amongst growers in potting azaleas is in not making the soil about the roots firm. All pot-plants should have the soil well packed down. To show the tenacity of life in a Chinese Azalea, allow me to observe that I have a plant placed where it has the sun after twelve o'clock, and it has only been watered three times by the hand since May. I would not treat my collection in this way; but it has been done to convince me, and perhaps others, that these plants suffer much by over-doses of the watering-pot.

**PROPAGATION.**—The primitive mode, and the first that I saw adopted about Philadelphia, was laying a branch in the pot or tying pots to branches of the plants, wherein they rooted in about six months, and that method was practised in nursery green-houses. The first plant that I saw of Azalea phoenicea (above thirty years ago) had its head placed in a shallow box, with every branch layered. I volunteered a negative on such barbarous treatment, but only received an affirmative, that it was the only sure plan. An old countryman, however, appeared, who took cuttings of half-ripened wood in August and placed them in pots of brown sand, covered with a glass, and was quite successful with rooting them in six weeks. This we all looked upon as a notch in the right way, and azaleas from that date became accessible. Now every person can multi-

ply their stock in this way: Fine sand in a small pot, firmly pressed down and well watered, into which insert cuttings of young shoots of half-ripened wood about an inch and a half long. Take the leaves from the base of the cutting; insert it half an inch into the sand very firmly; cover the pot with a tumbler, or any similar contrivance; keep from the sun and water every day, and you will have some degree of success.

The propagators' method now, however, is to propagate from the young shoots when they have made a growth of one or two inches. These are taken off and placed in sand and kept in a moist heat of from 60° to 65°; the cuttings covered closely, or the house densely shaded and freely watered. Tens of thousands are rooted in this way in a few weeks, and sold off to the trade within six months.

The tip-top method for fancy culture is to graft them when the wood is so young and tender that you would think it could not be manipulated with. Shoots half an inch long are taken off, their base cut into a wedge-shape, equally from both sides, and inserted into a stock of any required height, the top of which has a young growth, merely inclining to firmness, which cut and make an incision in its crown; into such insert the base of the cutting; tie with a woollen or cotton thread; place the plants in a close frame, or house, or under a hand-glass, where there is a moist heat. Take care that water does not get into the junction, and the union will be formed in forty-eight hours. After one week the plants may be gradually exposed, the ties unloosened, and the future prosperity of the plant a triumph.

I have seen a boy slip these in at a very rapid rate, and have now in my possession a plant grafted last April, that has eleven shoots, forming a fine round head six inches high and ten inches in diameter. I have not a doubt but that many amateurs and gardeners can far exceed this, as I have used no extra appliances.

[To be Concluded in our Next.]

### THE KITCHEN-GARDEN.

BY WALTER ELDER.

The kitchen-garden is one of the most important and interesting departments upon the estate, and beautifies or disfigures it according to its location and enclosure. Where we find it almost close up to the cottage and mansion, and in full view of the windows, with its bare soil and leafless trees and bushes in winter, it is the most uncomely feature in our system of gardening, and bespeaks a decided want of refined taste. Two reasons are given for

so locating it. "I want my fruits and vegetables grown under my own eyes, to prevent pillage; and when the cook needs an extra vegetable, she can call for it."

After a long experience in this matter, and much conversation with other gardeners, we think the speculation of vegetables is very rare; but fruits growing in an open garden so near to the house, and a daily resort of all its inmates, are more subject to pillage than they would be any where else. As well place a doorless safe full of gold in the open hall for safety! So very tempting are ripening fruits, that none but gardeners and owners, who know the care and cost of producing them, can resist the desire to pluck. If it were otherwise in the best-regulated households, better grow a few trees of choice fruits upon the lawn, than disfigure the place with an eyesore so near to the house. Instead of the cook calling for any vegetable, let her take a smart race upon a hard gravel walk, say three hundred yards to the garden and back,—the best thing to preserve her health, good looks, good temper and usefulness.

Upon small places the kitchen-garden should be as far from the house as the grounds will admit, and well fenced in. Upon large places it should be two or three hundred yards from the mansion, and hid from it by trees and shrubbery upon the intervening lawn. A sheltered spot, but not near to large trees, and sloping to the east or south, or a level that can be drained will do. The soil can be improved; a light loam is best. A perfect square is the best shape, but a quadrangle oblong figure is good. The size will be in proportion to the extent of the grounds and the number of the family. Where space will admit, and choice fruits are to be grown, one and a half acres is small enough. The best, cheapest, most lasting and beautiful fence for it is an osage-orange hedge. The plant is well suited to our climate, and thrives upon a variety of soils and exposures. If it gets the same care as a row of corn the first three years, and a semi-annual clipping, it will be a substantial fence by that time, and will last for ages and be in unison with the good-keeping of the place. Seven feet high, four feet thick at bottom, tapering to nothing at the top, it will be a good shelter, and better than any dead fences. A "close board" is good shelter in cold weather; but in hot weather it keeps off the lower air current, and the sun is too strong for many kinds of plants, unless there is a constant circulation of air passing among them. Wire fences neither give shelter in cold weather, nor soften the arid air of summer, which is so withering for newly-transplanted crops before they make roots to supply the excessive evaporation. A good hedge is best adapted for our climate

of extremes. It is like a riddle for the winds,—the *wheat* goes through it, and the *chaff* flies over.

A garden enclosed with such a hedge, and locked gates, and the gardener and owner only having keys, the best fruits of our climate can be grown without molestation. First manure and trench the soil, and then lay out the garden; if square and one and a half acres, line off a strip along the north side thirty-five feet wide. In the middle of it, and facing the main cross-walk, may be erected a tasteful tool-house and seed-room, with a cellar beneath and an observatory above. On either side, and ten feet off, ranges of forcing-pits, eight feet from the hedge-roots and ten feet wide; a gravel walk in front, six feet broad, and gravelled behind; a gutter at the outer edge of the front walk to carry off water. Next a border for cropping, ten feet wide. Make a walk along the front five or six feet broad; and in making this walk, all around the other sides let it be fourteen feet from the hedge-roots, to give a cropping border ten feet broad, two feet for the hedge to branch, and two feet of a path to hoe and clip the hedge. Next make two cross-walks through the middle of the garden, so as to cross each other in the centre. Here may be made a circular flower-bed, with an ornamental frame in the centre to train vines upon. Instead of this, we have seen a sunk cistern, and the drains emptied their waters into it and supplied the garden with water all summer. The walks should be all edged with boxwood, and the soil dug out slopingly, a foot deep in the middle, and filled up with stones or rubbish from buildings, and covered with stony gravel. On the edges of the four square beds plant small fruit trees, dwarf pears, Crab Apples, quince, nectarine, peach, etc., with gooseberry and currant-bushes between them. These trees may be eight feet from the edge of the walks; and allowing them to branch out five feet, there will be three feet for the culture of annual, biennial and perennial flowers to enliven the walks. Raspberry, asparagus, rhubarb and other tall crops will be grown upon the beds, and dwarf crops upon the ten feet borders all around. If the forcing-pits do not run the whole length of the first lined off strip, then erect grape-vine arbors to fill up the length. A proper system of rotating crops should be kept up. We may arrange them into four classes, and no individual of the same class should follow each other upon the same spot. 1. Beets, carrots, parsnips, potatoes, radishes, turnips, &c. 2. Beans, peas, okra, pepper, egg-plant, &c. 3. Melons, cucumbers, squash, tomatoes, &c. 4. Cabbage, lettuce, spinach, celery, leeks, onions, &c.

An annual exchange of seeds is of much importance in successful cropping, as all kinds degenerate when grown many years upon the same garden. It

is folly for a gentleman's gardener to save seeds if he has other work to do, as the labor spent upon them is worth double the price of a fresh supply. Seeds can only be grown profitably in large quantities. Besides, ripening crops in a well-kept garden are unsightly; and they hold up the ground from getting a second crop in, which, of itself, is worth more than the price of fresh seeds. A crop ripening its seeds reduces the soil more than two crops taken off green.

Attached to a corner of the garden outside may be a yard sixty or eighty feet square, enclosed with lilacs, hydrangeas, altheas, and a shed to hold sashes, covers, bean-poles, pea-stakes, tying-up sticks, &c., and clothed with vines. Into this yard will be brought all cleanings and refuse of the garden, manures to decompose, composts made up, &c., so that the garden will look clean at all times.

#### FRUIT HINTS.

BY H. C. VAN TYNE, CLEVELAND, O.

As I am indebted to the *Gardener's Monthly* for many valuable "hints in horticulture," permit me to give you the result of a few applications of same.

I have met with *decided success* in using tobacco-stems as a preventive for the peach-borer. Frequent examinations since early last spring, have revealed but one borer. I renew the supply of stems as often as I deem advisable, and find no injury to the roots from them. I have also acted on Miss Morris' hint relative to the application of saltpetre, alum or salt, as special manures for the peach, and with most promising results. I sprinkle them on the surface of the soil to within about a foot of the trunk of the tree.

My trees, which were inclined to be sickly and of puny growth, are now in splendid condition, and this season made very strong, healthy growth, and from summer pruning are sending out strong, thick branches, some sweeping nearly to the ground, affording complete protection to the trunk from the scorching sun.

Last season, I used Gishurst's Compound for slugs on my pear and cherry trees. This season, I have used nothing but Whale Oil Soap, which I find quite as effectual and more beneficial, I think, to my trees as it gives a healthy, bright color to the bark, and keeps the leaves fresh looking and free from spots. I apply it once a week or fortnight, as they may require, and the expense is but little more than that of common soap, costing here five to six and a quarter cents per pound. Instead of a syringe, I use a "hydropult," which has great forcing power, and its flexible tube renders it far superior to the syringe in application to under-side of foliage.

Why is not Whale Oil Soap more generally used West? I found but one barrel in this city, and that was considered unsaleable. There will, undoubtedly, be another barrel purchased for this market as early as this fall.

#### WINTER-BLOOMING PLANTS FOR WINDOWS.

BY J. M.

As the time is now approaching when plants intended for winter-flowering should be attended to, I propose to say a few words on the subject. If they have been growing in the open border all the summer, they should be lifted about the latter end of September or beginning of October, potted and placed in a shady spot for a few days previous to their being taken to their winter quarters. Those that have been grown in pots and are still likely to grow much, may be shifted into a larger-sized pot, the plants well cleaned of all dead branches and leaves, and placed with the others that have been lifted from the border.

A few good kinds for the purpose named are the following: *Aphelandra Ghiesbreghtii*, *Lopezia rosea*, *Cyrtanthera magnifica*, *Oldenlandia Deppei*, *Justitia carnea*, *Rondeletia anomala*, *Cupheas*, *Habrothamnus elegans*, *Begonia incarnata*, *Oxalis floribunda*, *Ageratum caelestinum*, *Jasminum revolutum* and *Bouvardia leiantha*. These, together with a few heliotropes, geraniums and fuchsias, would make a good collection and give continuous bloom until spring.

They may all be grown in a warm dwelling-room where the temperature does not get below 50° Fahr. with perfect ease. The *Cyrtanthera*, *Ageratum*, *Habrothamnus* and *Lopezia* being the tallest growing of the number, should have the back row.

The *Lopezia* has innumerable small rose-colored flowers, and will continue growing and blooming till spring. It is a first-rate winter plant, although it does not seem to be much known as such. The *Cyrtanthera* is a rosy pink, and the *Ageratum*, grayish blue. Almost all other colors will be found with the remaining numbers. A few pots of *Mignonette*, *Cineraria* and *Chinese Primrose*, should be sown at once; they will bloom towards March.

Cuttings of most of the kinds taken off and rooted now, will also bloom at the same time, and will make the best plants for the succeeding winter.

If red spider should make their appearance, removing them by hand as soon as discovered is best where they are not numerous; if in too great numbers, washing them off with clear water is the next best thing.

#### NOTES ON PEARS AND GRAPES ABOUT SYRACUSE, N. Y.

BY GRAPTOLITE.

I SEND you a few notes of "things seen" on a trip to Western New York. Our principal cruising ground was the vicinity of Syracuse. What interested me most were the nurseries of Smith & Hanchett, so well known in the propagation and culture of fruit trees.

The specimen fruit grounds in the city, occupy some fifty or sixty acres; while the nurseries, about five miles out of town, cover upwards of three hundred acres. The soil of the nursery grounds is a strong, deep, clayey loam, ameliorated by deep ploughing and underdraining, with liberal dressings of rich muck and manure, and the fruit trees were very healthy. The dwarf or quince-rooted pear trees succeed well in the strong, moist clay in which they are grown. Indeed, Mr. W. B. Smith, who attends specially to this branch of the business, is of opinion that the fine fibrous roots of trees budded on the quince will fail to sustain the pear when planted in a sandy or gravelly soil, or in any other than a clayey loam or a deep, rich garden mould.

Mr. Smith is a firm believer in the value of dwarf pear culture, and proves his faith by his works, for he has introduced them extensively into his specimen fruit grounds, where they are models of beauty and perfection; and he has also planted an orchard of ten acres for a gentleman, near the city, largely composed of dwarf trees, and undertaken the management of it for four years, or until it comes into full bearing. This orchard, containing upwards of four thousand trees, is one of the most admirable specimens of successful pear-culture we have ever seen. It is surrounded on all sides by a heavy stone wall, and a Honey Locust hedge, the best protection against fruit thieves that can possibly be provided. The lot was simply a good corn-field, with a southeastern exposure, protected on the north and west by a hill. It was deeply ploughed, but not trenched or manured before planting. A light top-dressing of good barn-yard manure is given annually. The field is kept constantly clean with the cultivator and hoe, the entire season. A light, loose, well cultivated soil is thought to be the best mulching the trees can have. No crops are, of course, grown on the ground, but a few pear stocks and newly budded trees are planted between the rows. The strong, healthy growth which the dwarf trees have made, in two years, under this simple plan, is really remarkable. But little difference can be discerned between the dwarf and standard trees in respect to luxuriance and vigor. The Duchesse d'Angouleme and others on the quince, grow quite as well as the Bartlett on the pear stock; while such trees as the

Beurre Giffard, dwarf, equal the Seckel as a standard. The soil is a light clayey loam, with a porous sub-soil, liberally supplied with shaly limestone rock. This orchard may be considered a test experiment in dwarf pear-culture, for market purposes, as contrasted with common garden work. It has been planted in a simple manner, just as we should plant an apple orchard, with the best of stock, under the direction of a practical nurseryman, who has the entire charge of the cultivation, pruning and fruiting for four years, by contract. Now we shall have a chance to see what an orchard of dwarf pears will do under the best management they can have, on a large scale, with a view to profit. Mr. Smith has no fears of the result, and will, no doubt, take pleasure in exhibiting the orchard to any pomological friends from abroad who may wish to see it.

In their nursery, Messrs. Smith & Hanchett are now growing several pear trees, which are often unhealthy on the quince, by double-working them, thus: first, budding the Vicar of Winkfield (which is probably the most vigorous and healthy of dwarf trees) on the quince, and then cutting back one year's growth within an inch or two of the stock, and then budding the Vicar wood with the pear which is desired. In this way they are producing, especially the Beurre Clairgeau, (which is generally an imperfect tree on the quince,) in great perfection. The Beurre Giffard, Des Nonnes, Winter Nelis, Seckel, and some others, which, as dwarfs, are generally feeble and unsatisfactory, may, no doubt, in this way, be obtained in good vigor on quince roots. We were much pleased with the results so far.

For orchard-houses and private gardens, these nurserymen are budding the peach on the Black Plum, with a view to dwarf the trees and to protect the stem against the peach-borer and grub. They think the trees will be much approved.

Messrs. Smith & Hanchett practice the cutting-back system on their pear trees. A "cut-back" tree is one which has been grown vigorously for one year from the bud, then cut back within five or eight buds of the root, and after another year's growth, when it has made five or six strong branches all within eight or ten inches of the ground, shortened back in all its shoots, so as to become a strong, bushy tree. Such trees, especially if budded very low, "right down on the crown of the quince root," are worth double the tall, slender trees which we often find budded with the quince roots more than a foot in length, and grown year after year without any shortening of stem or branches. But many persons prefer bean-poles to good trees, and so Messrs. Smith & Hanchett get up some of that kind to suit the popular idea of a good pear tree.

Dr. Boynton, the well-known lecturer on geology,

has a pear orchard of several thousand dwarf trees, near Syracuse, from which he last year obtained some of the most beautiful fruit we have ever seen. Those who were present at the Pomological Convention, in Philadelphia, September, 1860, will remember the display of large, brilliantly-colored pears, with very glossy, waxy skin, contributed by Dr. Boynton, and also the curious dissertation given by the Doctor upon the supposed cause of the color and gloss. This orchard we visited and examined. It is situated on an eminence or steep hill, covering the north and south sides. The trees are all planted on terraces, with excavations on the top of each terrace, to prevent the water from flowing off too suddenly in summer, while the soil is said to be so naturally porous as to drain off superabundant moisture freely. The manner of planting we thought bad, for several reasons, one of which is, that it effectually prevents all culture with the horse-hoe, or cultivator,—so essential to perfect success in this kind of orcharding. As a consequence, the field was allowed to run into wild grass, weeds and thistles, all of which are unsightly and injurious. Again, terraces with basins for holding water, must be too wet in cold wet weather, and too dry in a season of drouth. We must state, however, that the Doctor, in consequence of domestic afflictions, personal illness, and losses occasioned by the Southern Rebellion, has been prevented from giving his usual attention to this orchard for several months past, and it was not seen by us in its best or proper condition. The trees, however, looked very well, as a general thing, and apart from a vicious system of pruning, called "forming pyramids," which is advocated in nearly all works on fruit-culture, and almost universally practiced in New York, furnished good evidence that dwarf pear-culture was by no means a failure. Neither here nor on the fruit orchard at Smith & Hanchett's, was there any thing like a crop of fruit, the blossoms having been nearly all destroyed by the spring frost,—nor were the specimens of fruit which escaped the frosts of the ordinary size or beauty. As to the cause of the brilliant coloring which has distinguished Dr. Boynton's fruit heretofore, and the remarkably polished and waxy appearance of the skin, the Doctor attributes it to the peculiar geological composition of the soil, and the free use of potash, soda and superphosphate of lime in the composts which he has applied. The circumstances alluded to are remarkable, and we hope the Doctor will investigate the probable causes of his peculiar success with much care.

At Syracuse native grapes are cultivated pretty extensively in small vineyards, on high trellises, in the gardens about the city; and albeit, we have little faith in the value or success of such culture, in

the gratification to be obtained from it, or in the merit of the system of culture generally practised, we consented to look at some specimens of these vineyards. The result was by no means flattering to the reputation of the native grapes, or to the skill of the cultivators. We feel well assured that few or no well-ripened, palatable or digestible grapes can be produced from the varieties now cultivated, or under the system of training and pruning generally pursued. As a specimen of the culture which is adopted, we were shown the vineyard of one gentleman, who, we were told, had obtained from his vines the best native grapes ever seen in Syracuse. The method of culture was as follows: The vines were trained on trellises eight or ten feet high, with numerous rods running up from the roots (the rods, say, six or eight inches apart) to the height of the trellis, and then along the top of the trellis, in a mass, an indefinite length, rarely, if ever, stopped at the terminal point; but *all the main laterals were carefully cut out of the growing canes, close to the main eyes*, leaving only the main leaf at each eye! We remarked that this was a *novel* method of culture, to say the least of it, and asked why it was done. The gentleman said that he did not know, but it was "a way they had" in Syracuse, introduced by some German vine-dressers. We inquired if he could give any physiological reason for it, or quote any good authority which prescribed such treatment. He replied that he could not. He pursued this plan because others did, and all that he knew was, that he generally got a satisfactory crop of grapes. So plain a violation of the first principles of vegetable physiology and practical grape-culture it is not worth while to argue about. We only notice it to exhibit the deplorable state of native grape-culture, after all the efforts that have been made in this country to improve it.

#### GRAFTING ARBORVITES.

BY "PROPAGATOR."

IN the last nursery in which I was engaged before taking my present situation as a gentleman's gardener, evergreen propagation was a distinctive feature, and thousands raised annually by different modes, and as I left with the establishment a great deal of information that I have collected in my life, "free gratis and for nothing," there cannot be, I presume, any objection to my handing you a few notes occasionally for publication in your excellent journal, provided you think them worthy of acceptance.

In this letter I give you a mode of grafting arborvitæ, which I found very successful. In England we used to work these when the kinds were scarce on the *Thuja orientalis*, by cleft-grafting,—working

them an inch or so above the ground, and using composition wax in the usual way. Many of these would, nevertheless, fail. When the Golden Arborvitæ was first getting into popularity here, we wished to increase it faster than we could by cuttings. So I determined to operate on a lot of young American Arborvitæ we had in nursery rows. As early in spring as the frost was out of the ground, and the cold weather evidently passed away, the soil was taken away about an inch and a half from the stem of the young arborvitæ plants, and the plants themselves headed down to about a level with the surface of the ground. The graft was then inserted in the usual way of cleft-grafting, and after being tied with bast matting, the soil was drawn in about them, without any further coating of wax over the place of grafting. They had no further care, and grew beautifully. The great advantage of this mode was, that not only little bits too small to make into cuttings were used, but the plants grew on these strong stocks with such vigor, that they were as large in two years as they would have been in four, on their own roots, in the usual way.

[Certainly, we shall value highly a continuation of such useful hints.—ED.]

#### PRESERVATION OF ICE.

BY N. H. R., OF SPRINGFIELD, ILL.

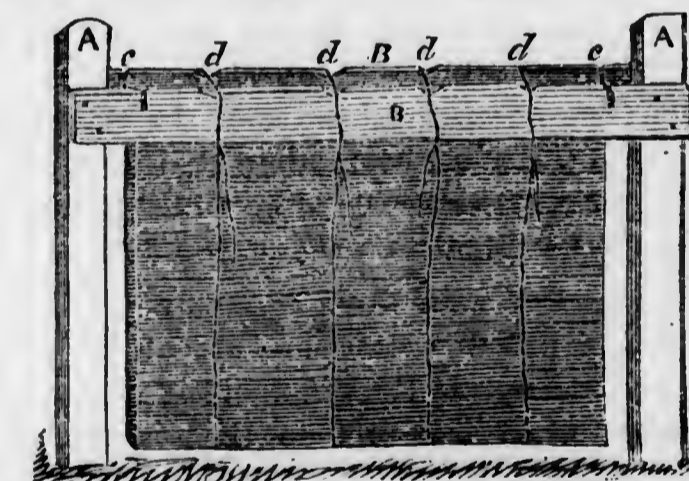
HAVING recently built an ice-house which has proved a failure, I have read with much interest the article in your September number on the above subject. My recent experience seems to confirm "J. C. B.'s" theory. My house is constructed on the idea, that heat can be sufficiently excluded by surrounding the ice with thick walls, and making the house as nearly air-tight as possible. It has 12-inch brick walls, with inside partitions six inches from the brick walls, the interval between the two walls being filled with pulverized charcoal. The roof is also thickened by charcoal between the shingles and sheathing. The drainage is well arranged and works well. The house has closely-fitting double doors. It is ten feet square on the inside. It was filled last winter with ice well packed. The ice lasted only until the middle of August.

I now desire to adopt the course suggested by "J. C. B.," and my present object is to ask of him (if he will be so kind as to answer my questions) some practical information on the subject, as follows: Of the different substances (shavings, saw-dust, charcoal,) with which he proposes to surround the ice, which is the best? How thick should the stratum be by which the ice is to be surrounded? It is the practice here with persons who pack ice in large quantities for sale, to put eight to twelve inches of

saw-dust between the ice and the walls of their houses. This, I presume, is much too great a thickness in the estimation of your correspondent. He says, "A layer of porous material must be put between stone walls and the ice, and provision made for the air to pass to the bottom of the structure." I do not quite understand this. Is other provision than the porosity of the material to be made for conducting air to the bottom of the ice-house? Say something on the shape of tubes. Does he advise that the doors of the ice-house be left constantly open? How thick should the covering over the top of the ice be?

If it is not agreeable to your correspondent to answer these inquiries, will you, Mr. Editor, answer them, or hand them to one of your correspondents, who is practical on this subject, for replies? Other persons beside the writer have encountered disappointment from building their ice-houses on a wrong principle, and your journal will be doing good service to the public if it becomes the medium of circulating correct theory and practice on this subject.

TO MAKE STRAW MATS.—Straw mats are often made for covering the hotbeds or cold frames, instead of bast-mats, and are found to be much better and cheaper. They can be made in the following manner:—Drive two posts (A, A) into the ground, eight or ten feet apart. The posts should be an



inch and a half to two inches wide. To these posts nail two boards (B, B), one on each side, so as to leave a space between them one and a half to two inches wide. Near each end of the boards, inside the posts, cut a deep, straight notch (c, c), to allow cutting the straw off straight at the ends. Notches (d, d, d) should be cut at intervals of about nine inches on the boards, say one inch deep, to keep the cords in their places. Tarrd rope is best. Lay the straw on the cords between the boards in handfuls, and tie them tight with a single tie, reversing the strings; then put on another handful, and proceed as before, till the mat is made of the length desired. The last course should be tied with a double tie.—James Craib in *Genesee Farmer*.

## The Gardener's Monthly.

PHILADELPHIA, OCTOBER 1, 1861.

All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY, Box 406 Philadelphia."

Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

## THE VEGETABLE QUESTION—CELERY.

STUDENTS on a certain musical instrument are usually cautioned against playing too much on one string. Horticulturists need similar advice at times. We have had the Strawberry Question, the Pear Question, the Grape Question, the Rose Question, and the Verbena Question,—all very important and pertinent to horticultural pursuits; but we propose a change just now, and introduce the *Vegetable Question*.

We know that it has been a grave question with more than one horticulturist, whether the vegetable-garden should not be abandoned, and attention exclusively devoted to the flower and fruit departments. "Every cabbage," say they, "costs us a quarter. Our onions are always of the Silver-skin variety, with the silver even more than skin deep; and the egg fruit is evidently of no fabled goose, and yet none the less golden on that account."

We sympathize with these complaints. Vegetables grown in private establishments often do cost entirely too much. If the main object of a garden be to raise our articles of food, the satisfaction of having grown our own vegetables is a poor recompense in face of the fact that they cost us double the price they would have stood us in the market.

And yet, for all this, if we are to look at the question as one of mere produce and cost, all private vegetable-growing may as well be abandoned, as no gardener can raise them as cheaply as one who makes it a special study and a business, and who grows them in immense quantities. We need not even stop with vegetables; for it is as true of our fruits and our flowers, that, cultivate them as scientifically as we may, they will cost us more than it will those whose peculiar calling it is to raise them; and we might argue further against private carriages and horses, and even against individual homes themselves, as communities and large boarding-

houses, on mutual principles, are decidedly cash-saving institutions.

But, keeping to the vegetable question, we are asked to think of the pleasure of raising them ourselves, as if our hat or our coat would be more valued by each man becoming his own tailor or hatter. We think that the true source of pleasure in a private vegetable-garden is superior excellence; and that if, with increased cost of production, this is not attained, the owner should either abandon his garden, his system of gardening, or change his gardener.

We make these remarks preparatory to describing a process of raising celery, that is not cheap, but excellent. Every stalk raised in the way described will probably cost six cents; so that those who would prefer to go in the market and buy one at three or four, need read no further. But to those who take pleasure in their gardens,—who are ever aiming at superiority,—who, in their experiments, are continually on the watch for new principles, that may afterwards be cheapened for the public good, and applied to other crops and other practices,—we make no apology on the score of the slightly increased expensiveness of the process.

To understand the advantages of the new mode, we will point out the disadvantages attendant on all the old ones. Celery loves an abundance of moisture, and it must be blanched. It is usual to continually water it overhead; but every cultivator knows that this tends to the baking and hardening of the soil, and continued stirring with the hoe and rake is necessary to counteract the evil, which, after all, is never entirely remedied. Then the blanching process usually employed, however varied in the mode, is attended by two serious evils. Blanching, to be effective, requires only the exclusion of light; but when earth or material is closed up around the celery plants, the air and all is excluded. The consequence is, that celery becomes pithy, insipid, and very difficult of preservation.

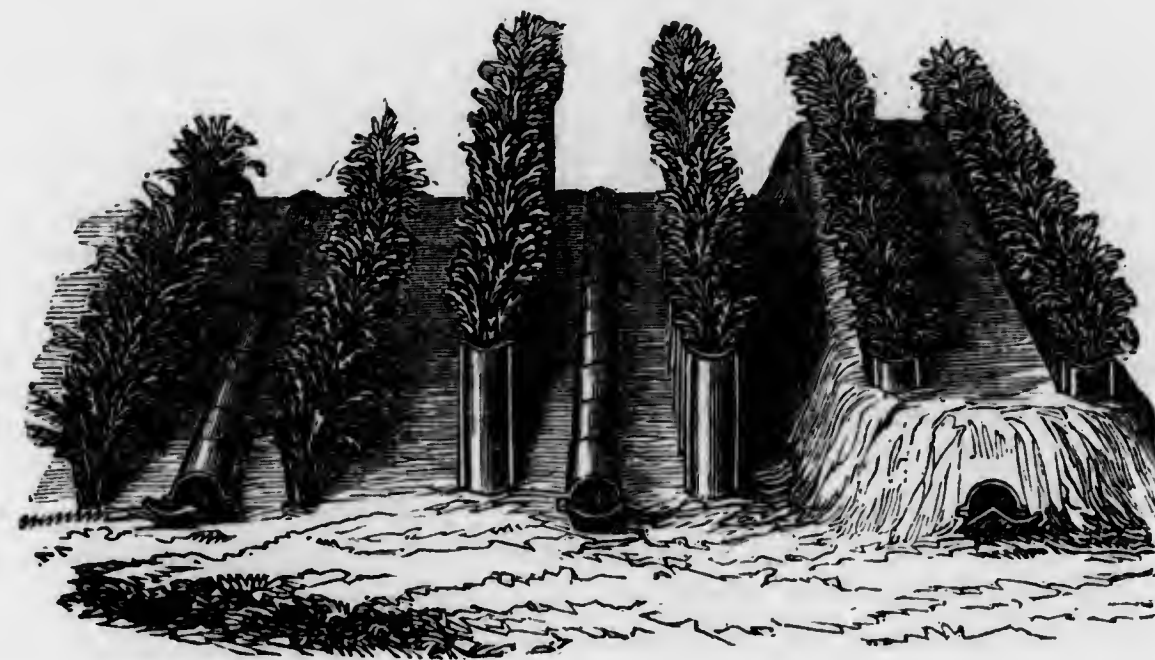
The other evil is, that by the earthing process, the rootlets are buried up far beneath the surface, and are dependent entirely on what little the soil contains for its growth and nutrition.

The following process obviates all these objections. See fig. 1. A level piece of ground is chosen, and well manured all over. The usual trenches are discarded, and the plants set right on the surface two feet apart. Common pipe draining-tiles are then procured, and after drawing a hoe through the loose ground directly between each row, the tiles are set, as in the sketch, nearly level with the surface. When it is desired to water, it is poured through the pipe, (one end being closed tight,) and the water percolates through the tiles into the soil, and

through and amongst the roots, keeping the soil thoroughly moist, while the surface around the plant is thus left porous and loose as ever. But these tiles perform another important function, which will appear in the sequel.

When the plants have grown quite long, common horse-shoe draining-tiles are employed, as shown in the plan for the blanching process. They are set edge to edge on the opposite sides of the row, a slight earthing being employed to keep them in an upright position. Towards autumn, when the leaves begin to fall from the trees, they are collected and thrown in between the rows, and thus all light is entirely excluded, while air will pass down the tube and around the stems of the plants, rendering them firm and solid in the midst of a perfect blanching process. Any litter will do as well as leaves.

Fig. 1.



It is now that the pipes serving as water-conduits prove of value. While air is excluded by the superincumbent mass of matter, it passes through the open pipes and completely aerates the roots, causing them to grow in a surprising manner. The friend who gives us the plan as he pursued it in Germany, tells us that the roots often form so complete a mass inside the pipes by the time the celery is full-grown, as to entirely choke them; and the whole vigor of the plant and crispy sweetness of quality is such as will enable those of our readers who have followed our description to prepare a "surpriser" for those who left off reading at the point where we spoke of the increased expense of the plan.

To make the subject of celery improvement complete, another friend asks us to tell his fellow-readers of the *Gardener's Monthly* how he preserves celery fresh and plump till April, and time to sow celery seeds again; and as we think the plan founded on sound principles, and as, moreover, he has tried it in the balance and not found it wanting, we cheerfully comply. Fig. 2 gives the idea.

Fig. 2.

An elevated piece of ground is chosen, where the water can easily run off. A double row of celery is then laid along on the ground, each row slightly elevated to throw out any moisture that may chance to get in. A thin layer of soil is then thrown over, and another layer of celery, setting each layer a little further in than the one below it, so that, when finished, the whole stack will form a ridge. Soil is then cast over the whole, and "banked" or smoothed over. In order to guard still more against wet, a small gutter is dug around the ridge, to carry off the water. A covering of corn-stalks or any waste litter will exclude frost, and on an occasional fine day through the winter the "cairn" may be opened, and a supply for a week or so taken out.

## KILMARNOCK WEeping WILLOW.

[SEE FRONTISPIECE.]

WE give this month an engraving of what we consider, without exception, the handsomest weeping tree in cultivation. It has been in the country some years, but is so seldom seen in proportion to its real

merits, that we deem it a duty to place it prominently before our readers as we do.

In our own neighborhood we have recently seen some very fine specimens, which the owner obtained some years ago from the establishment of Ellwanger & Barry, Rochester, New York, to the well-known energy and enterprise of which firm, we believe, its early introduction, and dissemination so far as it has gone, have been mainly owing. The specimens alluded to we know the gentleman would not part with at any price, and they are the admiration of all who see them.

It appears to be a variety of the *Salix caprea*, or Goat Willow, and was first discovered in a bed of others by the Laings, of Kilmarnock, in Scotland.

#### THE NELUMBUM LUTEUM. OR YELLOW EGYPTIAN LOTUS.

A FRIEND sends us a spirited sketch from the Philadelphia *Evening Bulletin*, of what, to strangers, is one of the "sights" of that city to tourists who have a taste for natural history and associations connected with ancient legends.

How or in what manner the plant first became naturalized near Philadelphia, has hitherto been a mystery. The first account of which we have any record of its existence there, is that it was noticed by Peter Kalm, the Swedish botanist, and after whom the *Kalmia* is named, in 1748. It was not known at that time to be found north of the Carolinas. If, therefore, it had been introduced from the South by any of the white settlers, it could not have had time to be so well established at Kalm's discovery but that that fact would have suggested itself to his acute mind, or at least to some of his fellow-explorers, Bartram, Marshall, &c.

That it does not exist nearer its southern locations than this, is, we think, proof that it was introduced by some one; as all aquatic plants, natural to our waters, have a very wide and regular distribution. The probability is, that it was introduced by the Indians, and if so, a curious inquiry might be started as to what motives prompted the introduction?

On the theory that the American Indians are of Asiatic origin, might not the sacred character given by these races, in that country, to the species of that region,—dedicated, as it was, to Isis and Osiris, have accompanied the emigrants to this country, and be transferred to this so nearly allied species? And if proof could be found that the Indians of this continent really had this supposed veneration for our Lotus, might it not prove a valuable fact in tracing the exact history of the American Indians? We throw out the hints for the benefit of ethnologists.

We may add, that tradition certainly fixes the neighborhood of the Philadelphia Lotus as a famous Indian rendezvous. On a hill about two miles from the spot the writer has often found flint arrow-heads, and it was, therefore, undoubtedly a place devoted to this species of manufacture. With these matter-of-fact remarks, we will introduce our writer's more flowery production:

#### The Floral Wonder of the First Ward.

A LOCAL ITEM, BY A "NECK"ROMANCER.

"HEAR the legend of the Lotus. It grows in the lonely meadows that border the Old Point Road, and spread, laced with languid creeks, their sheets of summer green to the Delaware. Into this desolate haunt the plant has wandered from Florida lagoons and the bayous of Indian islands, and here any year, in the ecstasy and passion of midsummer, the visitor may find it, as we did, holding its stately drawing-rooms, its shields of malachite, and crowns of dewy silver, all doubled in the polished pavement of the water.

"The flower is of the storied *Nelumbium* family, historic in Egypt and holy in India, revered by the Pharaohs three thousand years ago, and by the Buddhists in all Asia to-day. The vision of the Nile would be less fair in our eyes, were this shining lily lost from its borders, and without it a hundred delicate myths,—images of Brahma and Vishnu, and figures of plump, lazy-eyed goddesses of China and Japan, would topple over helplessly and be drowned; for the starry blossom is their float, and their boat, and throne. It is the puzzle of local botanists to discover how a tribe of this priestly family was ever moved to abandon the ancestral waters, and lay its exotic flowers upon the baptism of our Galilean font. But here it grows, distinct from any water lily known to the Northern States, haughty and lonely in the caress of an alien tide, and, waiting for our summer's most tropic hour, bursts, and heaves a fortnight's wonder on the waves.

"We had a friend at court, an habitué, who knew well the habitat and etiquette of this fragile nobility, and with that introductory advantage we secured a presentation, on a day that seemed created to cradle an oriental dream. The sky was a cup of stagnant fire. The heat was equatorial, and the air expanding and ascending left us hardly enough to feed our poor, practical lungs upon. The whole material of daylight seemed rising from us in impalpable fumes. An exhalation, such as ascends from the flats of Egypt in the time of their inundation, painted the far-spreading level with touches of mezzotinto and uncertainty, and laid an attenuated veil of mystery on all we saw, and, indeed, on all we felt. In fact, as we found afterwards, it was raining

not many miles to the north and to the south; but over the tender botany of the lands of rainless blue, the clouds, sparing for the lotus a focus of reeking calm, withdrew in a mighty cordon, and watched the moments of its culmination from afar. All round the horizon their piles of moulded Carrara lay motionless in statuesque quiet, and silently corroding away in the devouring fervor of the air.

"Through the lazy hours of such a day, we waited for the tempered relaxation of its heat, and then set ourselves in lagging motion towards the South. The road alluded to was once a capital artery, receiving a populous current from the Gloucester Ferry, but deserted now by all its old patrons,—the long-waist-coated yeoman and the coy equestriennes whose buckles and heel-slippers we cherish,—it marches disconsolately between a police of ditches, and turns neither to the right nor left till it reaches, a little further on than we need to trace it, the end of its downward career by a termination abrupt as any felon's. Along this disgraced thoroughfare, not without an accompanying society evoked from the gray doors of velvet tombs, and the limbo (wherever that may be) of those C-spring high-elbowed gigs and wonderful one-horse shays of antiquity, we and our fancies went musing, and so

"In the afternoon we came unto the land  
In which it seemed always afternoon."

The lazy kine was cropping those delicate grasses which dry into the fine packing hay. Each footfall, as we crossed the meadows, splashed up a spray of light-limbed grasshoppers. Then, winding awhile by quiet creeks, whose pictured heavens were pierced by the spearheads of sagittate leaves, we went westward, till our guide suddenly lifted a hand of warning, and pointed where, lo! how still they slept!

"The water was paved with round emerald tables, from six to eighteen inches across, each bearing in its central dimple a ball of brilliant water, neither pearl nor diamond, but a new gem, crystalline silvery, ineffable; for the velvet texture of the leaf rejects liquids, which roll about like mercury, in glancing bullets, when the ripple stirs the broad palms in which they are held. If the leaves were dainty, what where the flowers? Gathered softly apart, all together, away from the buxom spatterdocks and the baser canaille of nameless water plants, the pallid Circassians rose from their baths, each with its delicate stem running down to link with a swaying reflection. Some closed their milky lips,—the baby-buds, who, when the white, intense sun should feed a little longer their tiny veins with cream, would reach the privileges of maidenhood, and let their petals pout further and further apart with the kiss of each lazy breeze. And some had ripened so far already, and

allowed you, in a cool cell of translucent white, to see the flaming topaz they wore upon their hearts. And a few had burst with pallid fury into mimic suns, and lay relaxed upon the water, five ivory inches over, raying from their yellow reals a flight of luminous petals.

"Certain venal *sans-culottes* had arrived before us, and, plunged into unfathomable Nilotic mud, were pulling at the pretty pipes, meaning to ravish a few dozen of the lilies for the slave-market. This strange flower, indeed, is not quite unknown, although most of the quiet Philadelphians go on longing for a sight of the haunted blossoms of the Nile, unconscious how near it waits for them in its covert of plated shields. A few of those noiseless students of Flora, however, the practical botanists whom most people consider bores because they go penetrating everywhere, are in the secret, and have let it out to us; and, far more captivating than they, a race of dreaming and expectant children, the true lotophagi, are hanging even now their hopes upon the mellowing lotus fruit. When the golden October comes, with its witching of hazy air that makes a glamour for all things and any landscape, we shall see these offspring of a poetic myth stretch out beside the creeks, breaking the tender hulls for their magical chimpanzins, and feeding on them and on the dreams of which they are the talismans. We know too well what will happen to these thoughtless youth, and the shadow that will fall upon the homes whose idea the enchanted food will obliterate from their memories forever.

"For ourselves, we shall always be furnished with a sympathetic association for the lotus, in the memory of the Japanese, whose figures have retired far enough by this time for us to appreciate the peculiar and delicate romance their pageant gave us. These languid exotics, whom we all remember, leaning all day from the stately windows of their great caravanseria, and, with the theatric lenses that so took their fancy, making an opera of all our earnest American life; those hovering groups of yellow phantoms, resting their taper fingers on the sills, but never, even to the lowest of their servants and porters, seeming to enter far enough into practical existence to make those fingers a degree less taper and delicate; no, but living right among us a life that could not be ours, and opening every morning their oriel eyes to a prospect we could never see,—they would have comprehended the lotus. We had fain bent the season to our scheme, and so have seen in some dark alien eye the image of a silver star, an appreciated reflection of the sacred flower of Buddha; so, to the most recondite study we have been granted in ethnology, these rysterious Flora would have been attached, and we should never again behold the

fairly flotillas of the lotus, without fancying before them an adoring shadow of a Mongolian, bowing to impalpable divinities afloat upon the jeweled barges."

## Scraps and Queries.

Communications for this department must reach the Editor on or before the 10th of the month.

The Editor cannot answer letters for this department privately.

Figs.—A Subscriber, Philadelphia, asks:

Will you please inform me if it would be safe to keep fig trees and oleanders (planted in boxes) in a cold graperie during the winter. The thermometer in the night sometimes falls to zero, and during the day rises to 40° or 50°,—on mild days to 70° or 80°.

If so kept, should they not be covered, so as to exclude the light? or would it be better to keep them in a warm, dry cellar? (1.)

Are fig trees in this latitude ever grown in the open ground? If so, how are they protected during the winter? (2.)

Which variety of the fig bears the largest fruit? (3.)

Is the exudation of gum in peach trees an infallible sign of the existence of the borer? (4.)

I have repeatedly examined my trees on seeing gum issuing from the collar, but without finding any insect. What can I do to protect them?

[1. There is danger of injury. Cover them with dry straw. The absence of light will be an advantage.

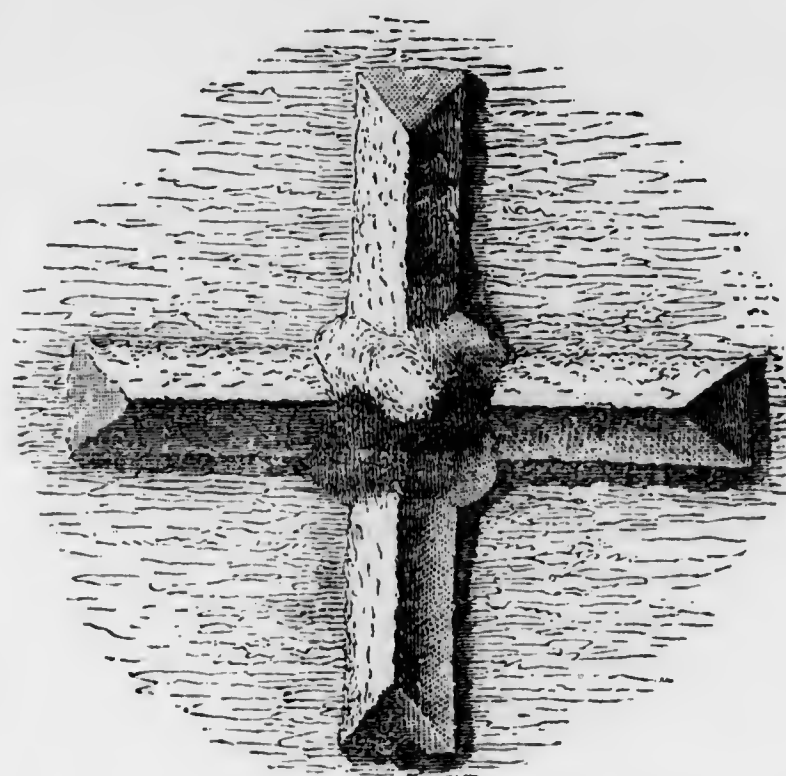
2. Often. To protect them, they are laid down and buried with soil. The plan followed here is to dig away the soil a little on one side, bend the plant down, and after pegging to keep them in place, cover with soil.

The following short piece, however, from our first volume, gives a neat German plan:

### "PROTECTING THE FIG.

"The fig tree, in many of our city gardens, stands the winters perfectly well without protection; and with but very slight protection, could be grown much further north. We annex a cut of the mode adopted for this purpose in the north of Europe.

"The fig tree is kept by pruning rather dwarf and encouraged to branch near the ground, and in the fall the shoots or branches are tied in four bundles of equal size. A circular mound of earth is then thrown up around the base of the tree, and then the four bundles of branches are bent carefully down and covered about a foot or eighteen inches deep, so that when completed, the earth will present the appearance as shown in the engraving annexed."



3. The White Ischia is the largest and best grown in this vicinity.

4. Any injury produces gum; very often it occurs where no borers exist. Small wire-worms or species of centipedes often injure peach trees at the collar sufficiently to cause gumming. Tar or grease in small quantity, mixed with the soil near the stem of the tree, would, doubtless, keep them away.]

PEACHES—From Mr. E. Tatnall, Wilmington, Del.—"Miller's Early," equal in size, flavor and appearance to Crawford's Early, but, Mr. Tatnall says, earlier.

"Letitia" and "Tally-ho," good, but we could observe no quality in which they were superior to others of the same season. One without a name, with an uninviting appearance, seemed the best of the lot.

PEACHES—From Chambersburg, Pa.—Mr. Jacob Heyser sent us a box September 5th. A tolerably good peach, far superior to the old Melocoton, with which we compared it on receipt. The flesh is firm, and it carries well, having reached us by express, after several days' journey, as fresh as when gathered from the tree. It appears distinct from any kind we know of. The following note came with the fruit:

"I send to you this day half-a-dozen peaches of a variety that has been cultivated in this town some fifteen years. The original tree was completely broken to pieces by over-bearing, and was a constant bearer, always having fruit when there was any other fruit in the vicinity. The fruit sent is about medium size, at least the smallest. I have taken some from the tree measuring from nine to

nine and a half inches in circumference, and the tree quite full. The tree stands in the yard of Dr. J. L. Suesserott, of this place, and is so situated as to get all the afternoon sun, but none of the morning. The tree is six years old from the bud, and has borne fruit for the past three years in succession. We call it the George Forney Peach. The tree is a good, strong grower, and has never known disease."

COLD PITS—N. T. C., Canada West, inquires:—Can a pit for protecting plants through winter be built to answer the purpose where the water for several weeks in early spring stands within two feet and a half of the surface, and where drainage is impossible? If so, what would be the best mode of construction for the locality? (1.)

Would there be any disadvantage in placing it where it would be covered nearly the entire winter by snow-drifts sufficient to prevent the admission of fresh air, except at rare intervals? Is a double thickness of glass indispensable? (2.)

[1. We should build a pit, under such circumstances, above the ground, and bank it all around with a few feet thickness of earth, sodding it all over to keep the earth from washing away or becoming loosened by action of frost.

2. There would be no disadvantage in building it where snow would likely drift, unless the pit was not mouse-proof, in which case they would probably cut up some high capers, under so long a time of being undisturbed, and, perhaps, make nests of your choicest verbenas.]

AERIAL ROOTS FROM THE NATIVE GRAPE—Dr. Wheeler, Burlington, Vermont, writes:—"I passed the months of March and April at Fayetteville, N. C., and while there interested myself in examining the Scuppernong Grape-vine. On some of the most perfect vines which I saw in the grounds of the United States Arsenal I was greatly surprised to perceive numerous filaments, or aerial roots, dependent from them. This, to my unpracticed eye, was entirely new and unaccountable. The gardener, in reply to my inquiry, said that those filaments were of various lengths, from eighteen inches to three feet, and on reaching the ground would take root; but he did not know whether they would produce a bearing vine.

The appearance was so new and surprising to me, that I cut from the top a number of these aerial roots, for the purpose of verifying their character, and on my return, addressed a note on the subject to Prof. Asa Gray, of Harvard University. From him I received the following reply:

CAMBRIDGE, June 10th, 1861.

My Dear Sir:

The "filaments" you sent are clearly, both from your account

and from their structure, aerial roots, as you asserted. Such are produced on some tropical species of Vites, but were unknown to me on the Scuppernong or any other North American grape; nor do I find any allusion to them by Chapman or Dr. Curtis.

Do the aerial roots ever strike out from branches of the vine only two or three years old? If so, the vines might be propagated with more than ordinary facility by layering. I should like to communicate this fact to the Rev. Dr. M. A. Curtis, of Hillsboro, N. C., but I see no prospect of doing so until our armies penetrate as far South as Raleigh.

I wish you would write an account of the thing to the editor of the Gardener's Monthly, Thomas Meehan, Germantown, Pa.

Very truly yours,

ASA GRAY.

REV. DR. WHEELER.

Dr. Gray's inquiry as to whether they appear on young vines, I cannot answer.

I beg to add, that the existence of these aerial roots has not been observed, so far as I have been able to learn, by the cultivators of the vine. They are regarded as filaments belonging to the bark, and in the season of the grapes are torn off and thrown aside, because in the way. Hence it would be difficult, without careful search, to find them more than a few inches in length. They are probably considered of the nature of tendrils. I enclose you a specimen, and am, sir,

Yours, &c.,

JOHN WHEELER."

[The root enclosed in the above communication was about two feet in length. We have never before noticed them on any North American species, though, when under cultivation, most of the Asiatic species produce them under certain circumstances.

The common hothouse grapes, for instance, when the roots of the vines are in the open ground entirely outside the house, and the vines subjected to a high moist temperature inside, throw out aerial roots freely, and in proportion to the difference of temperature between the vine-border and the atmosphere of the vinery, is, usually, the length of these roots. Practised gardeners, therefore, usually interpret this appearance to mean "something wrong at the roots." The reason probably is, that the organized sap, checked in its descent by the inactivity of the lower vessels, is forced through the bark in the shape of these aerial roots.

We have observed a similar circumstance in the common willow. Very old specimens are frequently hollow, and in the interior, aerial roots several feet in length to the ground, often occur from the sap, checked in its descent, making for itself an outlet in that form. It is quite possible, therefore, that in the present case, the production is abnormal, and depends on some peculiar state or condition of the vine rather than to regular rule, and we shall be obliged by the further observations of correspondents who may have opportunities of observing the growth of the Scuppernong Grape, as to its frequency or otherwise.]



**INSECTS.**—We received, last month, from Delaware County, Penna., unknown insects. Miss M. H. Morris, the entomologist, very kindly furnishes the following account of them:

"The small flies which you left with me a few days since, belong to the order Hemiptera, and of that branch of the Aphididae, or Plant Lice family, called Psylla, which have the power of leaping. They are not so prolific as the other plant lice, as they usually produce only one brood in a year. They live in groups upon the leaves and stems of trees on which they feed, drawing the juices from the plant by means of a tubular sucker, situated on the breast, between the front legs. They differ from the leaf hoppers in their appearance and formation, having their bodies very soft and more or less oval, with large transparent wings which cover the sides of the body like a roof. The antennae are long, thread-like, and tipped with two short bristles at the end. Both sexes have wings when they arrive at maturity. The females are provided with piercers, with which they pierce the leaves when about to deposit their eggs, which sometimes produce little swellings resembling galls. Dr. Harris speaks of a species in Massachusetts, that were very injurious to the pear trees a few years since, but as yet they have not made their appearance here."

**PROTECTING GRAPES IN VINERIES.**—*J. J., Cleveland, O.*, writes:

"This spring I planted a viney of Black Hamburg grapes. Will you please inform me in your October number of the *Gardener's Monthly* if they will require any more protection than the glass, in case I do not have any fire in the house till I start them in spring? Also, what protection they will need, or what method is usually adopted for them?"(1)

Also, what would be an average height for a viney back wall, as I intend to build another one in spring?"(2)

1. They will require no more protection.
2. Twelve feet.]

**PROTECTION TO DORMANT ROSE-BUDS.**—*F. P., Jamaica Plain, Mass.*—Where there are only a few choice ones, a piece of cotton-wadding tied over the bud is a simple and effective protection. In larger quantities, the best plan is to take them all up and heel them in thickly in some place where they can be protected by brushwood or other litter. Failures sometimes occur in plants laid in, by too damp a place being chosen. The ground for heeled-in plants of all kinds should be "high and dry."

**NAME OF PLANT.**—*J. G. L., Mount Union, Pa.*—*Datura (Brugmansia) suaveolens.*

**AQUATIC PLANTS.**—*M., Connelsburg, Pa.*, inquires where he can buy aquatic plants for stocking an aquarium? Most nurserymen in almost all our large cities could probably supply them, as, if they do not happen to have them themselves, they usually know where to get specialties when ordered. There are many beautiful plants, in every one's neighborhood, quite as rare to the general observer as if brought from abroad; any botanical friend of the vicinity would probably indicate their whereabouts. *Heteranthera reniformis, Schollera graminea, Potamogeton natans, Anacharis Canadensis, Vallisneria spiralis, Charas*, and others, for instance, are easily obtained in this way.

**PEACHES FOR ORCHARD HOUSE.**—A "Subscriber."—Will you please give a list of Peaches suitable for pot-culture? Likewise, the best twelve peaches for planting in the peach-house, all on plum stock? and if all peaches and nectarines do alike well on plum stock?

[Try Chancellor, Crawford's Early, Druid Hill, Early York, Early Newington, Eliza, George IV., Grosse Mignonne, Morris White, Morris Red, Noblesse, Old Mixon Free. There may be others to do as well or even better than these, but these we do know to be good for your purpose. We believe all do equally well on the plum stock.]

**PLUM, BOWERS' GAGE.**—Several friends have called our attention to this variety, so named by the parties who are growing it, through having received it from its raiser, Mr. Bower, of Philadelphia. It very closely resembles Lawrence's Favorite in every respect, and we think scarcely worth a separate name and distinction. Like that excellent kind, it is probably a seedling from the Green Gage. Wherever it has been grown the past few years it is remarkably productive, and though the fruit is evidently as freely "stung" by the curculio, shows no tendency to rot in consequence. However, we are forced to the conclusion that any one variety when in a perfectly healthy state, will as easily resist injury from the curculio as another. A slight tendency to ill health evidently adds to the injury the insect does.

**ABRONIA UMBELLATA.**—In our last, in answer to a correspondent, we stated that this beautiful plant was not yet in cultivation. We find that it has been grown by several parties in the Eastern States the past season, from seeds imported from Europe, but it had somehow escaped our observation.

**TROTH'S EARLY RED PEACH.**—*Isaac Pullen, Hightstown, N. J.*—"I send two specimens of

## Books, Catalogues, &c.

[Concluded from page 283.]

**ON THE SOURCES OF THE NITROGEN OF VEGETATION;** with special reference to the Question whether Plants Assimilate Free or Uncombined Nitrogen. By John Bennet Lawes, Esq., F. R. S., F. C. S.; Joseph Henry Gilbert, Ph. D., F. R. S., F. C. S.; and Evan Pugh, Ph. D., F. C. S.

Turning to their direct experiments on the question of the assimilation of free nitrogen, the Authors first consider whether such assimilation would be most likely to take place, when the plant had no other supply of combined nitrogen than that contained in the seed sown, or when supplied with a limited amount of combined nitrogen, or with an excess of combined nitrogen? And again—whether at an early stage of growth, at the most active stage, or when the plant was approaching maturity? Combinations of these several circumstances might give a number of special conditions, in perhaps only one of which assimilation of free nitrogen might take place, in case it could in any.

It is hardly to be supposed that free nitrogen would be assimilated if an excess of combined nitrogen were at the disposal of the plant. It is obvious, however, that a wide range of conditions would be experimentally provided, if in some instances plants were supplied with no more combined nitrogen than that contained in the seed, in others brought to a given stage of growth by means of limited extraneous supplies of combined nitrogen, and in others supplied with combined nitrogen in a more liberal measure. It has been sought to provide these conditions in the experiments under consideration.

In the selection of plants, it was sought to take such as would be adapted to the artificial conditions of temperature, moisture, &c., involved in the experiment, and also such as were of importance in an agricultural point of view,—to have representatives, moreover, of the two great natural families, the Gramineae and the Leguminosae, which seem to differ so widely in their relations to the combined nitrogen supplied within the soil; and finally, to have some of the same descriptions as those experimented upon by M. Boussingault and M. G. Ville, with such discordant results.

Thirteen experiments were made (four in 1857 and nine in 1858) in which the plants were supplied with no other combined nitrogen than that contained in the original seed. In twelve of the cases prepared soil was the matrix, and in the remaining one prepared pumice.

Troth's Early Red Peach, one of which has a sprig with a few leaves. It is the first that ripens, of value, for market purposes. The same fruit ripens in Caroline County, Maryland, about the first of August.

[The fruit was of medium size, firm in flesh, and excellent, but so much like what we have known as Haines' Early Red, that we are either mistaken as to the identity of the latter, or it is the same. We believe there are several supposed varieties so nearly or quite alike, but with different names, that we make the suggestion in order that another season the confusion may be cleared up.]

**THE FILLMORE STRAWBERRY.**—A "Subscriber," *Baltimore, Md.*, says he has been misapprehended as having spoken disparagingly of this variety in his article in the September number. He writes that this is a great mistake, and that it gives him pleasure to commend that variety as a very superior berry.

**ERRATA.**—In the past articles by our correspondent "L," the following typographical errors occur, which the reader will please correct in their proper pages:

Page 168. 28th line from top, first column, for Solundea read *Solandra*, and for Husselquista read *Hasselquist*.

do. 7th line from bottom, 1st column, for mother read *master*.

Page 178. 21st line from top, 1st column, for commit read *connect*.

do. 32d line from top, 1st column, for grapes read *grasses*.

Page 179. 12th line from bottom, 1st column, for Antwalt read *Antwerp*.

**NAMES OF PINES.**—"Tyro."—There is no difference. *Abies orientalis* and *A. Whitmaniana* are one and the same. The former is the name it is generally known by all over Europe, except England, and is the one most general in this country.

**PEACH.**—*From Wilmington.*—As we send this chapter to press, September 10th, we receive a box of fruit from Wilmington, Del., no letter to indicate from whom. It resembles *Grosse Mignonne*, but is evidently later than that popular favorite, and we think in general qualities would compare favorably with it. Altogether, combining beauty and general qualities of fruit, we consider it the best we have received this year.

**SICKNESS AND DEATH** in the family of the Editor, will explain to many correspondents and friends, why their favors have been temporarily unnoticed, or not privately acknowledged.

Of nine experiments with Gramineous plants, one with wheat and two with barley were made in 1857. In one of the experiments with barley there was a gain of 0.0016, and in the other 0.0026 gramme of nitrogen. In only two cases of the experiments with cereals in 1858, was there any gain of nitrogen indicated; and in both it amounted to only a small fraction of a milligramme. Indeed, in no one of the cases, in either 1857 or 1858, was there more nitrogen in the *plants themselves*, than in the seed sown. A gain was indicated only when the nitrogen in the soil and pot, which together weighed about 1500 grammes, was brought into the calculation. Moreover, the gain only exceeded one milligramme in the case of the experiments of 1857, when slate, instead of glazed earthenware, stands were used as the lute vessels; and there was some reason to believe that the gain indicated was due to this circumstance. In none of the other cases was the gain more than would be expected from error in analysis.

The result was, then, that in no one case of these experiments was there any such gain of nitrogen as could lead to the supposition that *free* nitrogen had been assimilated. The plants had, however, vegetated for several months, had in most cases more than trebled the carbon of the seed, and had obviously been limited in their growth for want of a supply of available nitrogen in some form. During this long period they were surrounded by an atmosphere containing free nitrogen; and their cells were penetrated by fluid saturated with that element. It may be further mentioned, that many of the plants formed glumes and paleæ for seed.

It is to be observed that the results of these experiments with cereals go to confirm those of M. Boussingault.

The Leguminous plants experimented upon did not grow so healthily under the artificial conditions as did the cereals. Still, in all three of the cases of these plants in which no combined nitrogen was provided beyond that contained in the original seed, the carbon in the vegetable matter produced was much greater than that in the seed,—in one instance more than three times greater. In no case, however, was there any indication of assimilation of free nitrogen, any more than there had been by the Gramineous plants grown under similar circumstances.

One experiment was made with buckwheat, supplied with no other combined nitrogen than that contained in the seed. The result gave no indication of assimilation of free nitrogen.

In regard to the whole of the experiments in which the plants were supplied with no combined nitrogen beyond that contained in the seed, it may

be observed that, from the constancy of the amount of combined nitrogen present in relation to that supplied, throughout the experiments, it may be inferred, as well that there was no evolution of free nitrogen by the growing plant, as that there was no assimilation of it; but it cannot hence be concluded that there would be no such evolution if an excess of combined nitrogen were supplied.

The results of a number of experiments, in which the plants were supplied with more or less of combined nitrogen, in the form of ammonia-salts, or of nitrates, are recorded. Ten were with cereals; four in 1857 and six in 1858. Three were with Leguminous plants; and there were also some with plants of other descriptions—all in 1858.

In the case of the cereals more particularly, the growth was very greatly increased by the extraneous supply of combined nitrogen; in fact, the amount of vegetable matter produced was eight, twelve, and even thirty times greater than in parallel cases without such supply. The amount of nitrogen appropriated was also, in all cases many times greater, and in one case more than thirty times as great, when a supply of combined nitrogen was provided. The evidence is, therefore, sufficiently clear that all the conditions provided, apart from those which depended upon a supply of combined nitrogen, were adapted for vigorous growth; and that the limitation of growth where no combined nitrogen was supplied was due to the want of such supply.

In two out of the four experiments with cereals in 1857, there was a slight gain of nitrogen beyond that which should occur from error in analysis; but in no one of the six in 1858, when glazed earthenware, instead of slate, stands were used, was there any such gain. It is concluded, therefore, that there was no assimilation of free nitrogen. In some cases the supply of combined nitrogen was not given until the plants showed signs of decline; when, on each addition, increased vigor was rapidly manifested. In others the supply was given earlier and was more liberal.

As in the case of the Leguminous plants grown without extraneous supply of combined nitrogen, those grown with it progressed much less healthily than the Gramineous plants. But the results under these conditions, so far as they go, did not indicate any assimilation of free nitrogen.

The results of experiments with plants of other descriptions, in which an extraneous supply of combined nitrogen was provided, also failed to show an assimilation of free nitrogen.

Thus, nineteen experiments with Gramineous plants, nine without and ten with an extraneous supply of combined nitrogen,—six with Leguminous plants, three without and three with an extraneous

supply of combined nitrogen, and also some with other plants, have been made. In none of the experiments, with plants so widely different as the Gramineous and Leguminous, and with a wide range of conditions of growth, was there evidence of an assimilation of free nitrogen.

The conclusions from the whole inquiry may be briefly summed up as follows:

The yield of nitrogen in the vegetation over a given area, within a given time, especially in the case of Leguminous crops, is not satisfactorily explained by reference to the hitherto quantitatively determined supplies of *combined* nitrogen.

The results and conclusions hitherto recorded by different experimenters on the question whether plants assimilate *free* or *uncombined* nitrogen, are very conflicting.

The conditions provided in the experiments of the authors on this question were found to be quite consistent with the healthy development of various Gramineous plants, but not so much so for that of the Leguminous plants experimented upon.

It is not probable that, under the circumstances of the experiments on assimilation, there would be any supply to the plants of an unaccounted quantity of combined nitrogen, due to the influence either of ozone, or of nascent hydrogen.

It is not probable that there would be a loss of any of the combined nitrogen involved in an experiment on assimilation, due to the evolution of free nitrogen in the decomposition of organic matter, excepting in certain cases when it might be pre-supposed.

It is not probable that there would be any loss due to the evolution of free nitrogen from the nitrogenous constituents of the plants during growth.

In numerous experiments with Gramineous plants, under a wide range of conditions of growth, in no case was there any evidence of an assimilation of free nitrogen.

In experiments with Leguminous plants the growth was less satisfactory, and the range of conditions was, therefore, more limited. But the results with these plants, so far as they go, do not indicate any assimilation of free nitrogen. It is desirable that the evidence of further experiments with such plants, under conditions of more healthy growth, should be obtained.

Results obtained with some other plants, are in the same sense as those with Gramineous and Leguminous ones, in regard to the question of the assimilation of free nitrogen.

If in view of the evidence afforded by the non-assimilation of *free* nitrogen by plants, it is very desirable that the several actual or possible sources whence they may derive *combined* nitrogen should be

more fully investigated, both qualitatively and quantitatively.

If it be established that plants do not assimilate free or uncombined nitrogen, the source of the large amount of combined nitrogen known to exist on the surface of the globe and in the atmosphere, still awaits a satisfactory explanation.

PATENT OFFICE REPORT FOR 1860 contains chapters on the "*Operations of the Experimental Garden.*" If this were an institution for "experimenting," we should hail it as a national blessing; but from what we can gather from the "Report," it has no such objects. The main idea seems to be to "propagate for distribution." It says of the tea-plant hobby: "32,000 seedling plants were distributed in 1859-60." "Little can be said of them beyond the fact that they are alive and prospering," which, as every one knows the tea-plant has been "alive and prospering" in the Southern States for the last fifty years, must be supposed to be cheap information. "In a number of instances, the plants were placed in the ground as received from the garden, with the moss and packing around them, and have, of course, never exhibited life." "8000 plants have been propagated from cuttings, and a like number will be raised to be distributed annually to replace losses, until private interest shall discover in the enterprise an effectual incentive to its effectual prosecution." Verily, it will be a long time before "private interest" will prove any incentive to raising and distributing gratuitously plants to parties who set plants, packing and all in the ground, and expect to raise therefrom chests of tea.

That the tea-plant will live and prosper in our country south of Washington, is well known. The only question never yet answered satisfactorily, but which, so far, has been answered negatively, is, Can tea be *prepared* as cheaply here as it can be imported? If the "Experimental" would answer that for us, it would soon find "private enterprise" ready with the plants, and buyers for them.

We are utterly opposed to this scattering of thousands of dollars annually over the land, on the haphazard principle, that probably one dollar may some day produce a return, and repeat what we have said in former issues of our journal, that it is time an end was put to this folly.

*A Chapter on Fertilizers*, by the Hon. Thos. Clemson, of South Carolina, is one of the best abstracts of what is known of the subject up to the present time that we have seen, and is filled with statistical tables that will be of great service to experimental agriculturists.

An original feature is a chapter entitled "*Notes*

on the Progress of Agricultural Statistics," by David A. Wells, Troy, New York. In this those who have had the preparation of the report have, for the first time, we think, approached the idea of what such a production should be,—a sketch of the real progress of the nation in practical agriculture.

*Observations on English Husbandry*, by H. F. French, will have a beneficial influence on those of our farmers who will divest themselves of prejudice against "foreign" notions, and, prepared to test all things and hold fast to that which is good, contrast the superiority or inferiority of differing national practices, and profit by the result.

*Irrigation*, by E. G. Smith, is an epitome of what is known in Europe on their farms.

*Grasses for the South*, by Rev. C. Howard, is mainly a defence against the charge that the well known agricultural ruin of the South is caused by negro slavery. "Land," he says, "does not command an average of five dollars an acre in Georgia, and generally decreases in value, rather than rises by agricultural operations on it." He contends, nevertheless, that intelligence is of little moment in the agricultural laborer, so that the man who directs the labor is enlightened; and that the great cause of their depression is the want of stock on their farms.

Dr. Emerson, of Philadelphia, gives a chapter on the *Cattle Disease*. W. Buckisch, of Texas, on *Bee Culture*. *Fish Culture*, translated from the German of Dr. Fraas. Mr. P. R. Uhler, Baltimore, *Insects Injurious to Vegetation*. *Wine-Making*, translated from the German. *Grape-Culture and Wine-Making*, by D. G. Goodloe, Washington, D. C., who acknowledges to its being an abstract of the old treatise of Henderson; a rare specimen of honesty when the course of other writers in back volumes of the reports is considered. It is a very useful chapter. *Culture of Grapes in Graperies*, by Dr. Parker, Utica, N. Y., is a well written chapter, full of details which will have the effect of drawing close attention to the advantages of graperies in the more agricultural point of view. The theory of the Doctor as to the causes that lead to the necessity of graperies on this continent may be open to a little criticism, but that is not of much moment so far as the practical good likely to result from the article is concerned.

*The Forest Trees of America*. By Dr. J. G. Cooper, of Hoboken, N. J., is one of the most original and valuable papers ever honoring a Patent Office Report. It is accompanied by a map showing the distribution of the species over the whole continent as near as can be.

*Tea*, by S. Bonsall, of Philadelphia, goes into the whole culture and management of the article.

*Chinese Agriculture*. Agricultural patents and donations to the "experimental" closes the volume. Altogether, it is the best ever issued by the department, and affords hopes of progress in that quarter.

ADDRESS ON THE EPIZOOTY, LATELY PREVALENT AMONG SWINE, by Edwin M. Snow, M. D., and G. L. Collins, M. D., of Providence, R. I. Read before the Rhode Island Medical Society, June 19, 1861.

ANNALS OF THE BOTANICAL SOCIETY OF CANADA, Vol. I., Part II. We should be much obliged by the additional favor of the first part of this very interesting serial. We are very glad to find by it that the utility of the society is at least demonstrated, and it has our best wishes for its permanent success.

#### TRADE LISTS RECEIVED.

Isaac Jackson & Co., Harmony Grove, Penna. Daniel Engle, Marietta, Pa. Bailey & Bro., Wilmington, Del. E. J. Evans & Co., York, Pa. L. Ellsworth & Co., Naperville, Ill. H. Southwick & Sons, Dansville, N. Y. E. Moody & Son, Lockport, N. Y. A. F. Conard & Bro., West Grove, Pa. J. L. Darlington & Co., West Chester, Pa. O. B. Maxwell & Co., Dansville, N. Y.

DESCRIPTIVE CATALOGUE OF E. Y. TEAS, Richmond, Indiana.

THE HORTICULTURIST.—Our contemporary has changed owners, Mr. George E. Woodward conjointly with the editor, Mr. P. B. Mead, having purchased it of Mr. Saxton. Mr. Woodward is known to our readers by his excellent articles on landscape-gardening, and as he will be associated with Mr. Mead in the editorship also, we are assured that the reputation of the magazine will lose nothing by the change.

### New or Rare Plants.

PENTSTEMON SPECTABILIS (*Showy Pentstemon*).—*Nat. Ord.*, Scrophulariaceæ. *Linn.*, Didynamia Angiospermia. "A lovely Californian species." Flowers numerous, in a panicle, on a stem nearly two feet high. Introduced by Messrs. Low, of Clapton, where it flowered last May.—*Botanical Mag.*, t. 5260.

DENDROBIUM HILLII (*Mr. Hill's Dendrobium*).—*Nat. Ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria. Named after Mr. Walter Hill, Superintendent of the Botanic Garden at Moreton Bay, who sent it to the Kew Gardens. Flowers white.—*Ibid.*, t. 5261.

CERINTHE RETORTA (*Curved-flowered Cerinthe*).—*Nat. Ord.*, Boraginææ. *Linn.*, Pentandria Mono-

gynia. Hardy herbaceous plant eighteen inches high. Racemes of flowers terminal, recurved; bracts large, blue; corollas yellow, tipped with reddish-purple; "leaves glaucous green, spotted like those of a Pulmonaria. It is a native of Caria, in the Peloponnesus, where it was found by Sibthorp; and in wooded places in Dalmatia, according to Viviani. Lovers of hardy plants will do well to rear this in the open borders of their gardens. It is [best treated as an] annual, may be increased by seeds, and should be planted in tufts. Our plant was raised from seed sent to us by Mr. Thompson, of Ipswich."—*Ibid.*, t. 5264.

CHYSIS AUREA, var. LEMMINGHEI (*Lemming's Golden-flowered Chysis*).—*Nat. Ord.*, Orchidaceæ. *Linn.*, Gynandria Monogynia. Named in honor of Count Lemminghe. Instead of the flowers being golden colored, they are nearly white or cream colored, the lip only being tinged with yellow; purple or lilac blotches are on the sepals and petals, and dark purple streaks and spots inside the labellum. Sent to Kew from Hamburg by Mr. Schiller.—*Ibid.*, t. 5265.

GOMPHIA OLIVÆFORMIS (*Olive-fruited Gomphia*). *Nat. Ord.*, Ochraceæ. *Linn.*, Pentandria Monogynia. It has also been called *G. decorans*. Native of Brazil, introduced by Messrs. Hendersons, Wellington Road Nursery. "It produced its panicle of bright yellow flowers in the Kew stove during May of 1861."—*Ibid.*, t. 5262.

CALADIUM BICOLOR, var. VERSCHAFFELTHI (*Verschaffel's Two-colored Caladium*).—*Nat. Ord.*, Araceæ. *Linn.*, Monœcia Monandria. Sent to Kew by M. Chantini, of Paris. "Upon the deep green ground of the blade of the leaf are numerous irregular blotches of a rich blood [almost carmine] color, the largest of which are ocellated—that is, have little eye-like spots of green in their centres."—*Ibid.*, t. 5263.

CEREUS MACDONALDI has again flowered in our collection, and much finer than last year. The flower measured *thirteen inches in diameter* from tip to tip of the sepals. It is certainly a very showy and desirable species, not so highly colored in the sepals as *C. grandiflorus*, but in size very much larger. It blooms at night like the latter.—*Hovey's Magazine*.

### Foreign Intelligence.

TO PRESERVE SCARLET RUNNER BEANS THROUGH THE WINTER FOR AN EARLY CROP.—Some few years ago, in the month of November, when digging the ground where the crop of runners had grown, I could not help noticing the large size of the roots; and it occurred to me that, if I took them

up, potted them, and kept them in a cold pit during the winter, they might furnish another crop the following spring. I tried the experiment on two of the best roots, potted them, and kept them in a cold pit until the 1st of February. At that time I placed them in a hothouse, in which the average temperature was about 60 degrees. They soon began to send up strong shoots, and to show flower in abundance from the ground upwards. In May they were twelve feet high, and made a very good appearance in greenhouse, where they passed with many for a new species of plant.

If I had saved thirty or forty roots, and had put them in heat in spring, in the manner done with Dahlias, and if I had turned them out in the open air about the same time that these plants are turned out, I certainly should have been able to gather kidney beans a month sooner than is done by the usual practice of sowing in the open garden.

In cottage gardens, the roots might be taken up every autumn, and preserved in the same way as those of potatoes; and, by being planted on a fresh piece of ground in spring, they would not only produce a much earlier, but a much more abundant crop than one raised from seed.

[We give the above from an English journal in order to suggest that the mode be treated with our Lima Beans. Though called Lima, we believe it is a native of the East Indies, and in its own country a perennial. If they can be kept as above described, we have no doubt but more than a month's difference would be experienced in the earliness of the crop.]

CARNATIONS AT CHRISTMAS.—Proceed thus:—If you have not such plants, obtain two or three dozen from a nurseryman. The plants will generally be small, and you would have had a better chance if you had obtained them in April. However, better late than never. These will generally be in small pots called 60's, and most likely showing a bloom. Cut all blooming shoots off, and after gently disentangling the roots repot into six inch pots, using light, rich, sandy loam, and place in a shady position until the roots begin to work freely. A few of these stronger plants may be placed in 16-pots or 24-pots, and potted very firmly. If that can be done before September all appearance of flowering-shoots until then should be stopped. These plants thus stopped and potted will generally throw up flower-shoots in October, which will bloom in the greenhouse in November and onwards.—*London Cottage Gardener*.

SHADE TREES IN PARIS.—It has been calculated that Paris, at present, covers a space of 78,080,000 yards. It contains 148,000 trees, occupying a space equal to 336,890 square yards. The trees consist of horse-

chestnuts, elms, acacias, lime trees, and others. It is estimated that these trees cover, with their shade, a space of 220,200,000 yards, sufficient to protect 1,589,000 individuals from the rays of the sun.

## Horticultural Societies.

### PENNSYLVANIA HORTICULTURAL SOCIETY.

The September exhibition, which was held at Concert Hall, Tuesday evening, the 17th ult., was well attended, notwithstanding the storm. The display in the various departments of plants, flowers, fruits and vegetables was unusually fine, and comprised a large variety of objects of interest. The department of ornamental foliage plants was never before so large and so rich. Mr. J. Pollock, gardener to James Dundas, Esq., exhibited a superb collection, comprising many novelties. Among them would mention the *Ouvirandra fenestralis* or Madagascar Lace Plant, growing under water, the *Alocasia Metallica*, and the *Caladium Belleymeri*, as of the highest beauty. Also a fine flower of the *Victoria regia*. The Lace Plant was exhibited in an enormous white china bowl, which showed its singular black net-like leaves to great advantage. The *Alocasia metallica* is a most beautiful acquisition; the leaf resembling a concave bronze, or rather, burnished shield.

Their splendid growth and fine condition merit the highest praise, and received two special premiums of \$5 each, and one of \$1. Mr. Pollock exhibited for the first time before this Society, *in fruit*, the rare *Philodendron pertusum*. Also the following new plants shown for the first time: *Caladium Baraquini*, *Maranta argyrea*, *Miranda metallica*, *Caladium hastatum*, *Caladium Belleymeri*, *Campylobotris argyrea*, *Cyanophyllum Assamicum*, *Ouvirandra fenestralis*, *Alocasia metallica*, *Bromelia princeps*.

To Charles H. Miller, gardener to D. Rodney King, was awarded a special premium of \$5 for his varied and beautiful collection of ferns, variegated plants, and new plants shown for the first time; also for the best six ferns, the regular premium of \$1, and the same for the best variegated plants and designs. The latter was worthy of special attention, as one of the most graceful and novel combinations entirely of ornamental foliage ever exhibited before the Society.

The new plants exhibited, for the first time, by Mr. D. R. King, comprised the *Argyrea argentea*, *Micania speciosa*, *Dracena Humphri* and *Campylobotris smaragdina*, to which was awarded a special premium of \$2. Mr. Henry A. Dreer's collection of Roses, *Gladstones* and *Danias* obtained the premium of \$1 and \$2, respectively. They were all of the very choicest varieties, and elicited high praise. The *Gladstones* were all varieties of the *Gaudavensis*. Messrs P. Mackenzie & son contributed fifty-two specimens of assorted flowering and foliage plants, twenty-five different dahlias, and as many verbenas, and a choice group of pinks, roses and petunias. Among their collection were eight new plants of note, including *Lantana fulgens mutabilis*, *Ipomea tricolor*, *I. limbata elegantissima*, *Caladium Houletii*, *Van Vorstii*, *Brogartii* and *Betseyman*, and the *Pentstemon Victory*. The verbenas comprised many entirely new ones, whose names we did not learn.

Mr. Robert Bunt brought a number of variegated plants, Ferns, six new Begonias, and the same number of new plants. Among the latter was a *Conifer*, the *Araucaria excelsa*, of delicate and beautiful foliage, and very symmetrical growth. The others were the *Pteris discolor*, *Sphaerostemma marmorata*, *Panax fruticosum*, *Gastonia Palmata* and *Heterocentron album*; to these were awarded \$2 for best *Conifer*, and a special premium of \$2 for best three new plants. The Ferns were especially admired, and were favorably noticed by the Committee.

James Eadie, gardener to Dr. Rush, received the award of \$3 for the best collection of ten plants, in pots, and \$2 for the best specimen plant; also \$2 for the best collection of Peaches. The large size, handsome bloom, and graceful and skillful training of these plants, made them a distinguishing feature of the exhibition, and his *Melacoton Peaches*, for average size and beauty of color, have rarely been equaled in the Society's displays.

Adam Graham, gardener to Gen. Robert Patterson, carried off the prize for the best collection of six plants, in pots, \$2. He also exhibited a fine specimen plant, the *Criuum amabilis*.

Wm. Joyce, gardener to M. W. Baldwin, brought both fruits and flowers, and obtained premiums in both departments. For the best four Orchids, he took the prize of \$1, and for the best three Pine Apples in pots, also \$1. His beautiful collection of Ferns, many of them new, received special mention in the report of the Committee. The new ones were *Gonophelebium sp.*, *Gymnogramma Martensi*, *Gymnogramma argyrophylla*, *Nothociana chrysophylla*. A dish of luscious Guava fruit, from which the well-known jelly is made, met due appreciation from the "tasting" Committee.

Samuel Mason received the award of \$2 for the best pair of plants.

Thomas Meehan presented the finest collection of hardy herbaceous cut flowers, and received the premium thereof of \$1. Among his other contributions we noticed also some very fine dahlias, six blooms of assorted *Phlox decussata*, and a new annual plant shown for the first time, *Callirhoe pedata nana*.

Mr. Carl Muller exhibited a very pretty seedling *Verbena*, quite distinct in color from any ever before shown.

Mr. Robert Kilvington's basket of cut flowers was the object of much attention and praise, from its beautiful arrangement and contrast of colors, and its delicacy of design. It received the premium of \$2. He was also awarded the premium of \$1 for the best peck of tomatoes.

In the department of fruits the display was varied and attractive, including some remarkable specimens. In Mr. Baxter's collection there were over fifty varieties of native and foreign pears, of a size and quality rarely equalled in these exhibitions. The *White Doyenne* or *Butter Pear* was particularly large and fine, free from spot or blemish. Mr. Baxter's premiums were as follows: for second best peaches, \$1; best three citron melons, \$1; best twelve varieties of native pears, \$2; best six varieties of natives, \$2; best twenty-five foreign pears, \$2; best six varieties of foreign pears, \$2. Mr. Baxter's uniform success in the culture of the pear, and the large and handsome samples he contributes are worthy of all praise.

J. E. Mitchell, of Chestnut Hill, had some fine foreign grapes, highly colored and well grown, of five varieties: *Black Hamburg*, *Black Prince*, *White Frontignan*, *Chasselas de Fontainebleau*, and *Black Frontignan*. This collection received the first premium for grapes under glass, of \$2. The *Black Prince* was especially large and fine. Mr. Mitchell also had on exhibition some good pears, of sixteen varieties.

Mr. S. W. Noble presented twelve varieties of apples, which gained the first premium of \$2.

Mr. Charles Harmar took the second premium of \$1 for his pears, among which were some delicious *Bartram Pears*, seedlings grown near the old *Bartram Botanic Garden*, in West Philadelphia.

For other collections of pear, from Mrs. Liggett, P. S. Bunting, and Dr. James W. Thomson, in behalf of G. K. Riddle, Esq., of Wilmington, Del., received due commendation.

An interesting feature of the evening was the collection of native grapes. Mr. Peter Raabe, whose twelve varieties obtained the first premium of \$2, presented the *Maxatawney* grape, a native seedling of Camp Hill, Montgomery County, Pa. In flavor it is unequalled by any native grape ever before exhibited. It is a very strong grower, perfectly hardy, and if it should prove to ripen early and well in exposed situations in the country, will be the best acquisition we have yet made.

Mr. Raabe's vine is growing in his city yard, well sheltered.

Mr. A. W. Harrison received the second premium of \$1 for native grapes, including the *To-Kalon*, *Brinckle* and *Louisa*, exhibited for the first time. Mr. Harrison also had the *Des Nonnes* pear, and a dish of ripe *Catawissa* raspberries. In the department of vegetables he was awarded the first premium of \$1 for the best Egg-plants, and showed a fine specimen of the *Honolulu* squash. A cane of the *Black Hamburg* grape, planted one year ago, and containing eighteen good-sized bunches of fruit, fully ripe, though wanting in color, gave evidence of the remarkable precocity of the grape-vine.

Mr. Thomas T. Firth brought an ingenious and tasteful design composed of five varieties of native grapes, *Concord*, *Diana*, *Isabella*, *Rebecca* and *Delaware*, all of large size and highly colored.

Mr. A. L. Felton had on exhibition some very large and high-colored *Isabella* grapes.

Mr. Fickwehr offered his seedling grape for the first time. It promises to be a good wine grape.

Mr. Andrew J. Catherwood also had a branch of his *Catherwood* grape, profusely covered with large clusters, twenty-six in number, dark blue fruit, of very good quality, and thoroughly ripened. This was pronounced by the Committee to be the *Isabella*.

Peter Dohlen, gardener to B. Gerhard, exhibited a large oblong cantelope, similar to the *Dix*, and some good potatoes.

Mr. L. Chamberlain showed some *Isabella* and *Bland* grapes.

Jeremiah Flynn, gardener to Henry Taylor, had some *Stanwick* nectarines of very large size, which obtained the premium of \$1.

Miss Titus exhibited a fine cluster of her seedling peach.

The very large and attractive display of vegetables, by Anthony Felton, gardener to Mr. H. Duhring, occupied one entire side of the hall, and comprised almost every garden vegetable of the season. With two exceptions, he took all the premiums in this department, amounting to \$7. We remarked good specimens of the new white and red Egg-plants. The premium of \$1 for the best *China Asters* was also awarded to him.

At the business meeting held after the awards of premiums, the reports of the Treasurer and Finance Committee were read and adopted.

Mr. James Matheson, who exhibited, at the last meeting, the mammoth bunch of *White Muscat* of *Alexandria* grapes, weighing nine pounds and four ounces, presented an *Essay on the Culture of the Exotic Grape* under Glass, prepared at the request of the Society. It was read, and ordered to be printed, and the thanks of the Society presented to him.

A more valuable contribution to practical horticulture has never been presented to the Society.



Drawn from Nature by Max Rosenthal.

Lith. by L. N. Rosenthal.

## MAXATAWNEY GRAPE.

DRAWN ON STONE EXPRESSLY FOR THE GARDENER'S MONTHLY

see p. 341 & 347

# THE GARDENER'S MONTHLY.

DEVOTED TO  
Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

NOVEMBER, 1861.

VOL. III.—NO. 11.

## Hints for November.



### FLOWER-GARDEN AND PLEASURE-GROUND.

As soon as the first white frost has blackened *dahlia* leaves, the stems should be cut back to a few inches of the ground, the label securely fastened, and the root placed away in a cool place secure from frost till next March, when it should be "sprouted," divided and again set out. Madeira vines, tigridis, gladiolus, tuberoses, &c., require the same attention.

As soon as the ground gets caked with the first real frost, herbaceous plants should be protected. Though hardy, they will repay this extra care,—mostly natives of woods or grassy places in their native State, they expect a covering of leaves or dry grass. We find dry leaves the best material for the purpose, a few inches is a sufficient depth,—a little soil being thrown on to prevent the leaves blowing away. Where such material is not at hand, the common garden soil may be drawn over them, as before recommended in these pages.

Most of the tender plants that we desire to preserve over the season, have now been lifted from the borders, and removed to winter quarters,—and in a few weeks the beds will present a rough and forsaken appearance. It is too often the practice to leave the borders just in this neglected condition till spring-time returns. But the person of true taste finishes up the beds, and makes all tidy. In the absence of summer flowers, even order pleases.

### PLANT-HOUSES, PITS, AND FRAMES.

PLANTS stored away for the winter in cold pits, require more care for the first month or so than at any other time through the winter season. Many

of them have unripened shoots, or shed many of their leaves, and unless these be cut off and removed, gangrene and decay commit distressing havoc. Air should be given at every opportunity, and nothing omitted that will, in any way, tend to harden the plants, and send vegetation to rest. No more water should be given than just sufficient to prevent withering, and the temperature should be kept as near 40° as possible, and every chance taken to render the air about the plants dry. When frost actually does come, no further care than protection from its embraces will then be required. Plants so hardened, may stay covered up for weeks, without any light or air, and secure from the slightest injury. Mice constitute the most troublesome enemy in a pit closed for any length of time; but we have, as yet, found nothing better than the recommendation given in back volumes, namely, to take peas and soak them twenty-four hours in water, then roll in arsenic and sow in a pot, as if in the regular way of seed-sowing. A few pots so prepared, should be placed in the pit before permanently closing up. The mice usually make for these pots at their first entrance to the pits. If placed on the soil, they seem to guess your secret, and will not "bite."

Plants in cellars need much the same care as those in pits. Avoid heat and dampness; frequently, however, plants suffer in cellars through getting too dry. They should be looked over, at any rate, once a month, and a little water given, if likely to become entirely dry.

Plants in windows and rooms usually suffer from excessive waterings,—very dry air about them,—too great a heat, or too much shade. As much as possible, room plants should be selected for their indifference to these requirements. Succulents, such as cactuses, mesembryantheums, rocheas, crassulas, aloes, &c., care not how dry the room, but they demand all the sunlight possible. Camellias, Chinese Primroses, Azaleas, *Dicentra spectabilis*, *Polyanthuses*, violets, hyacinths, &c., do not mind a little shade; but they abhor a high temperature. Others again, while disliking heat, want light; of these, are *calceolarias*, *cinerarias*, geraniums, pelargoniums, pansies, daisies, tree carnations, perpetual blooming

pinks, roses, and the like. "Leaf plants," for the most part, like a close, moist atmosphere, and a moderate degree of heat to do well. For these, glass partitions and closely-glazed cases are usually employed. A great error in the growth of plants in these cases, is to suppose they require no air. The closeness is to secure a moist atmosphere, not to exclude the air. Whenever, therefore, the temperature is low, and little evaporation going on, the opportunity should be seized to air the cases; a few moments are sufficient. A very pretty plant arrangement may be made in parlors that have bay windows; the whole window may be closed off from the main part of the room by a sash, and filled with plants. Some on the floor,—some on shelves, and some pendant from the roof. A common oil lamp will be quite sufficient, with the usual window shutters, to keep out frost during the night or extra severe weather, while the regular day temperature of the room will suffice for that time. When the lamp is burning, provision should be made for the admission of fresh air from the room at the bottom of the case, and for the exit of consumed air at the top of the case. This is best accomplished by a tube to and from the lamp.

To those who have larger plant cabinets or small conservatories, connections with heaters or hot water from kitchen ranges will suggest themselves. This is often done. The great error we have often noticed is, that the heat is led to the back only, when it should be continued right to the front or coldest part of the house. When heaters are employed, the oxygen of the air is usually defective, and besides the air is very dry and ungenial to healthy vegetation. Evaporating pans around the mouth of the air flues should be used in such cases,—syringing done at frequent intervals, and pure fresh air given whenever a warm out-door spell furnishes the opportunity.

In the greenhouse: such plants as are in a growing condition, and are desired to continue growth, if filled with roots, may be repotted into pots a size larger. No advantage is gained in any case in employing pots for shifting much larger than those in which the plants are growing. Coarse, spongy soil should, in all cases, be used for pot plants. The advantage claimed for peat over other soils for many pot plants, is as much owing to its fibrous condition as to its peculiar nature. Insects should be carefully looked after, and the various remedies best approved of employed for their destruction before they become very numerous. We must still repeat that we find nothing so simple or so certainly effective as hot water for all kinds of insects, from the minute red spider to the mealy bug and scale. We get a common hand furnace, and set a large washing boiler on the top, heating the water to

about 130°; in this we put about a teaspoonful of grease, and the same quantity of flower of sulphur. All the plants that exhibit the slightest trace of insects are then collected together and dipped in for a moment. Specimens too large to dip in are held over and syringed, so as to save the hot water as much as possible. These large ones we do last. Occasionally a few leaves or very tender green tops get scalded, but this is but a temporary evil for a permanent cure. A few syringings within a few days subsequent to the operations, clears the plants from the greasiness left on them; but the sulphur leaves a slight smell for some time, and seems to exercise a beneficial influence in keeping off fresh attacks of the puny, but by no means contemptible, invaders. We know of numerous instances where parties have tried the process and thanked us for the information; and though our hints in this respect have been received with far less general notice than many others that our pages have been the means of circulating, we consider the idea the most invaluable one to horticulturists we have ever offered.

## Communications.

### TREES AND SHRUBBERY.

BY WALTER ELDER, PHILADELPHIA.

ONE of the most noble and pleasing features in landscape-gardening, country-seat-gardening, suburban and cottage-gardening, is a choice selection of trees and shrubbery properly arranged. The skillful gardener knows the sizes they attain, their habits of growth, the sizes and colors of foliage and bloom, and their time of blooming, the soils and exposures most suitable for them. He will make his selections according to circumstances; and by a graceful arrangement, the beauty of the whole will be enhanced. In the suburban and cottage gardens they will be planted closer than upon a large place, and the arrangement will be promiscuous, without incongruity. Evergreen trees will be planted a distance from the house and off the walks, so that their horizontal branches will not darken the windows in winter, nor interrupt the passage on the paths.

Deciduous trees, with long, clean stems and branching heads, will be placed nearer to the house, as they do not confuse the way, but give shade when it is most desired, and drop their leaves when sunshine is needed. Shrubs of neat dwarf habits, handsome bloom, and mild fragrance will be planted near to the cottage; and those of strong odors and shaggy growths will be placed at a distance; and their blossoms and fruits will show to greater advan-

tage, and they will be so arranged as to give a harmonious contrast of flower and foliage. Trees of dark leaves and heavy shade will be mated with those of lively foliage and light shade. A cottage nestled in a plantation of trees and shrubbery has an air of richness, refinement, and comfort, which nothing else could give it. The beauty of the plants and the elegance of arrangement, with a rich, lively green sod, complete a picture which the pencil of the painter can never fully imitate.

But it is upon large places where the master mind of the real gardener shows itself advantageously in the display of a combined knowledge of art and science in the arrangement of trees and shrubs, which will be different upon different places. He will first inspect the soil, and observe the location, and make his selection of plants to suit, and make preparations for a speedy planting in advance of their arrival. There may be an unsightly object to be hid from view; and a clump of trees (one-third of them evergreens) are planted to shut it out in winter, as well as in summer. The same will be done where the mansion and all who move around it are exposed to the inquisitive stare of idle and unmannerly neighbors, and also where chilling and cutting winds enter. In places much inland, tornadoes are from the north-west; whereas on the sea-coast the winds off the water are most chilling and blasting for blossoms; while along some navigable rivers, fruits are blown off the trees before they are full-grown. The gardener will perceive all these, and will plant leafy screens where needed.

Where fine perspective views are, openings will be left; but the chief aim will be to make fine views and attractive objects upon the place. Flowering trees and shrubs will be arranged near to the mansion or along main walks, where they will display their beauties and diffuse their fragrance most advantageously to our pleasure. Trees of fine form and gigantic stature will be set further out upon the open lawn, and avenues may be clothed on either side for shade and shelter. [It really is strange that shady avenues are so rare with us, as there is no country where shade and shelter are more needed.] A great variety of trees could be planted along the avenues, and the contrast of their sizes, habits and foliage would be a treat for the arborist as he rides or walks along. Openings will be left to allow a load of hay to pass through without rubbing upon the branches, and to view the sunny glades and the noble specimens of trees that are singly scattered over them.

A good arrangement of shrubs and trees is that which diversifies the estate and makes it an admirable object in the landscape, and in walking over it, a fresh scene opens at every short distance. Every

single plant, group and row will show that they were planted for a purpose, and the whole will be a combination of nature and design. The skillful gardener, like an expert general, stations his *forces* where they will be most *effective*; and every *enemy* in the shape of an eye-sore is placed in the *guard-house* of shrubs and trees.

All architectural adornments upon mansions, cottages, arbors, pavilions, &c., in the country are bald without arborial embellishments; so are fountains, fish-ponds, &c. Even unsightly farm buildings, draw-wells, old pumps, stagnant water-pools, &c., are converted into beauties by shrub and tree surroundings. See the rustic spring-house reposing under the shade of a willow tree! Who will not plant plenty of shrubs and trees? or who cannot admire those that adorn the early spring and perfume the air with their fragrance and expand gorgeous blooms of various hues,—those that deck the verdant lawn, their grateful shade during sultry summer days, and the matchless grandeur imparted to winter scenery by clustering evergreens? Does any one say that they are "costly things?" We ask, what pleasure can be got without cost? Let us draw a comparison. Three hundred dollars are spent for an evening family party. That would purchase and plant three hundred shrubs and trees. A lady's jewelled set costs \$89,000. One year's interest of that sum will purchase and plant over five thousand shrubs and trees. If all the fine men enlisted for the war and all the monies appropriated for it had been employed upon horticultural improvements, what a blessing it would have been to the nation! After this, let no one grudge the purchase and planting of shrubs and trees.

### AN ESSAY ON GRAPE-GROWING.

BY JAS. MATHESON, GARDENER TO F. C. YARNALL, ESQ.  
To the President and Members  
of the Pennsylvania Horticultural Society:

In accordance with a resolution passed at your last meeting, I would respectfully offer the following brief essay upon the culture of exotic grapes under glass:

#### THE VINERY.

The best form of house is the lean-to, and the best aspect is a few degrees east of south. The ground should slope gently from the house, so as to allow of easy drainage. Where practicable it is desirable to construct the house at the base of a hill, excavating the body of the house out of the hill-side, thus affording entire shelter from the north winds and abundant warmth during the early and late stages of vine growth.

When it is requisite to grow a great variety or a

large number of vines within a limited space the span roof may be adopted, inasmuch as the back or wall border of a lean-to vinery is not so advantageous as the front.

The roof should be a fixed one, and slope at an angle of about 30° with the horizon.

The rafter should be not less than twenty-five feet in length. This is a very important point, and one not sufficiently considered in the construction of vineries. A long leader and abundant foliage, and a plenty of light are thus secured.

There is no necessity for, but rather a considerable disadvantage in the employment of the heavy rafters commonly in use. They obstruct the light too much. A single sash bar four inches deep and one inch thick is all that is requisite. The two upper edges should be ploughed  $\frac{1}{2}$  inch deep and  $\frac{1}{4}$  inch wide to receive the glass. This bar is supported, at intervals of eight to ten feet, or one-third the length of the rafter, by cross bars, six inches deep and three inches wide, which rest on uprights or posts, preferably slender cast-iron columns, placed about ten feet apart, and standing on stone blocks sunk in the ground.

The glass should be about fifteen by twelve inches, and well bedded in a thin mixture of white lead, linseed oil and whiting, in consistency about midway between paint and putty. If properly done there is no necessity for external putty. The glass should be heavy, and free from flaws, nicely matched, and lapped as little as possible. A wide lap often admits, by capillary attraction, so much water, as, if suddenly frozen, to cause the glass to break.

The ventilating sashes, at the top of the house, should be from three to four feet in width and continuous from end to end, so as to allow the whole length to be ventilated at once. They may be so arranged as to open separately, by cord and pulley, or simultaneously, by means of a crank and shaft. No bottom ventilation need be provided for, as it is not advisable to admit bottom air at any stage of vine growth.

The front, back, and end walls of the house should be substantially built of stone. In the front wall openings must be left, opposite the intended position of each vine, to allow the roots to penetrate the open border. The front, if low, may be entirely of stone; if, for appearance-sake, as well as convenience in working, the front be made three to four feet high above the foundation, it should be of fixed sash, glazed like the roof. External braces will be required, to support the thrust of the rafters.

The highest results cannot be attained in a strictly cold vinery. The capricious weather, and sudden frosts late in spring, the raw, blustering winds and long spells of cloudy weather sometimes occurring

in early summer, and the sharp, nipping frosts of mid-autumn, all conspire to render a cold vinery uncertain in its action, and make a flue desirable, and even indispensable, if we wish to grow very early grapes or to ripen and keep the Muscats and other late sorts. Moreover, the length of season and the prolonged degree of heat necessary for the full ripening of the wood, cannot, with certainty, be attained in a cold house.

A plain brick flue, about ten inches square internally, is all sufficient; it should be placed at least ten feet from the front of the house; in a span roof house it should run along the centre, sunk a little below the surface, to allow a latticed foot-walk, made in moveable sections, to be placed over it. Thus placed, should any gas escape from its crevices it will rise directly to the ventilators and be dissipated without injury to the foliage. If the flue be properly constructed, leaks will not occur.

Artificial heat is required for a few weeks only, in the spring and autumn, and occasionally during cold, cloudy weather in summer. In cold vineries the early growth is often checked by frosts or unseasonably cold weather; and again, in autumn, the foliage is not unfrequently destroyed in a single night. Unless the leaves ripen thoroughly and fall naturally the wood cannot be fully matured, and the next year's growth and fruit will be uncertain or much diminished. A well-ripened leaf is easily distinguished from an immature, frosted one; the former is soft and pliant, the latter brittle and readily crumbling to powder.

But a small quantity of fuel is required for the half-cold or flued vinery, two tons of coal being ample for a house fifty feet in length, for the entire season. One or two extra bunches of large size will cover the cost of heating the house, which secures, beyond contingency, healthy vines and the largest possible crop.

An early forcing-house has but three to four weeks advantage in time, over a well-managed half-cold vinery, in which early grapes can be ripened by the 25th of June. In large size of bunch, productiveness of vine, and high flavor of fruit, the latter would certainly be superior to the former, besides requiring much less skill and attention.

The vines, which must be sufficiently strong to support the heavy weight they will be required to sustain, should be at least fifteen to eighteen inches from the glass and one foot apart.

#### BORDER.

Dig out about two feet deep, and twenty feet wide, and slope the bottom gently from the house. Along the front of the house, and at the outer edge of the border, and also at right angles across the border, at intervals of ten feet, dig drains one foot

wide and six inches deep; at the two outer corners connect these drains with covered dry wells. Fill the drains and cover the whole border, six inches deep, with broken stone, about the size of one's fist, not larger. Cover the whole with good sod from an old pasture, the roots uppermost. Fill in with compost prepared as follows: one third of fine, friable, yellow sandy loam, one-third garden soil if rich, if not use sods from an old pasture, and the remaining third of old, well-rotted slaughter-house and barnyard manure, half of each, to which add, for every ten feet in length of the border, one barrel of fine ground bones and one barrel of slaked lime in fine powder. This compost must be prepared in autumn, under cover, exposed to the frost, and turned several times during winter and thoroughly mixed and pulverized to a fine, even texture. When completed and well settled, the surface of the border should be at least six inches above the level of the adjacent soil, so as to ensure good surface-drainage, which is especially desirable to give an early start to the roots in spring.

The inside border, both front and back, will be of the same composition and drained in the same manner as the outer border, and the drains must be continued through the wall and connected with those of the outer one. The surface of the inner borders should descend slightly towards the centre of the house. Although the roots of the vine naturally seek the external soil, there is yet this advantage in an inside border, that when the vines start in spring there is a sufficiency of active healthy roots, growing in the warm soil within the house, to nourish the early growth, and feed the young foliage, until the natural heat of the sun has excited vigorous action in the external roots. Furthermore, the evaporation from a rich inside border, kept constantly stirred (as it should be *daily* with the hoe and rake) contributes much to the health of the foliage and the color of the fruit.

#### FIRST YEAR.

Planting and training the vines. Well-grown one year's old vines are to be preferred; older vines, unless skillfully propagated, are apt to become pot-bound, and when transplanted the ends of their roots die.

About the first week in March dig a trench, the entire length of the house, and close to the front wall, inside, two feet wide and one foot deep. Fill in with a compost (prepared the previous autumn and turned and mixed as described above) of old hot-bed manure and sand washings from the turnpike, and a little slaked lime in fine powder. Plant the vines four feet asunder, in the middle of the trench, spreading the roots out equally in all directions, on the

surface, cutting away all weak, decaying and broken ones, and strew a light coating of the compost over them. Water lightly, only sufficient to settle the soil about the roots. Cut the vines down to two buds, and let them rest a week before starting the flues, otherwise the buds might begin to shoot too soon for the roots and lasting injury result to the plant.

Fire may now be started and maintained until warm and genial weather arrives, commencing at about 60°, and increasing gradually, day by day, until 90° is attained beyond which it is unnecessary to go although the temperature of the house may often rise, naturally, to 100° or upwards. As soon as the buds are fairly developed rub off the weaker one.

No stopping of the vine is advised the first year, but as long a cane should be grown as it is possible to ripen, so as to secure a correspondingly strong root growth. The young cane makes but few laterals, and these should be allowed to grow unchecked. Ventilate moderately on fine days, and about 3 P.M. shut off one-half the air and syringe the vines and the whole house, through a fine rose, using, if possible, a hand engine, to give force and body to the stream. This should be done three times a week in the early part of the season and diminishing in frequency till autumn. Syringe at evening only. If the vines are sprinkled in the morning globules of water lodge on the leaves and a sudden burst of sunshine, acting upon the drops, as lenses, burns holes in the foliage, an effect often erroneously attributed to defects or air bubbles in the glass.

Every day throughout the season, until the ripening process commences, close the ventilators about an hour before sunset, within an inch, leaving a crevice of air on during the night. This condenses the moisture, and, in imitation of nature's process, supplies the plant with abundant and grateful dew.

A shallow trough of water, extending the entire length of the house, will assist in maintaining an equable humidity in the atmosphere of the vinery.

Keep the house and the border always moist, but never wet. The soil within the house should be kept in good tilth by a daily use of the hoe and rake, and the outside border likewise whenever the weather and its condition permit, taking care to return the mulch to the surface after raking it. Top dress the inside border, early in spring, with a little well-rotted manure and fork it in about May.

Continue the general treatment above stated until the foliage and wood are nearly ripe, gradually diminishing, without entirely discontinuing the syringing and watering. Give also a little more air except on raw, cloudy days and cool nights, when the flue should be used and a moderate heat maintained until the foliage ripens, and the plant goes to

rest, usually from November 15th to December 1st.

Now cut down the vines to about two feet, if well grown,—if weak, still closer,—cover each one with a wisp of good dry straw, and leave until spring. At the same time cover the outer border, for a space of four to five feet from the front wall, with eighteen inches of rough stable manure, as a protection to the young roots from frost.

#### SECOND YEAR.

In Spring, remove from the outside border all the top-dressing, except six inches, and fork this in, cultivating and raking frequently, until June, when the whole border should be thoroughly soaked with water and mulched with four inches of good, old manure, to remain till September; then repeat the cultivation given in the spring, so as to dry off the border, and prepare it for the winter covering.—Never allow either weeds or any crops to grow in the border.

The vine should receive the same treatment, except as to the old wood, as the previous year. One bunch of fruit may be allowed to set on each vine. The laterals should be pinched off as soon as the third or fourth leaf appears, and the pinching repeated, six or seven times, at the appearance of each new leaf, leaving one fresh leaf at each stopping. The leading cane should be allowed to run to the top of the house without stopping.

As soon as the vines commence to grow, early in spring, give all the borders a light top-dressing of slaked lime, in powder, and repeat the same in June and September. Also whitewash the wood-work and walls once or twice each season; if this be objectionable on account of appearance distribute lumps of caustic lime on boards or dishes at intervals through the house.

About the first of May sprinkle all the borders with a solution of one pound of potash in five gallons of water.

The vines should be fumigated every year, beginning about three weeks after growth commences and repeating every three weeks until the fruit begins to color, by means of the smoke of tobacco-stems thrown upon a pan of charcoal, which must be ignited, and the gas allowed to pass off, before using in the house. The tobacco should be slightly damped so as to make a smudge and burn slowly. During the fumigation the ventilators should be closed.

Keep the flue always sprinkled with sulphur, and in case of starting a fire, in dull weather, in May or June, leave enough air on to allow the fumes to escape readily. In cold vinerics strew the sulphur on heated bricks.

At the first approach of severe weather put about

two feet in depth of rough stable manure on the outside border; next the house, and diminish the quantity, sloping gradually to six inches in depth at the outside of the border. When the vine is entirely ripe cut it down to seven feet in length, if robust and stocky, but if rather weak reduce it to five feet. Fill in between the glass and the wires, up to about three feet above the eaves, with dry straw or corn fodder, preferably the former. Lay down the vines, without any covering, along the front of the house, where they will be protected from the sun's rays by the straw packing. If the winter prove unusually severe an old mat, blanket or the like, may be loosely thrown over them. If wisped with straw they are sometimes injured by mice and make premature growth in spring.

#### THIRD YEAR.

The general treatment of the vines will henceforth be the same as above stated for the second year. Let six to eight bunches set, according to the strength of the vine, one only on every other lateral on each side. Never disbud a lateral eye but allow every lateral to grow. In order to encourage a continuous bearing of fruit, low down, leave the spurs at the base rather longer than those above.

Keep the spurs as short as possible; if the vine be well grown there is always an abundance of dormant eyes around the base of each lateral from which to force a good plump bud to form strong spurs for next year's fruiting.

In the autumn of this year cut down to about ten feet of cane, and continue, year by year, increasing its length, but diminishing the rate of increase, until the vine reaches the top of the house, where about eighteen inches of last year's cane may be left.

If well managed, the vine should continue to bear good crops for a generation, but if, from any cause, one or more, or all of the vines should begin to fail a young cane should be started, at the base of the vine, and brought up gradually, as above described, until it reaches half the length of the rafter. Meanwhile fruit the old cane only on its upper half, observing in spring to ring its bark, about half way round, near the base, so as to send the sap into the young cane. In the autumn cut out the old canes entirely.

#### GENERAL OBSERVATIONS.

As a rule never allow any fruit to set on the leading cane.

Cracking, moulding and rotting of the fruit, may be prevented by having a tight roof, by a judicious use of the flue and by avoiding excessive watering and syringing. Be careful however not to let the border at any time get entirely dry.

In trimming the bunches, which should be done as soon as the berry is formed, regard should be had to the variety in hand. Free-setting kinds should be thinned out one half or more, leaving only so many berries as will when developed to their full size form a handsome and not too compact bunch. Some varieties, which do not set freely, may be left until the berries have attained sufficient size to allow a choice and then the smaller and weaker ones should be cut out.

Each autumn, before the vines are laid down they should be washed with the following mixture:  $\frac{1}{2}$  pound of whale oil soap,  $\frac{1}{4}$  pound of tobacco-stems, four pounds of flour of sulphur and one ounce of nux vomica ground, on which pour two gallons boiling water, and let stand till cool. Stir constantly while in use and give the vines a slight coating. In March rub the old wood over with a little whale oil, to soften the bark, and then peel it off before tying up the vine to the wires.

Vines thus treated are entirely free from mildew and the attacks of insects. One of the vines under my charge managed upon the method above given, which was planted five years since, measures nine inches in circumference at two feet from the ground, and at twenty-four feet in height the young wood of this year girths four inches. This vine has now fifty pounds of perfect fruit and is a model of health and beauty.

[In our last year's volume we noticed the great success of Mr. Matheson as a grape-grower, and are glad to have so full an account of the way he manages his vines. It is often said in cases of this kind that such results are to be attributed more to accidental circumstances than to any regular system of management; but Mr. M.'s continuous and improving success shows well the excellence of his mode of treatment.]

A Committee of the Pennsylvania Horticultural Society visited Mr. M.'s vines this season, and found every thing as described. The bunch before reported in our journal as weighing nine and a quarter pounds, on exhibition, was weighed by one of our friends, and found to be over nine pounds, after passing the ordeal of the "Tasting Committee."—Ed.]

#### GRAPES.

BY DR. EVANS, WALLACE, PA.

I AM truly sorry that the little that is left of me will not be able to attend the Convention of Grape-growers. A month ago, dysentery took the lion's share of me; acute rheumatism immediately followed, and has not yet abandoned its prey. It is taking the leopard's share; and unless it leaves me soon, there will be nothing left for the jackal.

I had a fine crop of grapes this season, but regret to say that there is little or nothing left of that. Had the meeting been called two weeks earlier, I could have sent you such clusters of Delaware grapes as are rarely equalled, and perhaps never surpassed; but of my Delawares every berry is gone.

In the winter of 1859 a liliputian plant was sent to me by a friend, in a three-inch pot, for want of a smaller one. By autumn it made a growth of fifteen feet. Next season it yielded a dozen fine bunches of fruit, and this year—let me describe it. I fruited but a single cane some six feet long. Every eye made its shoot, and of these shoots ten of them supported four bunches each, and nearly all the rest three bunches apiece. There was not a shoot without at least one large bunch, and there were not half-a-dozen small bunches on the vine. Dr. Eshleman saw the vine in its full glory, and as he will probably be with you, I will commit its reputation to his keeping. My border is three feet deep, ten feet wide, and contains a large admixture of bone-manure and leather scraps. The Catawissa will, I think, prove a valuable variety. It ripens with Hartford Prolific and Northern Muscadine. In quality it is, in the opinion of all who have tasted it here, better than Isabella, and its large berries and very large bunches give it a beautiful appearance. I think it will be found perfectly hardy, and as well worthy of general cultivation as any other hardy black grape we have.

I am also much pleased with Taylor's Bullitt, which fruited here this season. It is a most beautiful little grape, without pulp and almost without skin,—more perfectly transparent than any other native grape I have seen. In quality, about equal to Elsinboro', which is not bad. If its rambling propensities can be restrained, I think it will be quite an acquisition.

As an early grape of good quality, I would recommend the North America. It is a seedling of Franklin, and a very much better grape, of the size of Isabella, without pulp, sweet and good, but lacks flavor. It ripened here before Hartford Prolific, and is a much better grape. I think well, too, of Alvey. It is, indeed, a most excellent grape, resembling Taylor and Elsinboro' in flavor, and seems to be quite prolific, though I cannot agree with my friend, Mr. S. Miller, in considering it but little inferior to Delaware in quality. Alas! we have no native grapes of which that may be truly said by me. The Diana is next to it, in my opinion, but between the two there is room for many others. Anna proves to be a most excellent grape, but a shy bearer. Perhaps she will yet mend her ways.

I fruited twenty varieties this season, and I must say that I have no ten varieties in collection (so far

Catawissa

Taylor

N. Am.

Alvey

Delaw.

Franklin

Anna



as tested) which I would not rather part with than Delaware. It would afford me pleasure to write out my views at length on the interesting topic of grape-culture for the benefit(?) of the meeting; but, "weak and weary, sick and sore," I can pursue the subject no further.

[The above, addressed to one of the officers of the Lancaster Grape-growers' Meeting, has been handed us to do with it as should seem good unto us, and our decision is to publish the whole. As the views of an observing and intelligent amateur, they derive additional force, if possible, when written in an off-hand way, without thought of publication in the *Monthly*.—Ed.]

#### MY EXPERIENCES.

BY OLIVER PEGRAM, OF PEGRAMIA.

No. II.

I HAVE said that the time had come when I should carry out that lifelong wish of mine, and retire to the country. Such a wish is but a natural one with every man. In my case it was all the more so, as I had been bred, born and educated in a large place, where the earth seemed a wilderness of houses, and vegetation had but few and feeble exponents, such as the wormy linden trees on the sidewalks and the grass in the quiet streets. The country around my native place was as flat as a pancake, and much less interesting than a pancake. My destiny willed it that I should live in none but the largest cities of our country, and, gifted with a lively imagination and an innate love for the country, I, from the contrast between necessity and wish, clung all the more to my ideal. I had not even the leisure of those folks who, partly from the love of home and partly from a love of country, go a riding. Hard at work from morn till night, I was essentially a stay-at-homer.

Here comes the daily phenomenon of the strange workings of the native bent, illustrating the adage of "what's bred in the bone," &c. To gratify my love for country, I read late at nights in bed (accompanied by a cigar, or may be three or four of them,) books of travels in distant countries, especially such in which I fancied that Nature appeared in her most charming forms, such as the West Indies, the Brazils, &c. Having, also, a practical turn,—and who has not in this great country of ours?—I read (don't smile, kind reader,) price-currents in the newspapers, thus getting a knowledge of what the country produces, and what it "fetched." Later in life, when the dollars began to grow with me, and when I had married, I read in the papers the advertisements of farms or country residences for sale or to let. My imagination easily made me proprietor of

each of them in turn, and each of them had its peculiar fascination, no doubt because its best points were made the most of in the paper. Now, this sort of thing is very well,—just as the dream will always suffice to the soul so long as the reality is not sought for. But I dearly paid up for this continued play of the imagination; for when we (that is Mr. and Mrs. Pegram) one winter night (I think it was in February) had resolved that we not only could, but would, move into the country, then began with me a series of vexations, the narration of which, I hope, will do some good to such of the *Gardener's Monthly's* readers as are still in the incipient stage of "moving into the country."

I wanted to find my ideal. Where was I to find it? First I took to the advertisements. Perhaps I went to see fifty different places. Seeing them, and that, too, in the month of March and with an unacquainted eye, they, one and all, fell vastly short of my ideal. They were either too flat, or too rugged, or too cramped, or too oddly shaped, or the buildings were distasteful, or the soil was too poor, or there was too much or too little timber on them. Let alone the fear in my mind of such things as take a man very unpleasantly by surprise, and must be made the best of when once unhappily found; for instance, unpleasant neighbors, or may be chills and fever and similar miseries of life,—for who ever, when he inquired of people on or near the spot, was not informed that this spot was "remarkably healthy," and "most respectable people all around?"

Besides, there floated in my brain an unshaped thing of an ideal, some few points of which I found in reality in each of the fifty places, but, unhappily, not in one of them together. I dreamt of a dwelling standing half-way over a green hill, looking east with a little southing; white pines crowning the top of that hill, and coming down it a little way, just enough to shelter us from the north and north-west in a way both useful and ornamental. Then I wanted the ground apt to be terraced in front, and to be nicely laid out as a flower-garden. At the foot of the hill I wanted to make a pond, with a green isle in it, on which I was to plant a "native" wilderness of shrubs and trees. The pond was a fixture in my mind, as well as in my wife's, both of us having an unusual predilection for roast duck, cold. There was, likewise, to be a diversity of ground all over the farm, although the whole was not to exceed one hundred acres. Monotony I could never bear; so I wanted hill and dale, rocks and rich soil, meadow and woods, and a little of every thing that makes the component parts of creation.

Was I unreasonable? By the beard of the Prophet, I believe I was. But as this is a sort of con-

fession, I will be honest and state even, that, in addition to the grand features of the place, I stuck quite as tenaciously to the smaller ones. I was to have a sun-dial on a large scale, a rustic bridge spanning the indispensable streamlet (I hoped the gods would throw in a little cascade), an ivy-clad grotto, a Newfoundland dog of a prodigious size, (black, of course,) my "own" horse, beautiful creature! and squashes of a size and flavor hitherto unknown to the inhabitants of this continent.

Feeling how much I claimed of Nature to satisfy my exacting mind, I was ready to move into any part of these United States where I could find my ideal, excepting the northernmost and the southernmost ones. Not so with Mrs. Pegram. "What, to go and leave our friends and relations at ever such a distance, and, strangers as we are, go and seek new friends amongst strangers? Take the children and go and live Heaven knows how far from any place where they can get a good schooling? Go and live in an out-of-the-way place, out of sight of all the world, where nothing ever happens, and where you never get to know what is going on in the world? Preposterous! You might as well bury alive your wife and your children, Mr. Pegram!"

Was ever man as perplexed as I?

#### THE CRAB APPLE AND ALMOND DWARF AS STOCKS.

BY "MAPLE DELL," ILLINOIS.

IN reply to "S.'s" remarks in the last *Monthly*, I would state what little I know about these stocks.

The Crab Apple (*Malus coronaria*) grows in great abundance in this neighborhood, and has been repeatedly used as a stock to graft upon, with success; and if they were worked near the ground, low heads being formed, they would, with some varieties, form dwarf trees equal to those worked upon Doucain stocks, perhaps superior.

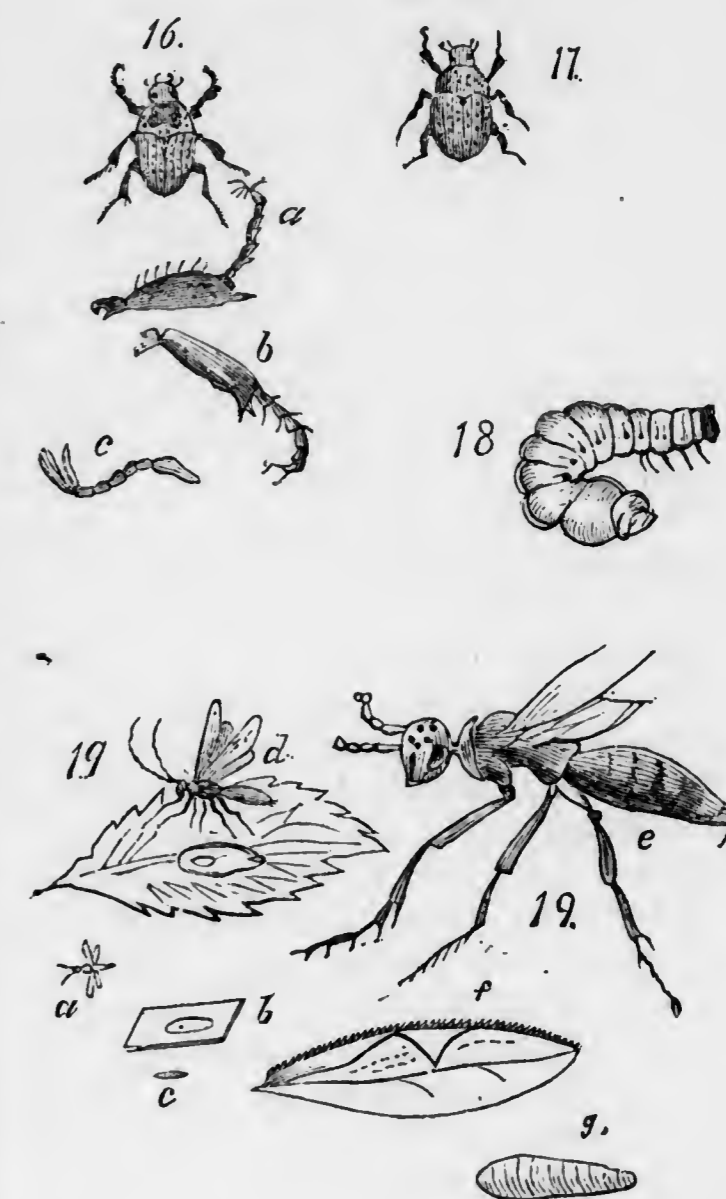
Our attempts at dwarfing the Peach and Almond have proved quite successful. Two years ago we budded some Peach and Almond varieties upon the Double Dwarf-flowering Almond (*amygdalis*, fl. pl.) Last year they grew vigorously, making pretty little shrub-like trees before fall, and were well furnished with fruit-buds. This year we shortened the new growth two-thirds, leaving sufficient fruit for the bushes to mature well, but they were stung by the cureulio and dropped off before maturity.

We may, perhaps, be more successful with them next year; and as they have not overgrown the root much, they may last for one year, their natures being dwarfed.

#### INJURIOUS INSECTS.

BY S. S. RATHVON.

[Continued from Page 293.]



*Anomala marginata*. Fab. Fig. 16. Length, three-eighths of an inch; color, a light brown or dirty yellow; legs and underneath, dark brown; the posterior portion of the head and the middle of the thorax irregularly marked with chestnut-brown, and the central and lateral margin of the wing-covers the same color; wing-covers, punctured in lines lengthwise.

*Anomala lucicola*. Fab. Fig. 17. Length, the same as fig. 16; color, uniformly a dirty yellow, and only the tarsi and the eyes, and a very narrow margin of the wing-covers a chestnut-brown, with a brownish marginal spot on each side of the thorax; wing-covers, punctured in longitudinal lines the same as fig. 16.

These insects I found very abundant on the grapevines of Messrs. Engle & Windolph, on the 5th of July, and they had been destroying the leaves for some days previously, and continued to do so for some days subsequently. They belong to the *Melolonthans*, a family of destructive *Lamellicornia*, a prominent member of which is, the "spotted

Pelidnota;”\* (*Pelidnota punctata*), and are fully as injurious to the grape-vines as the latter well-known species, but occurring in vastly greater numbers. *a* is an anterior leg, *b* a posterior leg, and *c* an antenna, which are alike in both these species. Indeed, it is not unlikely, on further investigation, they may both be found yet to be only varieties of the same species. The genus *Anomala* contains many species, and among them such a great variety as to make it much of an anomaly. Ten or twelve American species of this genus are known to entomologists, besides as many more that are very nearly allied to them, and differing very little in size from those here represented. Fig. 18 is a grub, which is a form common to the family of the *Melolonthans* rather than that of a particular species. This larva is well known as the “colute grub worm,” and is often made use of in the early part of the season as a choice bait for fish. These grubs remain in the earth from two to three years, and are very destructive to the roots of vegetation when their numbers are large. In this state of their being, they are more injurious than in their perfect state, and there may be a great many injuries done to vegetation by the destruction of their roots by these insects, that we are not aware of. During the winter season they burrow down deep in the earth, and come nearer the surface in the spring when the frost is out of the ground, and in this way they are sometimes ploughed up, or dug up and devoured by domestic fowls and birds, long before they are ready to undergo their transformation to the perfect state.

Some terrible records have been made of them in England and Ireland, such as stripping the foliage off large tracts of ground, in consequence of its roots being devoured by the larvæ of these insects. Anderson, in his *Recreations in Agriculture*, says that there were fourteen thousand of these insects captured in a few days near Blois, in France, by some children, and that in Hungary they boil them and extract the oil from them, which is used for greasing carriages. They make their appearance in the beetle state in June, and continue till August and September.

*Ichneumon serratipennis*. Fig. 19. Length, three lines; expansion of the wings, five lines; antennæ, as long as the body; wings, transparent; color, fuscous or light brown; eyes, shining, dark chestnut brown, and prominent. *a*, natural size of the perfect state; *b*, natural size of the cocoon, containing the pupa spun down to a portion of a leaf; *c*, natural size of the larva; *d*, a moderately magnified view of the insect and pupa on a leaf; *e*, a greatly magnified view of the perfect insect; *f*, a

\* Prominent in the order not the family—*Pelidnota* is a Rutillan, (*Rutillida*), and is a wood-borer.

greatly magnified view of a wing, showing the veins; *g*, a greatly magnified view of the larva. It will be seen that the costal margin of the wing is serrated or saw-toothed, and upon this characteristic I propose, at present, to name it. When it is discovered that it has been previously named, or that another would be more appropriate, then, of course, this one must fall. This description and naming is, therefore, only provisional.

On the 15th of last June I found some leaf-rolling *Lepidopterous* larvæ upon a quince tree, and upon opening one of the leaves rolled up, I found in it a light green caterpillar with a brown head and faintly banded with whitish-green, of about three-quarters of an inch in length. It was probably the larva of a species of *Tortrix*. I found that it was inactive, and that it had not inclosed itself as perfectly and securely as leaf-rollers usually do, and that something seemed to be the matter with it. Soon two small greenish-white worms, with a small black head and without any perceptible feet, came forth from its body and remained on its back. I then broke off the bud and leaves and put them in a small box, and on examining it five days thereafter I found that thirteen of these worms had come forth and spun themselves down in flat cocoons, parallel to each other, on another leaf, and that the caterpillar was dead. On the 27th of June they evolved from the pupa, by cutting a round, smooth hole through the one end of the cocoon, as shown in *b* and *d*, and came forth a brisk and knowing little “cuccoo-fly,” as represented in the illustrations. This is then a lively and efficient little insect friend, and as about half of them escaped out through an open window, they, no doubt, went forth again to seek some luckless caterpillar upon whom to deposit their eggs for another brood, before the season ends. The insect is small, and is not likely to jostle other animated beings much in the world, nor is it likely to be often seen and recognized, but it is, nevertheless, doing right valiant service to man in the sphere in which it is called to operate. Close habits of observation might daily produce instances like this in the economy of insects, and would also reveal to us that throughout the “live-long day,” and during the entire continuance of the summer season, insects, both friends and enemies, are incessantly at work carrying out the behests of their creation. Their perseverance is truly astonishing. It was only a few days ago I witnessed a little cuccoo-fly making attempts to deposit its eggs upon a hairy caterpillar, and the latter flourishing the fore part of his body, like an expert fencer would his broadsword, in order to ward off his enemy; but it was of no use; the fly persevered until he succeeded, before he relinquished the contest. If it were asked

me what remedies I would interpose to the encroachments of these enemies of the grape-vine, I should be compelled to answer, that I do not know a single one that would be entirely effectual. Smoking them out with a torch of sulphur, would involve a great deal of labor, and unless great care were taken, might scorch the vine. In an extensive grapery syringing them with soap-suds or tobacco-brine would also be very laborious. The best self-operating remedy, perhaps, would be putting up bird-boxes, and the encouraging of blue-birds and wrens to build their nests in them. I have a small box erected about four feet above my grape-vines on a pole, in which a pair of wrens have reared two broods every season for a number of years. From eighteen to twenty is the number of their progeny reared in a single season, all of which are fed upon insects. I purposely planted two or three small colonies of insect larvæ on my vines the present season, immediately below the box, in order to make some observations upon their transformations; but in every instance, my colonies, every time I examined them, had suffered depletion, and then entirely disappeared. I did not see the wrens do the work, but I have seen them frequently bring insects, and especially small larvæ, in their bills from elsewhere, to feed their young, and I have not the least doubt that it was them that destroyed mine. These little feathered friends are occupied at least twelve hours in the day in feeding their young, and calculating eight insects an hour, captured for them,—which is only a moderate estimate,—would make ninety-six insects a day carried to their brood, without counting those they might be supposed to eat themselves. Seven hundred insects, in round numbers, in one week, for a family of wrens, is nothing more than what may be ordinarily calculated. Allowing three months to the feeding season of their young, would foot up twenty-one hundred insects consumed by these little indefatigable insect traps alone, without the other contingencies that also assist in destroying great numbers of them. Heavy, drenching rains are often of vast benefit in lessening the number of noxious insects, and if finely pulverized air-slacked lime was thrown upon those that the rain failed to wash off, I believe it would destroy or remove them, as I have been very credibly informed. With these few remarks at this time, I must bring this paper to a close, hoping that it may be of some use in throwing a little additional light upon the subject of practical entomology; and I again admonish the Association, that when they find any insect attacking their vegetation of any kind, they secure a specimen or specimens and send them to me by mail or otherwise, together with the circumstances under which it was taken, and the

tree or plant upon which it was feeding, and I shall cheerfully give such light upon the subject as I may be able to diffuse.

#### THE ALLEN RASPBERRY.

BY FOX MEADOW.

It is said, Mr Editor, “that open confession is good for the soul.” It always does me good to acknowledge the superior excellence of fruits when they are found to be so; and I must honestly say, that I feel a pleasure, and also consider it a duty to make known what appears to me to be worthless. In reading over the September number of the *Monthly*, I was much surprised to find the success of Mr. James Gleason, of Mount Airy, in the cultivation of the Allen Raspberry. The writer first illustrates the “Allen” under a system of bad cultivation, and then gives us its opposite, terminating with a plentiful crop of superb fruit. But bad cultivation, we are all aware, must terminate finally in bad results; but with me this does not solve the mystery of the Allen Raspberry. I have it growing at the present time on a made soil four feet deep. The canes are tied up to cedar stakes, four canes to a stake. The canes grow seven and eight feet high. The ground is kept perfectly clean, and no suckers are allowed to grow but the four for the following season. The ground is never dry nor wet, but it is strong and rich. I have grown them now four years, and got with them such a character that really made my mouth water, and long for the time to come when we should be able to pick an abundance of raspberries from canes capable of standing “without stakes,” and stand the frost “without being buried.” I was not going to risk the frost, however, on such a “wonderful cropper.” So we buried them as we did the Brinckle’s Orange, which were growing on the same ground by their side; but, Mr. Editor, the leaves came with genial summer sun, and the blossoms smiled to the cultivator, whilst his busy hand pulled the absorbing suckers from its root, but alas! no fruit. A few “pips” were shown of a transparently beautiful crimson, dangling here and there on the bushes,—*beacons*, we thought, of a plentiful perfection yet to come; so the fostering hand protected them another year, and yet another year, and this summer the ungrateful “Allen” laughed right out at us, and said, it was not a raspberry, but an “Ignis Fatuus” destined to try our temper and the natural strength of our brain. “Stand!” we exclaimed, “for these war times will not permit you to proceed further without an examination of your ‘pass.’” “Allen” halted with all the dignity of a warrior, and said, “Examine my pass, and you will perceive in what you ought to have examined long enough before, that my pass is im-

perfect." Had we looked at his pass three years ago, we should have sent him to the guard-house then; for botanically, his sexual arrangement was in error, filaments, but no anthers, consequently no pollen. "Allow me," said Allen, "to march by the side of 'Brinckle' or the 'Antwerp' brigade, and you will find me more suitable to your wants. I am only a lady in your soil, but in the company of gentlemen,—very much changed for your better."

"Allen, this don't pay, so you must come up out of it and accompany all the other things which require purifying, to the flames."

[The success in the particular instance we named, may probably have been as much owing to the neighborhood of other varieties, as to the system of culture, and it is a pertinent question, as Fox Meadow well puts it, whether it is worth while to raise a variety that needs fertilization, if we can get a kind that will bear as well without. In this case, none of the other kinds did bear as well, or any thing like as well. No more ground was occupied than any other kind would have occupied. Mr. Gleason's raspberry garden is in a low piece of ground, and no variety is, we believe, even protected there. His success is equal to any raspberry-grower we know, and we should like to have his experience; but as he has now exchanged the pruning knife for the sword at the head of a company in the service of his country in Virginia, we must lay aside the desire for the present.—Ed.]

#### MANETTI ROSE STOCK.

BY F. PARKMAN, POND GARDEN, JAMAICA PLAIN, MASS.

As the true merits of the Manetti Rose Stock have been much discussed on both sides of the ocean, (I began a year ago last spring to experiment on it,) I now send you a few results of my experience, in the hope of gaining, as well as giving, information. Of several hundred strong stocks planted in April, 1860, and containing dormant buds of some thirty varieties of perpetuals, the greater part bursted with surprising vigor. Several before autumn made shoots more than six feet long. One Triomphe de l'Exposition measured six and a half feet. Others, such as Mrs. Elliott and Paeony, made compact bushes of four feet, loaded with bloom. Others, again, were weak and dwarf in growth. Among these was La Reine, while the Muscadine Geant did not exceed his ordinary slight proportion. In short, some found the stock congenial, others not. The soil, I should say, was trenched two feet, and enriched to the lightest point.

Thus far, the results were, on the whole, very

satisfactory; but the present summer has cast a shade of suspicion over the character which entered upon its career under such hopeful auspices. The plants were carefully taken up and re-set a little deeper, in order to give protection to the point of junction of the scion and stock. This was easy, as all were budded close to the ground. A few grew and blossomed with all their former vigor, but in general they have shown a diminished vitality as compared with last year, and in some instances this deterioration has been very marked.

I am by no means prepared, however, to give my voice against this promising stock, and write chiefly to draw forth the results of others' experience. I am continuing to experiment, and will give results hereafter. The only question is that of the permanent value of the stock. Of its immediate influence on those varieties adapted to it, there can be no possible question.

#### RHODODENDRONS.

[Continued.]

BY A. MIELLEZ, FLUSHING, N. Y.

THE best mode of grafting rhododendrons, as before stated, is that of saddle-grafting. It is done by cutting a wedge of about an inch and a half in length on the stock, and a "saddle," as it may be called, of the same length on the scion, so as to fit the one into the other. The latter cut requires a little skill, but after some practice will soon become handy. I here may mention a little contrivance that will be of some service: it consists of a tube made of stiff paper, about an inch wide and four inches long; through this the scion is drawn, and by keeping the leaves erect, will facilitate the cutting and tying. Very large leaves may be half cut off.

If stock and scion are of the same size, it will form a very neat junction at once; if the stock be stronger, the scion has to be set on one side of the saddle, so as to cover bark by bark; after a season's growth the difference will soon disappear, provided it be not too great a one, in which latter case I should advise wedge-grafting; grafting on a large stock should, however, if possible be avoided. After having fitted stock and scion nicely together, use worsted or bast matting, cut into the required lengths, for tying in this way: Hold stock and scion together with the left hand, at the same time catching hold of one end of the tie, (twine,) then with the right hand twist the matting, and begin tying from the top to the bottom of the cuts, leaving little spaces between every encircling tie, so as not to restrain the ascending circulation of the sap. No coating of wax or clay need be ap-

plied; the usage of this is rather reverse to most in-door operations. The atmosphere of the place has to be kept in a condition to prevent the plants from shrivelling and drying up; this, however, will be easily accomplished in the way before stated.

In regard to the age of the wood, it matters but little whether it is one, two or three years old, as long as it is in vigorous health, and therefore old plants that have grown irregular at the same time may be formed into "shape" by grafting. For scions, however, the tops or one year's growth should be used for their more prominent eyes, healthier leaves and greater vitality, which qualify them better for a "tip-top" start and ultimate success. About a fortnight or three weeks after grafting, the stock will have issued numerous shoots, which have to be removed gradually as the issues of the scions develop, leaving the upper ones till last, to aid in carrying the sap to the latter. At the same time look after the tyings, and if they are seen to make a rather deep impression, caused by the growth and callus of the junction, remove them and tie again with untwisted bast matting. This will keep till the grafts are thoroughly united, and then be forced to break by the increasing strength of the plant. This is all that is needed, although a little attention should still be paid for the first three months or so, looking over them now and then, lest some ties might undo themselves too soon. If so, it must be removed to prevent the graft from dropping off by swagging about. By grafting small plants the same has to be observed that has been said about large ones, with the only difference that these should be grafted as near to the roots as possible for the reason, that, though only hardy Catawbiense varieties (true Catawbiense are objectionable, because they do not form so fine a ball of fibrous roots as Hybrids of Catawbiense maximum and ponticum, &c.) are used. There may be one or the other not prove quite hardy, and it is vexatious to loose any afterwards by a severe trial of Jack Frost, but which will be secure if grafted low, so as to come into the ground. Another reason for grafting near to the roots is, that a great many of the grafts will subsequently take roots when coming in contact with the soil, and so stand partly at least on their own roots.

By the way, it may be said that rhododendrons can also be propagated by layering, and pretty good plants they will make. Proceed in the usual way of layering shrubs. It, however, is a pretty slow way, and not at all advisable where large quantities are wanted. The raising of stocks and hybrids from seeds, of which I shall give a plan of treatment hereafter, is a thing of imperative necessity. For the present I will add, that seedling stocks which

have been grown in the nursery, will be fit for grafting when of an average size of an inch in circumference, and may be taken up and potted for that purpose; but where there is a large quantity to be accommodated, it will be found to advantage to plant them in a pot or house as described for large plants. Plant in rows about six inches apart and four inches between, so as to give sufficient room for the development of their growth.

A very good method of operation is the following, viz; Early in spring when the severest frost has passed away, (about the beginning of March in this section,) put a good layer of fresh stable-manure into a pit or frame, some light soil, saw-dust or tan on the top. After the first strong heat is gone (say four or five days) put your grafted plants in; they will do beautifully.

[To be Continued.]

#### A VISIT TO THE KNOX FRUIT FARM.

BY A. THOMSON, DELAWARE, OHIO.

THE horticultural reader has heard of the celebrated fruit farm owned and cultivated by Rev. J. Knox, in the vicinity of Pittsburg, Pa. It is undeniably the most extensive establishment of the kind in the United States; and notwithstanding its large size, is as thoroughly and systematically cultivated as any other to be found in the country, however limited in extent. From the central position occupied by the family mansion, the eye takes in at a glance over one hundred acres, within a single enclosure, almost every rod of which is occupied with fruit trees, vines and plants, apples, peaches, grapes, strawberries, blackberries, raspberries, gooseberries, currants, &c., all in the highest state of luxuriant growth, and all receiving as clean and thorough culture as is bestowed upon a good garden. The place has already been described in detail, and I do not propose going over the same ground again, but simply design noticing a few of the prominent features, which, during a recent visit, especially attracted my attention and elicited my admiration.

Mr. Knox makes the culture of the strawberry for market and raising plants for sale, a speciality.

He has been called the "Strawberry King;" and if unquestionable pre-eminence in this branch of fruit-culture can entitle a person to the appellation, it is justly bestowed. The statement that he has fifty acres in strawberries seems almost incredible; but a walk over the place, and an examination of the extent of the plantation, cannot fail to satisfy the most skeptical, that the amount of ground above indicated is thus occupied. During the last season the hands employed in picking and sending fruit to market num-

bered at times as high as three hundred per day, and the berries were sent in large quantities to New York, Philadelphia, Buffalo, Chicago, Detroit, and most of the other cities of the North and West,—some going even into Canada. In consequence of the size and handsome appearance of the fruit (the effect of thorough culture and the selection of choice varieties) it brought in most cases fully double the price obtained for such as is ordinarily to be found in our city markets. Mr. Knox purchases and tests every new variety that appears, and the number of sorts comprised in his specimen bed, each occupying a distinct row, considerably exceeds one hundred. Some of them are, of course, of but little value,—many of them are found desirable for a general collection, and a few are esteemed worthy of universal culture. First on his list of favorites stands *Triomphe de Gand*, which, the past season, has fully maintained its high reputation as a first-class berry in all respects, and the extent of his plantations of this variety, the preparations to still further extend them, and production of millions of plants, clearly evince the high estimation in which he holds it. Next to *Triomphe de Gand* I believe he now ranks *Kitley's Goliath* and *Trollope's Victoria*; while Wilson's Albany, Jenny Lind, Baltimore Scarlet, and several other standard varieties, are still largely cultivated. Several of the newer varieties, as Fillmore, Downing, &c., promise well, but have not been sufficiently tested to establish their merit. For fruiting, all the vines are cultivated in rows two and a half feet apart, and some of them more than a thousand feet in length. The vines are kept free from runners, which are removed as they appear by hand, the effect of which is extraordinary vigor of growth, and the formation of numerous and prominent crowns, which will throw up an abundance of strong fruit stalks next season. The ground between the rows is kept perfectly clear of weeds by hoe and hand-culture; and the latter part of November the entire beds are covered with a layer of straw, which protects the plants during the winter,—is removed from the rows in the spring, and suffered to remain between them during the summer, acting as a mulch, keeping the ground moist, protecting the fruit from dirt, checking the growth of weeds, and eventually by decaying, affording nourishment to the soil. The beds for raising plants are entirely distinct from those for fruiting; all the runners are permitted to grow and root, and the beds so remote from each other as to render admixture impossible; and those purchasing plants of Mr. Knox can do so with full confidence that they are true to name and unmixed. The mode of culture pursued on this place is necessarily expensive, but experience has demonstrated that it pays

better than a less expensive system; its policy even in an economic point of view is fully established.

Next to Strawberries comes Grapes; and from the extent of his preparations for planting vines, and the thorough manner in which he prepares the soil for their reception, it is evident that this will shortly become the leading branch of culture; and those who now regard themselves as occupying the front rank as grape-growers, would do well to look to their laurels, lest, ere they are aware of it, they be transferred to the brow of the "Strawberry King."

The soil and locality of this fine farm seem to be admirably adapted to the growth of the vine, and the thorough culture given them, the judicious selection of varieties, and the systematic and scientific pruning and training, have already produced the most flattering results, and promise still better for the future. The assortment embraces all the older varieties and most of the new; but only a few of those that have proved valuable are largely planted. The three favorite varieties are *Delaware*, *Concord* and *Hartford Prolific*,—the first valued on account of its universally conceded good qualities both as a table and wine grape; the other two for their hardiness, productiveness, early maturity, and consequent value as market fruits. Of *Delawares* there are a hundred or more vines on the place, that have each a few clusters for the first time this season,—the healthy growth of the vines and the exquisite beauty and unsurpassed quality of the fruit, captivating all beholders; also several hundred vines (good one year old layers) set out last spring, which are a sight worth looking at, having made a growth of from five to twelve feet each,—the wood stout and short-jointed, and such as would, if permitted next season, produce a fair crop of fruit. They will, after another season's growth, challenge comparison with any lot of vines of like age in the country, and will richly repay the investment made at what might appear a somewhat extravagant price in procuring good vines at the start. Those who are troubled with the idea that the Delaware is a feeble grower, would be effectually cured by a glance at this lot of vines.

I am one of those who, when it first appeared, formed a decidedly unfavorable opinion of the *Concord*; and from seeing it growing in several localities in the East, and tasting the fruit from such vines, my unfavorable impressions of it were confirmed, rather than weakened. But, after witnessing its vigorous and healthy growth in the West, and fruiting it on my own grounds, my views have very much modified, and I have come to regard it as a most valuable grape for general culture; and the show it made this fall on the farm of Mr. Knox was such, that I cannot speak in terms of too high commendation of it.

The vines of all ages were a perfect picture of health. A large number that had been two years planted, were bearing their first crop of fruit—the clusters large, the berries perfect and thoroughly ripened, and the flavor, in my estimation, if not as good as that of a few other varieties, at least superior to *Isabella*. These vines averaged one dollar each from the sale of fruit, which readily commanded from twenty to twenty-five cents per pound in the Pittsburgh market, while *Isabellas* and *Catawbas* (unripe of course) were a drug at six to eight cents. The great point of attraction, however, was a row of eleven vines, four years planted, occupying a trellis about one hundred and thirty feet long, and seven feet high, which from bottom to top, and from one end to the other, was covered with such magnificent clusters as I had never before seen. The bunches were large and compact, generally heavily shouldered, the berries very large and perfect in every respect, reminding one of well-grown *Black Hamburgs*, though from their jet black color, and covering of rich bloom, they eclipsed that celebrated variety in beauty of appearance. This, too, was simply the result of good culture and proper training and pruning. The estimate of Mr. Knox, that an acre of such vines, fruiting as those were, would yield a profit of one thousand dollars in a single season, was not an extravagant one; for I fancy he would find but little trouble in realizing one hundred dollars in any market for the product of those eleven vines.

Of the *Hartford Prolific* he has but a few vines, and when I was at his place (Sept. 25th,) the fruit had all been picked and marketed, bringing, in consequence of its earliness and attractive appearance, twenty-five cents per pound. Though not claimed to be a fruit of superior flavor, the vine is hardy and productive, and being earlier than any other yet tested by Mr. K., he thinks highly of it as a market fruit, and designs planting it largely.

The great advantage possessed by the three varieties above named, consists especially in their earliness, to say nothing of other qualities, as they all ripen their fruit before there is any danger of frost, which the *Isabella*, *Catawba*, and most other varieties fail to do in open exposed culture at Pittsburgh and most other localities as far North.

Another fruit that Mr. Knox is devoting especial attention to, is the *Improved American Black Cap Raspberry*. Of this he has now very large plantations, and is preparing to greatly enlarge them, finding it one of the most profitable of his small fruits. It is both hardy and prolific, the fruit attractive in appearance and of good quality.

#### THE INDIAN OR CHINESE AZALEA: Its Introduction, Cultivation, Propagation and Description of the Best Sorts, New and Old.

[Continued from Page 302.]

BY AN OLD FLORIST, PHILADELPHIA.

IF I were to be confined to the culture of only one family of plants for winter blooming, I would unhesitatingly adopt the Azalea. This choice certainly would not have been made a quarter of a century ago; but now, with the great beauty of growth, the cleanliness of the plant, its now neat and compact habit, with a very general prospect of reward for services rendered, and the great improvements in the plant of the present day, will cause many to approve of my choice. The only difficulty in the way of an amateur is, "What shall I select?" This difficulty is very apparent from the hundred and one names in nurserymen's catalogues, and all of an equal degree of merit. They will pardon me, I hope, if my feeble opinion should ignore one-half of their offerings, for which they are not to blame. They know that many require *something new*, and, of course, the propagator is considered behind the age if he is not in possession of all the trash offered at home or abroad. It now takes a very superior sort to hold any rank in the present collections. The characters should be, first, form of flower, as near the circle as possible, with a smooth, waxy petal; color, distinct, of whatever shade, with size and profusion of bloom; habit, of medium growth; foliage, green and shining. Those with a dull, rusty, deciduous foliage, such as the *Old White* and the *Old Purple*, are objectionable; so are sorts that make a growth before blooming, such as *Duke of Wellington* and *Novæ Blanc*. With these outlines before us, we now give the names and colors of the best that have come under our cultural observation.

SELFS, THOSE THAT ARE MOSTLY OF ONE COLOR.

*Bride*—Pure transparent white, of medium to dwarf growth.

*Crispiflora*—Rosy purple, with a crenulated edge, of medium growth, very distinct.

*Delecta*—Cherry rose color, very profuse, medium growth.

*Duc de Nassau*—Crimson, with dark upper petals and darker spots, flowers large, strong growth.

*Eclipse*—Bright scarlet, very profuse, strong growth.

*Extrana*—Brilliant rosy pink, [in color and form this excels our old favorite *Copeii*,] free growth and not overloaded with foliage.

*Gigantiflora*—Rosy salmon, spotted with violet, flowers from three to four inches in diameter, free growth.

*Lateritia*—Bright salmon color, very profuse of bloom, dwarf growth, and is best when grafted from six to twelve inches high. This variety, imported from China over thirty years ago, is not yet improved upon as a dwarf sort in either form or color.

*Lateritia alba suprema*—Similar to the former, except in color, being pure white.

*Louis Napoleon*—Dark vermilion color, with darker spots, very bold flower, of large size, plant of strong growth. Several of the new sorts approach this variety, but I do not yet see any to excel it.

*Petunieflora*—Peculiar for its uniform rosy violet color; a very abundant bloomer, neat, medium growth; produced quite a sensation when it appeared in Belgium and England.

*Pride of Dorking*—A very old English sort, of a cherry purple; nothing like it; strong growth; if the flowers had the symmetry of Rosy Circle, it would rank high.

*Ferryana*—Bright rosy scarlet flower, of medium size, free growing.

*Princess Royal*—Rosy pink, profuse bloomer, of strong growth.

*Reine de Blanc*, or *Queen of Whites*—Pure white, flowers from three and a half to four inches in diameter, foliage green and persistent, growth medium.

*Roi Leopold*—Bright salmon red, upper petals flamed with violet, stout, firm petals, and nearly a complete circle, growth medium.

*Rosa illustrata*—Bright rose color; a large flower, with an occasional double petal, growth and foliage good. A highly complimented Belgian variety, though we think it under the standard; of fine form.

*Rosy Circle*—Very brilliant rose color, shape very unexceptionable, a profuse bloomer, of medium growth.

*Speciosa*—A very old sort, with a bright cherry red flower of the largest size, strongly spotted with dark crimson, growth free, very large, very showy, but deficient in shape.

*Standard of Perfection*—(Said to be.) Flowers of a waxy rose color, firm petal, circular form, medium growth, and is altogether a very elegant plant.

*Stanleyana*—Salmon-red color, perfect formation, fine, clean foliage, free growth.

*Vesta*—Pure waxy frosty white, an abundant bloomer, foliage shining green, growth medium.

#### AZALEAS WITH STRIPED, MARGINED AND SPOTTED FLOWERS.

*Admiration*—Color white, rose and pink stripes; foliage green and persistent; a free bloomer.

*Aurelia*—Rose white, salmon striped with cherry spots, foliage and growth good.

*Baron de Vriere*—Delicate salmon color, edged with pure white, a large flower, plant of free growth.

*Beauty of Europe*—Striped distinctly red and white, flower not first-rate in form, very profuse, does occasionally run to a self-color of a rosy salmon.

*Eulalie von Geert*—Rosy salmon, margined with white and spotted with crimson; very large bloom, and produces occasionally centre petals; growth free, plant of very excellent habit.—There is a variety of this, with the foliage very distinctly margined with white.

*Iveryana*—Pure white, very beautifully striped and spotted with rosy violet, medium growth.

*Madam Miellez*—Very large, pure white flower, very distinctly striped with violet and like what the English call a fine flake carnation.

*Marie Louise*, or as some have it, *Louise Marie*—Pure white, with a delicate stripe of violet; produces a dense mass of bloom; growth medium.

*Maitlandii*—An American variety in the way of variegata, with the flowers, however, pure white, with stripes and spots of bright rose; weak growth; should be grafted.

*Queen of the Belgians*—Pure white flowers, striped with violet; the margin of the flower, however, is wavy or undulated, and admired by many; growth medium.

*Magniflora*—Salmon-pink flowers, margined with white, spotted and striped with crimson, good growth, very attractive.

*Variegata*—This is a Chinese production with *Lateritia*, and both may be seen sporting into each other. Many sorts identical, or nearly so, have been reproduced from seed, such as *Caicus picta* and others. It is of weak growth, and should be grafted. Flowers salmon-color, darker spots, margined with pure white; form nearly perfect.

*Vittata rosea punctata*—Flowers creamy-white, profusely spotted and striped with rose. A very profuse bloomer; growth weak to medium; improved by grafting.

#### AZALEAS WITH DOUBLE FLOWERS.

*Duc de Malakoff*—Bright red, large, double flower, very showy, growth medium.

*Glory of Sunning Hill*—Salmon color, very double, large flower, free growth, with exuberant foliage.

*Louise Margottin*—Large, pure white, with faint greenish spots; foliage full, green and persistent.

*Roi des Doubles*—Bright rosy crimson color, very full of petals; flower large, with excellent foliage.

*Rubro pleno*—Medium sized flower; color brick-dust red; growth free; the shoots must be frequently stopped to bring the plant into shape.

The above gives you, as far as I have observed, the cream of the azaleas. In doing so, I fear that many admirers of the plant will be in arms point-blank against me for ostracising their collection, and will hurl the questions at my ears—"What have you made of my fine whites, *Alba maculata* and *Alexander the Second*, for which I have just paid one dollar for a small item?" I say, the former has a flower of flimsy form and petal,—the latter, though very fine, is not superior to *Queen of Whites*. "Well, then, what do you say of my splendid *Phœnicea* and my new *Imperatrice Eugenie*?" The color of *Phœnicea* is good, but defective in all its parts; and as for *Imperatrice*, it is inferior in color and form to *Louis Napoleon*.—"Well, what have you against my fine new sorts, such as *Criterion*, *President Clacys* and *Queen of the Belgians*?" Only, the former is not more than equal to *Madam Miellez*. *President Clacys* is inferior in form, and the *Queen of the Belgians* very pretty, but not superior to *Marie Louise*. "Well, that is one way to get over them. How will you make an excuse for the fine double white *Narcissiflora*?" I object, most expressly, to its foliage, always sickly looking. *Louise Margottin* leads it in every feature. The old *Double Purple* or *Lilac*, that was very mysteriously spirited from Clapton, London, forty years ago, and as mysteriously appeared on the banks of the Schuylkill, has the same fault,—bad foliage, bad color, rough flower. Both it and *Narcissiflora* are, however, excellent for forcing with those who make bouquets a business.

Allow me another item, and I will, for the present, close the *Azalea* subject. A few months ago I spent a very pleasant hour in the company of the leading amateur on the culture of this plant, and a gentleman that marks high in whatever he undertakes. I requested impromptu his best twelve sorts embracing all distinct colors. They, are in his estimation, *Alexander the Second*, *Criterion*, *Dilecta*, *Iveryana*, *Napoleon (Emperor)*, *Juliana*, *Marginata (English)*, *Marie Louise*, *Roi Leopold*, *Rosy Circle*, *Stanleyana* and *Standard of Perfection*. To most of growers many of these are new, but I believe can all be obtained in New York or Philadelphia.

There are what I believe to be distinct species of the Chinese *Azalea*, such as *Amœna*, *Obtusa*, and

others, which I have not compared with any of the above, deeming it aside from the purpose intended.

#### PRESERVING QUINCES AND PEARS TOGETHER.

BY SCHUYLKILL.

As many of your readers will probably have more pears than they know what to do with, allow me to recommend them to preserve them in sugar in the usual way, mixed with an equal quantity of quinces. Pears alone are rather tasteless, but by mixing them with an equal quantity of quinces, I will defy any one to detect any difference in them. I have pursued this plan for some time past, and speak from experience.

[An excellent hint. We have had them at our table the past few years,—the pear known as "Pound" being the variety "made" into quinces.—ED.]

CATERPILLARS ON TREES.—I notice several correspondents in different papers of the city complaining of the worms on trees, and asking for a remedy. Several years since my shade trees were filled with worms, so much so that the female portion of my family and my children would not go near them for shade. I took a pan, of a large size and flat shape, placing in it charcoal well burning, setting it under the tree; then took about a pint of rosin and two ounces of brimstone, putting them on the burning coals. The fumes and gas of the coal, I found, scattered the worms; and I tried each tree, with like results in all cases, and I was no longer troubled.—*Philadelphia Dispatch*.

COST OF BEAUTY.—There are persons who think that a home cannot be beautiful without a considerable outlay of money. Such people are in error. It costs little to have a neat flower-garden, and to surround your dwelling with those simple beauties which delight the eye far more than expensive objects. Nature delights in beauty. She loves to brighten the landscape and make it agreeable to the eye. She hangs ivy around the ruin, and over a stump of the withered tree twines the graceful vine. A thousand arts she practices to animate the sense and please the mind. Follow her example, and do for yourself what she is always laboring to do for you.

PUBLIC PARK IN KANSAS.—The City Council of Lawrence has made arrangements with Norman Allen, Esq., of that city, for a Public Park. He is to enter into bonds to give it up complete to the city in ten years.

## The Gardener's Monthly.

PHILADELPHIA, NOVEMBER 1, 1861.

All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY, Box 406 Philadelphia."

Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

## WINTER GARDENS WITHOUT GLASS.

We are often told to "make hay while the sun shines," but most of us would rather learn how to make it when the sun does not shine. And so with winter gardens. It is easy enough when we can dip our hands into the lap of wealth, or gather to ourselves a given quantity of building material; but to have a winter garden without glass, is quite another thing, and, seemingly, much more difficult of accomplishment. Still we can do something, and, for the benefit of those who have no greenhouses, and yet would like a winter garden, we will say what we would do.

In a recent notice in our columns of Parsons' collections, allusion was made to the great variety of dwarf evergreens now in cultivation. Our flowerbeds in winter are usually the most forlorn looking objects conceivable. Why not fill them in winter with these dwarf trees? Such a winter garden would not, perhaps, possess the power to please that the flowering little Edens of our well-kept pleasure-grounds afford us in the summer season, but the change itself would be pleasant, for

"Since o'er the four rivers of Paradise  
The first roses blew,"

man's inconstant nature loves change, and the change in the manner we propose is well suited to the time; for the winter season is, above all others, the one in which evergreens draw us nearer to them. Though destitute of gaiety, they shed about an air of warmth and cheerfulness when all else is cold and dreary, that a garden in winter is the meanest of things without them, and we can scarcely have too many in those parts of our grounds in daily view.

Our plan would be to have all these low-growing evergreens planted in boxes in spring, and plunged in a "reserve garden" in some obscure part of the grounds till October or November, when they may be brought to the advance post of honor and plunged,

(like the tea-plants from the Patent Office,) boxes and all, in the positions that taste or convenience may designate. When the spring returns, and the plants are taken out to make way for summer flowers, they should be re-potted, or rather re-tubbed, the balls reduced somewhat, and the plants judiciously pruned and cut back, which will keep kinds within due bounds, that otherwise might become too large for our purpose.

Many parties in small places in the suburbs of large cities could not well practise this plan, because they would have no reserve ground to spare, and further, because they mostly keep no regular man, who could water occasionally in summer, and pot, shift, replace, and do all the little duties which the plants demand. But here a good opportunity offers to city florists to make something handsome. They could prepare and grow the plants and hire them out for the winter season. A few places once "fixed up" in the manner we suggest, the "fashion," we are convinced, would set in, and quite a living might be made by attending to hiring out such plants and fixing up winter beds, and this business alone.

Our Paris correspondent told us, in a recent *Gardener's Monthly*, that in that city there are florists who make a handsome livelihood by merely hiring out plants for room decorations at balls and parties; and surely, where permanent home enjoyment is in question, as it usually is with us, such a cheap mode of gratifying it as we propose in our winter-gardening system, would not fail to attract extensive popular support to those florists who entered heartily into it.

## PISTILLATE STRAWBERRIES IN ENGLAND.

WHILE the strawberry sexual discussion was going on some years ago, Mr. Longworth wrote to inquire of Dr. Lindley whether the observations made here had been repeated there. The Doctor replied, that they knew nothing but hermaphrodites. Recently the Doctor has reiterated his belief, by asserting that if pistillates are produced in England, he has yet to hear of them. In an English journal a Mr. Wray, in an article entitled "Scientific Culture of the Strawberry," gives some facts that he collected in America, showing that by judiciously noting the differences in the character of the flowers, American strawberry-growing had reached a degree of perfection unknown in England. This seems to have fallen like a bombshell into the camp of the Doctor's intellectual exclusiveness. He copies the article entire, and asks, "What say our great strawberry-growers to these speculations and statements drawn from the other side of the Atlantic?"

The Rev. Mr. Radcliffe first responds, but he touches not the subject. He has, however, tried a few American sorts, and "does not like them. If the Americans want strawberries hardy and good croppers, they should try Alice Maud," &c. Advice all very kindly meant, no doubt, but, unfortunately, not up to our requirements.

Mr. N. J. Nicholson, a well-known raiser of good seedlings, then tries his hand at the task of battering the American notion. He don't understand the "trouble" the Americans "seem" to give themselves about staminate and pistillates. He is sure "practice and common-sense" is all that he wants to grow strawberries out of doors. In-doors he thinks a little "science" assists him. He names thirty American varieties he grows, but says nothing of what he thinks of them.

M. Ferdinand Gloede, a French correspondent of the *Chronicle*, next appears in the field, and he pronounces the American "science" of Mr. Wray mere "theory" and "assertion." "He has tried American pistillates under glass by themselves, and always got a good crop," without the possibility of fertilization.

It may seem to Americans a matter of indifference whether Europeans treat what they know to be facts, as absurdities or "mere theories;" but we cannot avoid expressing regret, for the sake of horticultural science itself, that so great a disposition to slight American observations and American experience should exist in British periodicals. At the same time, it is pleasant to say that an improvement in some of the best of the journals is visible, and we hope some day to see the prejudice removed entirely.

The skillful British gardener honestly believes that if he understands the principles of his art, he can apply them successfully to the varying circumstances of any part of the world,—and yet he no sooner has a year's experience in this climate, than he finds there is something wrong with many of said "principles," and that the results do not come out "according to Lindley" and other British writers on scientific gardening. Of course, the reasonable inference is, that these so-called principles have been deduced from limited experience or imperfect observation, and one would suppose that our friends in England would be glad to know the results of American practice, if only as a test of the soundness of their doctrines when tried by skillful men under widely differing circumstances. They seem to forget that a great part of our observing gardeners are emigrants from their own country, bringing with them all the knowledge those left behind possess, and therefore much better capable of knowing whether what they assert as facts really are such, or are

"mere theories," as they who write as above would have us believe.

No one knows better than the writer, that a pistillate strawberry in a moist atmosphere and congenial circumstances, will produce frequently eatable fruit without fertilization,—or that kinds usually pistillate will often, when circumstances favor, become hermaphrodite; and some years ago he even met with severe opposition for attempting to demonstrate the utter worthlessness of these characters as an infallible means of judging of the accuracy of disputed varieties; but of the great value of the principle in the scientific cultivation of the strawberry to an American, and in an American climate, we need no Mr. Gloede to dispute with us, as the experience of thousands have for years testified to that, and which has fully justified Mr. Longworth in the persistent praise of his "ignorant market woman."

That the distinction is not of much importance in England, from what we know of its climate, we readily believe,—and that our strawberries do not, and probably never will, equal theirs in size and flavor when grown on their own soil, we are equally ready to grant. Climatic influences, which, from circumstances before explained, we ought to understand better than they, teach us the reason, and we are resigned. But we do know how to make use of our facts and experiences to the best advantage, and we can afford to read their sneers at our "mere theories," without reflecting on any "practice" or "common-sense" that the English may think necessary to their culture, only for the sake of horticultural science, regretting their narrow views.

## HORTICULTURAL SOCIETIES.

It is a remarkable fact, that while our country lies bleeding at the edge of the sword, and prostrate at the point of the bayonet, Horticultural Societies all over the Union have been more patronized and, in a beneficial point of view, more successful than they have been known to be for some years past. We believe they have none of them "made money;" but we mean that exhibitors have been more numerous, and that the spirit and determination to keep up and render them useful to the community have never been more forcibly made manifest. And yet it is natural. The first effort of the child, weak and dependent upon us, is to stray away and gather flowers, and as it grows up, to the grave, every epoch of its existence is marked by them. Even amidst the calmest pleasures, or in periods of the most passionate excitements, either of joy or grief, flowers seem to be, as it were, the medicine of life,—repressing extremes of passion, and affording a

pleasant retreat, in their admiration and study, from the more laborious occupations of life.

Botanists tell us that all the beautiful corollas which the garland of Flora is bedecked might not have been, so far as they exercise any known influence in the nourishment or perpetuity of the individual species of plant; and, indeed, we find, that in proportion as a flower becomes filled with beautiful petals, (as in the case of the rose, carnation, &c.,) is the difficulty of raising seed from it found,—and that the coarsest and vilest weeds, that usually bear seeds in an abundance the most distressing for us, as well as those grains on which we subsist and which reproduce themselves a thousand-fold in a short time, are usually from plants that are very insignificant in all that relates to a showy or ornamental appearance.

And why, then, were flowers made, and the innumerable graceful forms and beautiful outlines of vegetable structures called into existence, but for the especial use of man,—for his instruction and amusement, and as a particular anodyne for the mental ills he is, from his very nature, bound to suffer? We take a flower to witness the happiest moments of our lives. A flower departs with them as we take a final leave of those we love, ere they go to their last resting-places; and when no more is left to us, in flowers over their graves do we give expression to all that we would like to say, and all that we can do for them.

Of the links in the vast chain of animal beings that binds us to the earth, no one but the human species appreciates floral beauty. To the horse and the ox—from the highest in the scale down to the simplest caterpillar—the handsomest flowers are but as grass. They were made for man, and for his wants alone; and unfortunate is he who, by deficient education or perverted sympathies, is doomed to trudge through life shut out from the path that winds along by the stream of their sweet influences!

We are amongst those who believe that national troubles, as in the woes of individuals, are the moral consequences of national delinquencies,—and as in this the innocent must suffer with the guilty, each owes it to himself and his own happiness to cultivate for himself and in all around him such moral influences as he can get to bear upon human character. Each may use his own engine powerful for good. To us, as horticulturists, we ask and need no stronger force than the cultivation in the breasts of all of that love of floral beauty so wisely implanted within us for the purpose.

It is thus that we account for the sudden advance in popular favor of our whilom decaying horticultural societies,—and we would have all interested in their success to well note the fact, for now is the

acceptable time, if they would profit by events and shape their course accordingly. They have never yet done for society what they should do or are capable of doing. No fault this, however; for every beneficial idea, to be lastingly useful, must have a gradual progress from its first inception to its vigorous growth and fruitful old age.

We have given recently more space to "horticultural societies" than we should have done but for this view, and we conclude this note by a pleasant little sketch from an English paper, which will afford some useful hints to us over here:

#### HORTICULTURE IN ST. GILES'.

It may at first create a smile if we inform the reader that there has been a floral and horticultural show in Bloomsbury, and that the exhibitors comprised some of the poorest of the working classes and children of the ragged schools. But it is quite true. The Rev. Emilins Bayley issued a schedule of prizes offered for competition among the various classes, separated in such manner that persons in the most confined situations should compete by themselves, and those residing in more open streets in another class; and, independently of these, the various parochial schools divided from the boys and girls of the ragged—so that no class of exhibitors should have to show against persons who had any advantages over them. The following prizes were offered for competition—

#### PRIZES FOR ADULTS.

1. Persons living in the Little Coram Street District, viz., Little Coram Street, Abbey Place, Chapel Place, Russell Place, Coram Place, Marchmont Place, Tavistock Mews, Colonnade, Little Guildford Street.—For Fuchsias: 1st, 2d, 3d and 4th prizes; for Geraniums, similar prizes; for Annuals, ditto.
2. Persons living in the Mews.—Similar prizes.
3. Persons living elsewhere in the parish.—Similar prizes.

#### PRIZES FOR CHILDREN OF WORKING CLASSES LIVING IN THE PARISH.

1. Parochial, National, Sunday and Infant Schools.—Boys: for Fuchsias, 1st, 2d, 3d and 4th prizes; for Geraniums, ditto; for Annuals, ditto. Girls: similar prizes.
2. Ragged Schools.—Boys and Girls: similar prizes.

#### PRIZES FOR DOMESTIC SERVANTS.

For any plants—1st, 2d, 3d and 4th prizes.

We, who have for something like thirty years been incessantly recommending the institution of shows among the working classes, and have seen in the Duke of Northumberland's school at Alnwick the beneficial effects of extending it to children, hail this as the foundation of immense good in close towns, especially in London; and we heartily congratulate the minister on the success which has attended his endeavors. The show brought out plants grown in windows in the most miserable portions of St. Giles', and although there was not, and could not be, the healthy growth of open air in the country, the worthy patron of the movement had provided that the competitors were all upon equal terms. Those in dark, narrow streets had only to show against people similarly circumstanced. Of the show it may be said that it was by far more interesting than the finest exhibition of plants by gardeners. It brought out the ingenuity of the young aspirants to horticultural honors. Imagine one producing a young chestnut tree, another an oak, a third a walnut tree, another an orange tree, all from their several nuts, pips, or seeds; for prizes are given for things not in bloom, and therefore nothing was excluded. The mixture defies all description. It was creditable to all the parties, and the reverend gentleman who inaugurated it has set an example that should be followed by every pastor, as the best possible means of humanizing the infantile ruffianism which disgraces many metropolitan localities and manufacturing towns.

#### MAXATAWNEY GRAPE.

[SEE FRONTISPIECE.]

AT page 85 of our volume for 1860, Dr. W. D. Brincklé gave a history and description of this grape, in which he speaks of it as a grape of the highest excellence. The owners of the original vine are rather difficult of access, through, we believe, a dread of having their privacy destroyed by importunate grape-propagators; but through the kindness of Mr. Crans, a friend of the family, we have several times had opportunities of tasting fruit from the original vine, without, however, being struck with its superior excellence, and we have, therefore, refrained from sharing in our columns the enthusiasm of its friends in its praise. However, plants from the original are coming into bearing around us, and we are bound to say, they do exhibit qualities tending to "great expectations." We have not tasted Mr. Raabe's, which were before the Lancaster Meeting, and from which our lithograph was taken; but some we ate, from the vine of an amateur at Chestnut Hill, were of high excellence. We cannot say, with the Committee, that it is the best white native grape "we know," for recollections of the Elizabeth and Cuyahoga threaten us if we do; it has, however, larger bunches than these, and may probably, in a fair contest, all grown together, prove a sturdy competitor in all other qualities.

#### Straps and Queries.

☞ Communications for this department must reach the Editor on or before the 10th of the month.  
☞ The Editor cannot answer letters for this department privately.

APPLE—From Mr. H. Long, Kennett Square, Pa., who writes:

I send you by Adams Express a few apples of a seedling that is entirely new to me, and if so to you, I wish to know whether you would think it worth general culture. They are off a tree that is at least forty years old, and the man that owns the property that it grows on assures me that it has missed but one crop for thirty-one years, and that was last season; it had between forty and fifty bushes on this season, and is a good baking and cider apple, and much better flavored than you will find these, for I had to take them off before they were ripe, as the tree grew close to the village, and the boys had great relish for them. When perfectly ripe they are a light yellow, with a reddish tinted cheek, and ripe about the 15th of October.

[We print this account in full, as we are highly

pleased with the fruit. It has the great merit of distinctness; for, however good a fruit may be, it is an annoyance to be able scarcely to distinguish it from other kinds as good. It may be characterized as being in shape like Porter, but with the color and qualities of Rhode Island Greening. From appearances we think it better than Rhode Island Greening, and well worthy of further attention.]

MEAD'S SEEDLING GRAPE—Mr. J. A. Peltingill, Bunker Hill, under date of September 17th writes:

I send a few bunches of Mead's Seedling Grape, also two bunches of Catawbas, that you may test the two together. The Mead's Seedling was free from rot, while Catawba, Isabella, Clinton, &c., one-third rotted.

[Last year it was stated in our journal that Mead's Seedling sprung from a lot of raisin seed,—a fact that materially damaged its prospects, as no grape of foreign parentage will probably prove permanently valuable. It is pleasant to find from these specimens, however, that it is not of foreign parentage, but evidently a pure seedling from the Catawba, to which it is certainly superior in earliness, size and beauty of bunch and flavor. In shape and color, the individual berry is precisely like Catawba, but it is readily distinguished from this, or any grape we know, by very long pedicels. These in the Catawba are rather short, usually not more than one-fourth the length of the berry, giving the bunch a compact character; but in Mead's Seedling they are usually half the length of the berry, and frequently more, inducing a loose form. We regard it as one of the best improvements on the Catawba that has yet appeared, and will, we think, have a good share of popularity.]

CRANBERRIES.—"A Subscriber," Birmingham, Allegheny County, Pa., writes:

"Please inform a subscriber of the best plan for heating a propagating house? (1.)

How is the cranberry cultivated? How propagated? How many quarts will an acre bring?

Which kind will thrive best in Pennsylvania?" (2.)

[1. One of the best plans, in our estimation, is to employ the cheap hot-water tanks, described in several back numbers. A great deal will, however, depend on other arrangements in and about your house, and we can only advise you in this general way.

2. An excellent article, with full details and drawings, appeared in our May number, 1860, (page 138, Vol. II.), and which we can do no better than by referring you. We think either kind will thrive equally well in Pennsylvania, more depending on locality than latitude.]

PEAR.—From Saratoga County, N. Y.—A "Subscriber" writes:

"I send you a sample of what we, in this vicinity, call the Orange Pear. As near as the pedigree of the pear can be traced, it is this: The scions were brought from Rhode Island about the year 1800. I wish to know whether they are known by any other name in other localities than this. The tree is hardy and productive. The present season, when all other kinds have failed, these have borne well; in fact, I know of no other pears in Saratoga County this season but the Orange. We call them equal to any raised.

[The pear is quite unknown to us. We have not eaten a pear superior to it for some time. It is superior to the Bartlett in quality, nearly or quite as large, and with the other good properties our correspondent states, must be one of the most valuable kinds to grow.]

PROTECTING WALLFLOWERS.—"A Subscriber," New Bedford, writes:

"The Wallflower is a favorite flower of mine, which has led me to seek information from the works on horticulture which have fallen in my way, as to the proper management of it in this country. This information I have not yet found. I should, therefore, be much gratified to see a few hints thrown into the *Gardener's Monthly*, if the thing seems to be worth attention. I do not even know whether or not it will bear winter exposure."

[A friend who has fine Wallflowers, bends them to the surface, and covers with soil, removing it early in spring. It will not bear entire exposure.]

HONEY LOCUST.—J. H. B., Rochester, N. Y., asks:

"Does Honey Locust Seed grow the most readily by freezing or scalding?"

If by scalding, how many times would you apply the water?

If by freezing, would you keep the boxes under an open shed, or expose them to the weather?

Freezing in sand is preferable to scalding, but there is no necessity for either. A few weeks of mere soaking in wet sand will cause nearly all the seed to swell well. A friend of ours had great success last year by sowing his seed in a one-light hotbed, and when sprouted, dibbling them out like peaches are often done in well-kept nurseries. He says it "paid well." A cold or wet spell after sowing any scalded seed, usually rots many.]

VENTILATION OF GRAPERIES.—N. B., Taunton, Mass., asks:

"Can you send me some paper that contains a

full report of the discussion at the late meeting of the Pennsylvania Horticultural Exhibition, or meeting upon the subject of "Mildew on Grapes" under glass? a synopsis of which I see reported in the September number of the *Monthly*. While I have been cautious in giving bottom air, I have been obliged to give it to keep down the temperature,—I do not see how it can be kept down to the safe point without a draught to circulate it, unless you remove the entire top, which I have not facilities for doing. I should be glad to see what experienced men in the matter would have to say about it."

[There has been no fuller report published than the one we gave.

Our experience coincides with that of the gentlemen engaged in that discussion, that a free admission of air from side ventilators induces mildew. It is natural that it should do so, because the dry air of our climate is what encourages mildew in foreign vines. Graperies are useful in this, that they enclose and ensure a moist atmosphere; but if the bottom and top of ainery admit a through current, the air becomes nearly as dry as though grown in the open air, and the first object of ainery is violated.

If you have plenty of *moisture* in yourinery, you need not fear great heat. If any of our good gardeners have other views to offer, we shall be glad to publish them.]

BLOOD'S SEEDLING GRAPE.—From Mr. Ordway, Newburyport, Mass.—This is a grape with a full sized dark black berry, and medium sized bunch.

In the climate of the Middle States so favorable to the success of finer varieties of grapes, this would be esteemed little above the Fox Grape in general qualities. It is not as rank,—is much sweeter,—has thinner skin, and not so hard a pulp, however. But it ripens very early, and is of a hardy, vigorous stock, which is a great advantage in the far Eastern and Northern States. We valued the Concord when we had Northern specimens only to taste quite as little as we might do this, but for our experience with that. When grown in this section it rapidly rose in general qualities towards the top of the list, and so may Blood's Black, and we should like to see it have a fair trial.

The other seedlings sent by Mr. Ordway were fully equal to Blood's.

ONTARIO AND UNION VILLAGE GRAPES.—"A Subscriber" asks:

"Have you seen the Ontario and Union Village growing near each other so you could detect any

difference? The opinion is gaining ground here that they are the same. (1.)

Can you inform me if the El Paso Grape promises to be of any value in this climate?" (2.)

[1. We have not compared them at the same time together, but our recollection of each seen at different times is, that they are not the same.

2. It fruited at Washington last year, and is highly praised by our friends there.]

GRAPE FOR DISTRIBUTION.—A correspondent at Manchester, Pa., has a seedling grape which he thinks a great improvement; but he wishes it tested in other localities. Has about fifty plants, which he would distribute gratuitously to experienced grape-growers for experiment. In this case we will willingly forward to our correspondent the names of any parties wishing to make the experiment. But we must add, that we frequently receive communications in which the writers propose for the public good to give things away gratuitously. Some of these are offered in good faith, but many of them are really intended for free advertisements of parties and their private business. As it is impossible for us to distinguish between these cases, all such offers must, in future, be made through our regular advertising columns. If the article is really worth having gratuitously, the recipients will not object to their proportion of the cost of advertising.

PEAT FOR STRAWBERRIES.—"A Subscriber," Camden County, N. J., asks:

"Please inform me through the columns of the *Monthly* in what way I can treat "swamp muck" or "peat," to make it valuable as a manure for strawberries, on light sandy lands, and how should it be applied?"

[We are not informed on any experiment for this especial use. Have any correspondents had experience?]

MUSCAT HAMBURG GRAPE.—Bunch from Mr. Bright, weighing two pounds, cut from a plant fifteen months old, from the eye. It is not so good in quality as the old Muscat of Alexandria, but is such a fine setter, and of so large a size and beautiful appearance, that we expect it to become a standard variety for cold vineries.

VEGETABLE TRANSFORMATIONS.—Barren Grapevines.—Mr. Garber sends us another chapter for publication; but as it simply records the fact, that he is not satisfied with the reasoning of Mr. Stauffer, it is not necessary to publish the whole article.

The object of all science is to ascertain such rules or "general laws" that will guide us in cases where we cannot get at the exact facts. Mr. Garber wants to know whether any one in this country has raised and flowered seedlings of the foreign grape *Vitis vinifera*; and if so, whether any of them have produced staminate plants, or plants with flowers bearing stamens, but no pistils, as the varieties of American species do. As we knew of no such experiments, we referred to the science of the matter, and Mr. Stauffer kindly followed. Mr. Garber says he does not want to know any thing about the science, but does want to know about the Seedling grapes. In this case we have no alternative but to close up the subject until some one can inform our friend from direct observation. In the meantime we can say, as we have said before, that science is opposed to Dr. Ravenal's hypothesis, for it is not even a theory.

GRAPE LEAVES.—O. T. Hobbs.—"I enclose you six varieties of grape leaves, and request your opinion as to *species*."

[No botanist can decide on a species of grape by the leaves alone. Panicles and berries with leaves are essential.

However, your small-leaved form appears to belong to *Vitis cordifolia*; the large round one *V. labrusca*, and the other four perhaps all varieties of *V.estivalis*.]

FRUITS FOR MAINE.—H. A. Y., Littleton, Maine, inquires:

"Can you give me the names of any varieties of the peach, apricot and quince, which, if set where they would be sheltered from cold winds, and dwarfed so that the snow will cover them in winter, would succeed so far North as latitude 46°?"

Will the Black Eagle and May Duke Cherries succeed if grafted upon the common Wild Red Cherry?"

[Perhaps Col. Little, Mr. Goodale, or some other of our experienced horticultural friends in Maine can furnish the desired information. We have found the few varieties we have tried unite on the Wild Cherry, (*Cerasus serotina*), called here Wild Black or Choke Cherry,—the variety we suppose our correspondent alludes to; but wherefore want any thing better for a hardy stock than the Mahaleb?]

SEEDLING PEACH.—From Mr. Griffith, of Philadelphia.—The best late peach (October 5th) we know; large, handsome, and will prove a valuable acquisition.



SOME valuable contributions on ice-houses and other subjects, that reached us late, are held over for next month.

### Books, Catalogues, &c.

FOURTH ANNUAL REPORT OF THE BOARD OF COMMISSIONERS OF THE CENTRAL PARK, NEW YORK. 1861.

The Board report that the lower portion of the Park has been prepared for public use, and that it is well appreciated by the public at large.

The system of archways—a peculiar feature of the Park—is again referred to. Their great utility in a crowded park, as a means of safety to foot-passengers against vehicles, has been fully demonstrated. We give a sketch of one of these arches, that has been taken for our journal by a friend.



3579 men have been employed on the Park during 1860, and 16,200 trees and shrubs planted. The total cost and maintenance of the Park up to December 31st, 1860, was \$6,447,964 80. This money is raised from the securities of the city, payable in about forty years. The interest of this sum for the past year is \$386,877 88. It is found that property has so increased in value around the Park, that the increased taxes from this source amount to a sum nearly sufficient to pay this interest. If we add to this the increased attractions which this splendid work offers to strangers to visit New York city, and

the extra wealth which is consequently drawn there, it is evident that this expenditure is actually a paying investment to the city, and is a proof of the far-seeing sagacity of the men who, headed by Mayor Kingsland, projected and embodied the gigantic idea.

#### DESCRIPTIVE CATALOGUES.

- S. Moulson*, Rochester, N. Y. List of leading items.  
*George D. Kimber*, Flushing, N. Y. Fruits, Ornamentals, &c.  
*J. Rutter*, West Chester, Pa. Grape-vines.  
*J. & J. Taylor*, Newport, Ky. Grape-vines.  
*Wentz & Schlegel*, Rochester, N. Y. Fruit and Ornamentals.  
*J. M. Thorburn & Co.*, New York. Bulbs and Flowering Roots.  
*Heffron & Best*, Utica, N. Y. Vines and Small Fruits.  
*Dr. Grant*, Iona, N. Y. Grapes.  
*J. W. Manning*, Reading, Mass. Dracont Amber Grape.

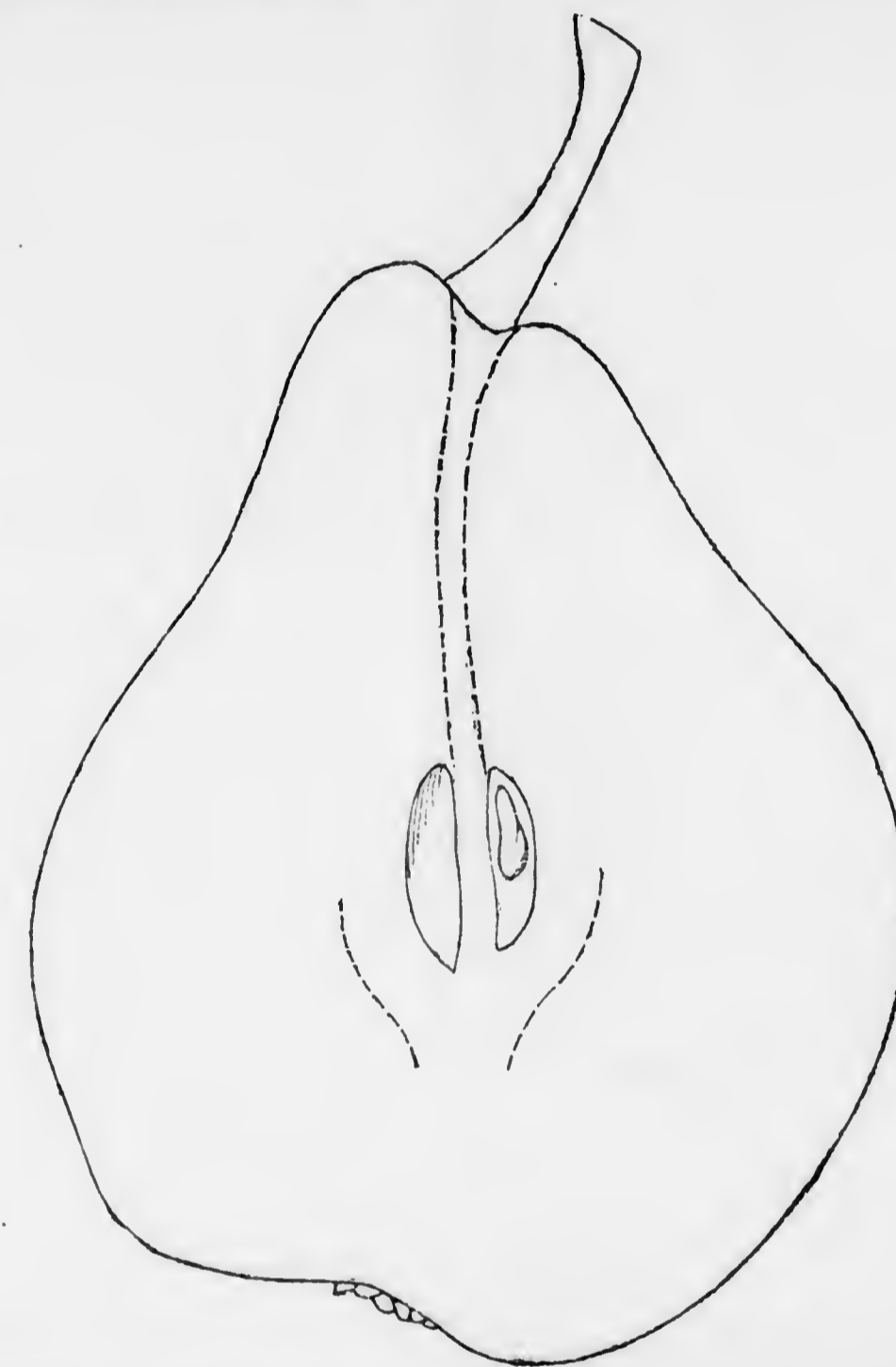
#### WHOLESALE LISTS.

- W. Mann*, Bangor, Maine. Native Evergreens. Catalogue for 1863 is "going ahead" considerably.  
*Henry A. Dreer*, Philadelphia. Roses, Dahlias, &c. Also of Fruit and Ornamentals, and of Bulbous Roots.  
*T. W. & E. E. Smith*, Geneva, N. Y. Wholesale List of Fruits, &c.  
*C. F. Erhard*, Ravenswood, L. I., N. Y. Fruits, &c.  
*Frost & Co.*, Rochester, N. Y.  
*T. C. Maxwell & Bro.*, Geneva, N. Y.  
*Cowles, Roberts & Co.*, Syracuse, N. Y.  
*Williams, Ramsden & Co.*, Dansville, N. Y.  
*J. Rutter*, West Chester, Pa.  
*J. W. Adams*, Portland, Maine.  
*O. T. Hobbs*, Crawford, Pa.  
*Hoopes & Bro.*, West Chester, Pa.  
*Danghaday & Co.*, Newburg, N. Y.  
*J. Sheppard*, New York. Dutch Bulbs.

### New and Rare Fruits.

PEAR NOUVEAU POITEAU—(*Bivort.*)—We have no sympathy, as our readers know, with new introductions that are even "very good," or of "first quality," unless they are in some decided point different from other "very good" kinds in cultivation. It is not because they are "worthless," but they are needless.

The *Nouveau Poiteau* is not of this class. It has a peculiar flavor, that many will not like, and others esteem, but which is, nevertheless, peculiarly its own. In these days of distinctions without differences, we regard this as no slight recommendation. The nearest resemblance in this respect is to Louise Bonne de Jersey, but in those we have tasted the very common astringency of Louise Bonne is wanting. It ripens a month or more later than Louise Bonne, and is growing in favor with cultivators, in many of whose collections it has fruited the few past seasons.



Our outline was taken from one presented to us by Mr. Ellwanger, at the Pomological Meeting in Philadelphia in September last. It was not then quite ripe, but, notwithstanding, kept four weeks, and then ripened perfectly. Fruit, rather large, obovate-pyriform; skin, with numerous russet dots; stem, medium, thickish, set obliquely on a small protuberance; calyx, large, in a narrow basin; flesh, white, buttery, and with a brisk vinous flavor.

In a letter from a distinguished pomologist, received last winter, he says of it:—"The *Nouveau Poiteau* I have fruited for the first time this season, and it is certainly one of great promise. I find it to grow equally well on either the pear or quince."

THE BUNCE STRAWBERRY.—*Mr. Editor*—According to your desire, we send you a slight history and description of the Bunce Strawberry. The plants were first brought to this country from the East Indies by the late Captain Hooper, of Marblehead, and by the way of friends, we received a few plants for trial, and if thought worthy, for dissemination.

It is a very vigorous grower, often having ten or twelve, and sometimes more fruit-stalks on a plant. The stalks are high and strong, keeping the berries from the ground, and with the heavy foliage breaking

the force of the rains, render it unnecessary to mulch them to keep the berries clean. The foliage is sufficient protection in winter; the plants being better without, than with any thing additional.

The berries are not very dark colored, but bright and lively. Seeds small, and sunk deep; flesh white, fine and firm, with excellent flavor and very sweet. Parts from the hull easily. Continues long in bearing, the latest berries filling perfectly, and growing to a good size. Flowers perfect. This summer we picked eight hundred boxes of berries from a bed containing thirty square-rods of ground, set last year in June.

Yours truly, BUNCE & Co.

*Remarks.*—We visited the piece of ground upon which these gentlemen say they "picked eight hundred boxes of berries from a bed containing thirty square-rods of ground." We did not measure the land, but should judge that they had done so correctly. It is a strong, granite soil, moist, and considerably shaded by young apple trees, perhaps six or eight years old. At this rate, they got more than four thousand boxes to the acre, which, if we remember correctly, rather beats the great success of our Belmont friends. The two finest boxes of strawberries we saw in their season were from this bed. There is so close a resemblance between them and the Cutter Seedling, that we are not sufficiently skillful to tell one from the other.—*New England Farmer.*

## Domestic Intelligence.

**GRAFTING-WAX.**—A good and cheap grafting-wax is made by melting together and mixing well, four pounds rosin, two pounds tallow, one pound beeswax. These three ingredients are used in various proportions by different propagators,—sometimes in equal quantities,—sometimes eight parts rosin, and three each of tallow and beeswax, or eight parts rosin, five of beeswax, three of tallow, &c. By using lard instead of tallow, as it is softer, more rosin may be employed. A mixture of equal parts of clover and timothy, at the rate of a peck or more per acre, will furnish a good seeding.

**LARGE PLUMS.**—Seth Luelling, of "Milwaukie Nursery," placed on our table specimens of *Peach* Plums grown on a tree two years from the graft. Three of the plums weighed a small fraction less than half a pound, the largest being seven inches in circumference.—*Oregon Farmer.*

A CEMENT FOR STOPPING THE FISSURES OF IRON

**VESSELS.**—Take two ounces of muriate of ammonia, one ounce of flour of sulphur, and sixteen ounces of cast-iron filings or turnings. Mix them well in a mortar, and keep the powder dry. When the cement is wanted, take one part of this and twenty parts of clean iron filings or borings; grind them together in a mortar, mix them with water in a proper consistency, and apply them between the joints. This cement answers for flanges of pipes about steam-engines.—*Canadian Journal of Arts and Manufacture.*

**ENGLISH PISTILLATE STRAWBERRIES.**—*Hovey's Magazine*, noticing Dr. Lindley's remark that he had not yet heard of any sterile strawberries but Hautbois in England, remarks that the Doctor has not, probably, noticed the Methven Scarlet in flower.

## Horticultural Notices.

### GRAPE-GROWERS' CONVENTION AT LANCASTER, PA.

A CONVENTION of Grape-growers of Eastern Pennsylvania assembled at Lancaster, Pa., on Thursday, September 26th, at Cooper's Hotel.

Mr. Lukens Peirce, of Chester County, was called to the chair, and Mr. F. F. Merceron, of Catawissa, and Mr. William P. Burton were appointed Secretaries.

The following gentlemen were appointed a Committee for testing the quality of the grapes exhibited, and to report thereon: J. B. Garber, Columbia, Pa.; T. M. Harvey, Chester County, Pa.; E. Tatnall, Wilmington, Del.; S. Miller, Lebanon, Pa.; C. Hiller, Lancaster, (Conestoga); Dr. Keller, do.; J. E. Mitchell, Philadelphia.

The display of Grapes was very large and interesting, and exclusively from out-of-door culture. There were 38 contributors, and comprised 100 native varieties and 13 of foreign.

Mr. D. S. Wagner, of York, Pa., exhibited some fine bunches of Foreign Grapes (grown out of doors), comprising the Black Hamburg, White Nice, Black Prince, Sweetwater, Chasselas de Florence and Chasselas de Fontainbleau.

Mr. Samuel Miller hoped the mode of culture would be stated.

Messrs. Evans and Chapin, of York, said they were grown on an open trellis, but protected in the winter. The white grapes were shaded from the sun in hot weather. No special manuring. The vines were sulphured in the spring.

Mr. Alexander Blissnor, of York Valley, showed a fine bunch of Black Damascus, and stated that he had put sulphur around the roots of the vine in the spring.

Mr. S. Keller showed a bunch of Grapes of a green color, (evidently a foreign grape,) and stated that he had known the vine for thirty years, and never knew it to mildew.

On motion of F. F. Merceron, it was *Resolved*, That the discussion for this evening be the "Culture and Pruning of the Grape."

### Evening Session.

Mr. Peirce in the chair.

Mr. Merceron top-dressed his land with lime and manure, and had it well ploughed; planted the vines in rows eight feet apart, and the vines five feet apart in the rows.

Mr. Miller prepared a deep border for his vines; found mildew on young Concord vines, and thinks they were not tied up early enough in the spring; did not suffer from drought.

Mr. Gray dug holes from three to four feet; manured with bone-dust; ploughed away from the vines, and afterwards towards them; attempted spur-pruning, but found it failed, and is now trying the long-cane system; never troubled with mildew; has lost fruit by rotting of the berries.

Mr. Keller's vineyard is planted on a hill-side; ground terraced six feet wide, and well ploughed; holes two feet in diameter; a warm, sandy soil, not trenched nor highly manured; no mildew, although many of his vines lie on the ground; adopts the spur and renewal systems, by training up a new shoot from the base of the vine, and cutting out the old spurred wood when necessary; young shoots frozen last spring, and vines started a second growth and ripened some of the fruit.

Mr. Harvey was in favor of cultivating the ground well; grape-vines in his locality have lost their foliage; thinks the vines should be protected in winter and summer from north-east winds; in favor of trenching, and spoke of the value of draining; the Diana has failed with him this season.

Mr. Mitchell said that some of the best grapes he had seen were grown in a city yard, where the soil was not visible, being paved over with bricks.

### Morning Session.

Mr. Peirce in the chair.

Mr. Crans offered a sample of grapes from Illinois, called Mead's Seedling, a bunch of To-Kalon, from the garden of A. W. Harrison, and fine specimens from the garden of T. T. Firth, of Germantown, consisting of Delaware, Anna, Diana, Herbemont; no special attention was given to their culture; holes dug two feet, and no manure, except what the vines received in ordinary garden culture; fine specimens of the Maxatawney were shown, from the original vine, which has had no protection.

Mr. Mitchell had visited the original Maxatawney vine, and found it growing close to the north corner of a farmhouse, and rambling, unpruned, over a plum tree; the fruit was exposed to view, most of the foliage having been blown off; it was planted alongside a fence, half the roots being covered with sod, the other half running into the border of a vegetable-garden. Owing to the want of proper culture, this grape has not yet been shown in perfection; a bunch on the table, from the garden of Peter Raabe, will give some idea of its beautiful amber color. This fine fruit is the result of a seed taken from a bunch of white grapes brought from Berks County and sown by the present owner of the vine many years ago, and offers the strongest encouragement to plant seeds of any fine grape we may meet with, such seedlings often proving to be of a superior character. It is barely possible, that at some former period the seed of a white foreign

variety may have been planted, and its product hybridized with a native sort, the seed again planted, and by a succession of such changes it might lose its foreign characteristics of wood and foliage, but retain it in the fruit; such may be the early history of the Maxatawney.

Mr. Crans introduced a seedling from the garden of J. W. Flickwir, in Philadelphia,—a dark purple grape, compact bunch, a high, vinous flavor, and intense purple color; believed to be a very superior wine grape.

Mr. Mitchell has some twenty or thirty varieties growing; vines young, and not much fruit; found the Creveling to be an early bearer and free grower; the Concord was the best grower and the Rebecca the worst in his collection; prefers vines grown from eyes, but recommends inarching on strong-growing stocks; a Delaware thus treated, grew finely and bore early.

Mr. Miller grafts his vines above ground by the usual mode of tongue-grafting, after the sap has flowed in the spring; it cannot be done successfully otherwise; recommends well-rotted tan-bark for propagating beds.

### ON KEEPING GRAPES.

Mr. Miller ties the bunches in soft paper, and packs them in bran; has sent them in perfect condition to Missouri; was informed of some one who packed alternate layers of grapes and green leaves in a box, and burying it three feet under ground; dry oak sawdust and perfectly dry sand were also recommended.

### REPORT.

Your Committee congratulate this Convention on having before them the largest display of native grapes probably ever collected together in this State, covering about two hundred dishes, and comprising one hundred varieties, and regret that our limited time will not permit us to do justice to all the specimens shown, many of them being worthy of more extended notice. We report:

Cassiday, Arrott and Matilda (green grapes with white bloom) to be similar in character.

Wilmington—specimen fine, but not fully ripe.

Roger's Hybrid, No. 1—large, oval berries, above medium, of a brownish amber color, tender pulp, and very promising.

Maxatawney—bunch slightly shouldered, berry oval, color amber, with an amber bloom when fully ripe, highly aromatic odor and delicious flavor; taking into consideration the hardness of the vine, we pronounce it to be the best white native grape.

Taylor—small size in berry and bunch, color greenish white, and quality excellent.

Rebecca—of its usual superior quality.

Anna—sweet white grape of good size; specimens not fully ripe; should hang late on the vines.

Carpenter—a fine foreign grape.

Mary Ann—similar to Isabella, and foxy.

Concord—continues to keep up its high reputation.

Cloanthe—similar to Isabella.

Elsinburg—keeps up its well-known good character.

Clinton—a good vinous grape.

Lancaster County Wilding—sweet and foxy, but promising.

Franklin—a promising wine grape, of a high color. Herbemont—juicy and vinous, free from pulp. Diana—keeps up its well-known reputation. Bland—a true native, and a good juicy grape. Canby's August and York Madeira are similar. Baldwin—similar to Canby's August, but later. Delaware Burgundy—a fine foreign seedling. Ohio—as usually described. Raccoon—the common summer grape. Schuykill } similar, but not equal to Isabella. Garrigues }  
 To-Kalon—an admirable grape, similar, but superior to the Catawba, and ten days earlier. Herbemont Madeira—a good wine grape. Hanover—similar to Isabella. Lenoir, Lincoln, and Devereux are the same. Vermont Seedling—similar, but not equal, to Clinton. Cynthiana—pulpy and inferior. Long—a promising wine grape, from the South. Union Village—fully equal to Isabella in quality, larger and earlier. Kilvington and Kingsessing—good copper-colored grapes, and believed to be the same. Blood's Black—a good, early, sweet, black grape. Williamsport—above medium size; a good and promising early grape; perfectly hardy. Seedling from Dr. Keller—as good as Isabella, and ten days earlier. Keller—similar to Catawba, but hardier. Diller—pulpy, and inferior to Isabella. Seedling from R. Fanes—inferior to Isabella. French Grape—similar to Miller's Burgundy. Seedling from Mr. McMinn—inferior to Catawba. Early Amber and Northern Muscadine are the same; sweet and foxy. Gatham—a good purple grape, of medium size, juicy, and tender pulp. Baxter's Seedling—a very large bunch; seedling of the Frost. Warren—not true to name. Emily—not ripe. Christy's Isabella—same as Isabella. Alvey—a good vinous grape, black color and medium size. Raabe—small berry and compact bunch; dark red color and first-rate quality; a true cross between the Elsinboro and Bland. Seedling from J. W. Flickwir—compact bunch, berry medium size; a very high colored and promising wine grape; purple. Merceron's Seedling—a decided improvement on the Catawba, having a more tender pulp and being two weeks earlier. German Grape—a very large bunch, of a greenish color and delicious flavor; foreign. Mead's Seedling—similar, but superior, to the Catawba. Hyde's Eliza—similar to the Isabella, but one week earlier. Beside the above, there were exhibited the following varieties: Isabella, Catawba, Kreamer (or Montgomery)—a seedling of Royal Muscadine, Baldwin, New Hope, Frost, Hartford Prolific, Delaware, Perkins, Winslow, Swatara, McOwen, Missouri, Grion, Beansville, Wright's Isabella, Weber, Cope, Spangler's Isabella, North America, Carpenter, 5 Seedlings from Dr. Keller, Black Madeira, Black Damascas, Franklin-

dale, Tokay, Black Hamburg, Seedling of Frost, Seedling from J. B. Garber, McLean (Tenn.), North Carolina Seedling, Seedling of Louisa, Black Prince, Sweetwater, Muscat of Alexandria, Chasselas de Fontainebleau, Chasselas de Florence, White Nice, Albino (Seedling of Catawba), Newport, Seedling of Herbemont, Marion, Sage, Martinburg, Perkins, Peru, Edwards, Mountain, Logan. Many of the above are of excellent quality, and we again regret our inability to do them justice, but congratulate the Convention on the decided improvement shown in some of the new varieties, whilst the well-known older sorts keep up their reputation. We regret, however, to notice the increase of seedlings, so nearly identical with well-known sorts, as to possess no merit of their own. All of which is respectfully submitted by the Committee. The Report having been read and adopted, the Convention resolved itself into a Committee of the Whole, and proceeded to taste and discuss the various sorts of grapes on the tables as their names were called out by the Secretary, and in general confirmed the decision of the Committee. The Chairman then announced that the merits of any grape named might be discussed, when a call was made for them. Brandywine—Tatnall—a foreign failure; he had tried, but in vain, to get some of the fruit to bring here. Concord—universally approved of. Ontario—Miller—needs protection; similar to Union Village, but coarse and watery. Union Village—Miller—as good as the Isabella. Rebecca—Mitchell—a weak grower, owing, probably, to over-propagation. Others stated that it grew very well with them, and all agreed that the fruit was first-rate. Diana—Harvey—does not do well at West Chester; mildews badly; thinks it needs a very light soil. Gray made the same objections; whilst others say it does very well with them. Franklin—Miller—a dark colored wine grape, and a free grower. Keller—does not succeed with him. Garber thought well of it at first; does not approve of close pruning; thinks it should be allowed to run; it does better on a northern exposure. Jackson has a vine three years old, and no fruit. Raabe—Miller—a first-rate fruit, equal to Delaware, but a poor grower. Mitchell believed it to be a perfect cross between the Elsinboro and Bland, the original vine having sprung up between these two sorts; has the general reputation of being a good grower and a hardy vine; the fruit is similar to the Delaware, but it has an astringency in the skin not possessed by the former. A resolution was passed to take a vote on the six best grapes for the table, and the three best for wine, and resulted as follows:

|                 |          |                   |
|-----------------|----------|-------------------|
| Concord.....    | 21 votes | } For table use.  |
| Delaware.....   | 20 "     |                   |
| Isabella.....   | 16 "     |                   |
| Diana.....      | 15 "     |                   |
| Rebecca.....    | 11 "     |                   |
| Maxatawney..... | 8 "      | } For wine-making |
| Clinton.....    | 8 votes  |                   |
| Catawba.....    | 7 "      |                   |
| Delaware.....   | 4 "      |                   |

After a highly interesting conversational discussion on other matters relating to grape-culture, Thomas Harvey offered the following:

*Resolved*, That the thanks of this Convention are tendered to Mrs. Cooper, our landlady, for the comfortable accommodations furnished us, and ask her acceptance of all the fruit remaining on the tables. Which was passed, and the Convention adjourned.

F. F. MERCERON, Secretary.

**PENNSYLVANIA HORTICULTURAL SOCIETY.**

The October meeting was held on Tuesday evening, 15th ult., at Concert Hall. The special premium list comprised fruits only, together with the standing prizes for collections of flowers. Of the latter there was a large and choice display of Ornamental Foliage Plants, from James Eadie, gardener to Dr. James Rush. These specimens were all in admirable condition, and received the first prize of \$3.

A number of American Seedling Dahlias, from Gerhard Schmitz, received the commendation of the Committee, and the award of a special premium of \$1.

Thomas Meehan contributed a collection of forty-two named varieties of Dahlias, comprising some novel and beautiful flowers of every variety of color, and generally well shaped, to which \$1 was awarded.

Robert Kilvington brought a large Bouquet of over twenty varieties of flowers, cut from the garden, and very tastefully made up. It is rare at this season to see so many fine hardy flowers in bloom. The regular premium of \$1 was awarded to it.

In the department of Fruits were two collections of Pears, by John McLaughlin, gardener to J. B. Baxter; also Isabella and Catawba Grapes. The Pears received the two premiums, \$2 and \$1 each.

Dr. Thomas P. James presented a dish of twelve superb Duchesse d'Angouleme Pears, weighing from ten and a half to sixteen ounces each, all perfect fruit, and the product of one dwarf tree, which contained thirty-four pears, none of which weighed less than nine ounces. The total weight of these pears was nine pounds ten and a half ounces, being an average of about thirteen ounces each.

Adam Graham, gardener to General Robert Patterson, showed a dish of Quinces of large size, remarkably fine appearance, and excellent quality.

Mr. S. W. Noble, for his collection of Apples, took the two regular premiums of \$1 each.

Of Exotic Grapes, there were excellent samples from Wm. Joyce, gardener to M. W. Baldwin, who received the first premium of \$2. With these we remarked three large Pine Apples in Pots, a dish of Figs and one of Belle de Fontenay Raspberries. The two second premiums for Exotic Grapes were given to two collections of equal merit. Black Hamburgs, White Buel, and White Syrian, from Jas. Astley, gardener to Hon. Owen Jones, and Black Hamburg, White Nice, and White Syrian, from Jeremiah Flynn, gardener to Henry Taylor. Catawba Grapes were contributed by John Cook, gardener to Rev. J. M. Richards, P. S. Bunt-

ing and Wm. Joyce. Isabellas, by A. L. Felton, and also Wm. Joyce, who took the two premiums of \$1 each.

A dish of Concord Grapes, from Mr. J. Knox, of Pittsburg, received the special commendation of the Committee, and were certainly the finest ever shown here. This grape is fast making the reputation of the best grape for general out-of-door culture.

Mr. L. Chamberlin showed a large and handsome bunch of cultivated Chicken Grapes.

Mr. Robert Buist exhibited, for the first time, the new round scarlet Egg Plant, a very showy ornamental fruit, said to be of excellent quality as an edible, to which a special premium of \$1 was awarded. Also, bunches of the Black Barbarosa and Prince Albert Grapes, supposed by most cultivators to be identical, but which were quite different in every respect.

Mr. Buist addressed the following communication to the Society upon the subject:

ROSEDALE NURSERIES, Philadelphia, October 15th, 1861.

To the President and Fruit Committee of the Pennsylvania Horticultural Society:

Gentlemen, I beg to call your attention to the accompanying specimens of the Prince Albert and the Black Barbarosa grapes, which have been published in the horticultural periodicals, and even standard works, of this country as the same grape.

Black Barbarosa I introduced from England about five years ago. Fruit, large, oval, of a reddish black, with a fine bloom; bunches, large, shouldered and tapering, not yet fully ripe. It is our latest foreign grape, and keeps very well till December. Wood, foliage, and eyes, smooth. A great bearer.

Prince Albert I introduced about twenty years ago. Fruit, round, jet black, with a fine bloom, medium size; bunches, shouldered and short. Does not set very freely, and is also a shy bearer. Has been ripe four weeks. The sample before you is only a part of a bunch. Foliage, young shoots and the mature eyes have a white down, the eyes particularly so. Any person who cultivates either of these grapes can decide on the genuine by the appearance of the eyes on the wood, without fruit. The Prince Albert is not worth culture; whereas, the Barbarosa has not an equal for late keeping.

Very respectfully, R. BUIST.

This was referred to the Committee on Fruits, who reported that they agreed with Mr. Buist so far as the fruit exhibited was named.

A communication from P. Mackenzie & Son, concerning the abstraction of some plants, was referred to the Committee on Plants and Flowers, to report at the next meeting.

**THE EXHIBITION OF THE MASSACHUSETTS HORTICULTURAL SOCIETY.**

The Thirty-second Annual Exhibition of the Massachusetts Horticultural Society opened on Tuesday, the 17th. Although the season had been pre-eminently dry, and the winter a most severe one, yet the Society of the Old Bay State sustained its reputation for luxurious and well-attended festivals.

The show of Flowers was as good as usual, which, for this year, was remarkable; large contributions being made from all the prominent florists. Among them the collection of Gladiolus was especially attractive. The interest manifested in this beautiful family within the last few years has been very great among all classes of cultivators, all striv-

ing to rival each other in their progression by importation and by raising seedlings with such zeal as has never been equalled, except, perhaps, by the Dahlia. Five years ago, the Gandavensis and Ramosus were almost the sole representatives of importance; but now the Comte de Morney, La Poussin, Ceres, Raphael, Berth, Rabourdin, and an endless variety adorn the stand with their several tints.

Conspicuous, also, were the Pot Plants, tastefully arranged upon an elevated stand in the centre of the hall. The Ferns and the Variegated plants (which are now the delight of the florist) were the most prominent. Rearing itself loftily above the rest, arose a noble specimen of the Cyanophyllum magnificentum, and by its side stood fine plants of the following: Caladium argyrites; Begonias Roi Leopoldii, Marshallii, nivosa and hypargyrea, Pteris tricolor, Croton pictum, Pavetta Borbonica. Also, Pandanus javanicus variegata, from the establishment of Hovey & Co., and a beautiful representative of Cattleya Forbesii, from E. S. Rand. Mr. Rand has one of the most extensive and well-assorted orchid-houses in this part of the country, and the rooms of the Society are often embellished by his specimens. There was a good display of our native flowers from the Botanical Gardens of Cambridge; among them was a very double-flowered Datura.

In the department of Pomona we noticed that the fruit was not so large nor so clean as that of last year, owing to the drought, but very good for so unfavorable a season.

Mr. H. H. Hunnewell, the proprietor of Wellesley, exhibited some fine Peaches, from the orchard-house, measuring twelve and a half inches in circumference, and G. G. Hubbard several varieties of Plums, raised in the same way.

The Apples were very few, though good. The crop is almost totally lost by the severity of the winter.

The largest collections of Pears were from the gardens of the President of the American Pomological Society, Colonel Wilder, and from Messrs. Hovey & Co.

William Bacon, among other varieties, presented a remarkable dish of the Merriam Pear, which originated near Boston, and is promising to become a profitable market sort.

Pears were shown, also, from Josiah Stickney, H. Vandine, and others. The Seedling Pear Clapp's Favorite, which was exhibited at the session of the American Pomological Society, and figured and described in its transactions, was among the rest. I am informed that it is a seedling from the Bartlett, being entirely free from the disagreeable musky aroma of its parent; that it is fully equal to it in size, and precedes it in maturity; also, which is of great importance, that it has stood the winter without being injured in wood or bud, and has borne a good crop this season. Cultivators in this vicinity have high anticipations in regard to it.

The vegetables were very good, yet not extensive. The most notable were six Squashes from A. D. Webber, weighing six hundred and ninety-five and a half pounds, raised from a single vine; and some fine Celery from J. C. Potter.

But superior to every thing was the display of Grapes. The foreign varieties were principally from the graperies of Hovey & Co., H. S. Mansfield,

J. C. Potter, Mrs. F. B. Durfee, R. S. Rogers, Mrs. T. W. Ward, E. S. Rand, and others. Although the continued dry weather had been unfavorable for other fruits, yet it had been exceedingly propitious for: out-door grapes, and there was, therefore, an unusual amount. Several natives were of large size, and filled the room with an insufferably delicious(?) fragrance. Those most worthy of notice were Delaware, Diana, Rebecca and Hartford Prolific. The Delawares were small, appearing to have been grown on young vines. The Rebecca was good, and seems to be rising a little in popular favor. The seedlings of Mr. Rogers surpassed all in appearance. Four kinds were shown. The berries were as large as good Black Hamburgs, with fine, compact bunches. They were raised by cross-fertilization, the native Mammoth acting as the female, with the Black Hamburg and Sweetwater as males. The progeny of the Black Hamburg inherit its color and bunch, and those of the Sweetwater the amber color and bunch. Mr. Rogers has not only proved a problem in natural science, but has immortalized himself in giving to the world a number of excellent varieties of hardy and early grapes.

The exhibition was one of almost unexpected success, and compared with the first which the Society ever held, exhibits the brilliant progress which has been made in horticulture, and shows with what rich laurels have Flora and Pomona been crowned by the creative power of man.

#### BROOKLYN HORTICULTURAL SOCIETY.

THE Brooklyn Horticultural Society held their regular Fall Exhibition on the 18th, 19th and 20th of September, at the new Academy of Music, Brooklyn.

Notwithstanding the severe storm for a day or two previous, and the hard times, the display of really rare and choice Plants, Fruits and Flowers surpassed any previous exhibition of the Society. The room is the largest that could be procured, yet it was not half large enough to show the plants to advantage.

Louis Menand, of Albany, who has always been the mainstay of the Society, was on hand with his choicest specimens—two fine Musa Cavendishii, one in full fruit; beautiful specimen of Pandanus, large and well grown; Tree Ferns; Variegated do.; Caladiums, Begonias and Cactus of every variety. His collection embraced one hundred and eighty plants, every one a specimen.

Andrew Bridgeman, of New York, had two hundred and twelve plants of all the new variegated-leaf kinds, rivalling in beauty any that were exhibited. Mr. Bridgeman is making this a feature of his business. He also had a splendid display of Gladiolus, embracing 190 kinds of all forms and shades of color; also, the finest Basket of Flowers and Table Bouquet.

Isaac Buchanan & Son, of Seventeenth St., New York, had their choice collection of Orchids, consisting of the newest and latest varieties, in full flower. He also had a large collection of the Variegated-leaf Plants, numbering 160 varieties.

Parsons & Co., of Flushing, had an immense collection of Caladiums, Begonias, Ferns, and the new Alocasia metallica, very beautiful. Cyanophyllum

magnificum was really magnificent. His collection embraced 240 plants.

John Humphries, of Brooklyn, had the best display from the city, all in fine health and vigor; and in a few years will have a splendid collection, that will compete with older establishments.

There were many small collections which were very deserving of notice, but would take too much space.

Messrs. Dailedonze & Zeller, Cut Roses and collection of Flowers.

A. G. Burgess, Dahlias, &c.

C. S. Pell, Dahlias, &c.

From Henry M. Barnes, Esq., of Williamsburg, a choice collection of Flowers.

Besides an immense quantity of Bouquets, Baskets, and Designs of Flowers.

The Fruit from Messrs. Ellwanger & Barry, of Rochester, was very fine—165 varieties of Pears and 67 of Apples.

Also from Mr. James Wier, of Bay Ridge, some fine Pears, &c.

A Basket of Fruit, from Mrs. Packer, was universally admired.

Grapes from Mr. Cowan, of Glen Cove, were very choice, and exhibited high culture. Also an endless profusion of all of the native and hardy varieties from a number of growers.

The Vegetable department was largely represented, and contained a full assortment of all the newest and best kinds that are worthy of attention.

In addition to the Exhibition, there was a course of Lectures, by the best horticulturists, on the Best Varieties of Plants, Fruits, and Flowers, and their Mode of Culture.

This only shows to the Society, that with proper efforts, they can fill any place with the choicest collection, and place themselves at the head of our Horticultural Societies.

[SINCE the last came to hand, we have received the following notice of a subsequent meeting:]

This Society met on Tuesday evening at their rooms at the Athenaeum. There was a large attendance of members and those interested in horticulture, many of whom were ladies, and who are generally the most successful cultivators of flowers or fruit when they give it their attention.

On the table for exhibition were some fine Vines, grown in Pots, by Andrew Bridgeman, of New York; "Daphne Cneorum," a new hardy evergreen, profuse bloomer, and very fragrant; Seedling Dahlia called "Mrs. Burgess," large and fine color; also, a new Seedling Rose named President Lincoln, which attracted much notice for its fine form and beautiful color, were from A. G. Burgess, East New York. Tritomas and Pelargoniums, from James Wier, Bay Ridge. Bilbergia, from Geo. Hamlyn, gardener to W. C. Langley, Esq., of Bay Ridge. One dozen Pears of the largest size and most beautiful form that have ever been exhibited, were sent to the meeting by Wm. Chorlton, of Staten Island; copies of these will be taken in wax for preservation and reference. On the table was a most magnificent photograph of some choice plants that were at the last exhibition, which are designed to be given as premiums instead of money, as it will represent what was displayed,—the Society to keep

a duplicate copy in their rooms, and to sell to members as many as they wish. This was taken by Messrs. Morand & Co., of Fulton Street, Brooklyn, who make such things a speciality. The prizes awarded at the last exhibition were the great attraction. The worthy President, J. W. Degraw, Esq., to whose untiring energy and perseverance the members and exhibitors of the Society are under so many obligations, had prepared a number of very elegant Silver Goblets, Cups, &c., which were presented by P. B. Mead, Esq., editor of the *Horticulturist*, in behalf of the Society, with appropriate remarks. The largest piece was a Silver Goblet some fifteen inches high, of a new and beautiful pattern, richly ornamented and engraved, to Messrs. Ellwanger & Barry, of Rochester, N. Y., for their displays of fruit at the late exhibition. The next was to Andrew Bridgeman, of New York, a very handsome Goblet some twelve inches high, for his display of choice, new and rare Variegated Leaved Plants. The next, an elegant Silver Goblet and Salver, of exquisite workmanship and design, beautifully ornamented and appropriately engraved, was presented to Miss J. E. Degraw, daughter of the President, for the best Floral Design, at the last New York Horticultural Society's Exhibition, and also at the Brooklyn Exhibition. A handsome Silver Cup was also presented to A. G. Burgess, of East New York, John Humphries, of Brooklyn, G. Messenberg, gardener to Henry M. Barnes, of Williamsburg, and Messrs. Dailedonze & Zeller, of Brooklyn, for Special Premiums for the Collection of choice Cut Flowers and Plants exhibited at the semi-monthly meetings. Mr. Bridgeman made a few remarks on the Culture of Grapes in City Yards, but was compelled to stop by a sudden attack of illness. Dr. Grant, of Iona Island, was introduced and spoke for an hour in favor of the hardy out-door grapes, over those grown under glass, both for general use and profit. He considered the Delaware the best grape that was known for table use or for wine-making. He gave a comparison of the expense and profits of Out-door Culture and Under Glass, and at the next meeting he will give a full account of how to Plant, Train and Prune the Vine for Culture in City Yards. At the close of his remarks a vote of thanks of the meeting was proposed and carried unanimously.

A large number of the best horticulturists were present; Hon. Jno. G. Bergen; Dr. Grant; Mr. Quin, of Newark; Messrs. Mead & Woodward, editors of the *Horticulturist*; John Williamson, the artist; A. S. Fuller, and others.

The Society will meet again on the 15th. The same subject will be continued.

#### TORONTO HORTICULTURAL SOCIETY.

##### Third Exhibition.

THE third exhibition of the season, under the auspices of the Toronto Horticultural Society, was held in the Botanical Gardens, Gerrard Street, and attracted a very large and fashionable attendance of visitors.

The flowers, fruits and vegetables were exhibited in a mammoth tent erected at the head of the gardens, and every one was of opinion that the Fall Exhibition this year was superior to that of

any previous year. Every season new and rare plants and flowers are introduced, and the Exhibitions of the Society, as they deserve to be, are decidedly popular.

The centre tables were appropriated for flowers, and presented a most brilliant appearance, the colors harmonizing beautifully.

There was a fine display of Phloxes, and Mr. John Gray, Lake View Nurseries, carried off the first prize, and Mr. George Leslie the second.

One of the great attractions for the visitors, however, was the large assortment of beautiful Dahlias. In this department, Mr. George Leslie, Mr. Fleming, and Mr. Eccles were the principal exhibitors. The first-named gentleman carried off the first and second prizes.

Mr. John Gray exhibited some very fine double Petunias, new varieties, and newly imported into Canada. They were universally admired, but the judges awarded the first prize to Mr. Gzowski for single varieties, Mr. Gray obtaining the second prize.

In Verbenas, Mr. Forsyth, Normal School, Mr. S. Heward, Mr. T. Tilman, and Mr. Gray were the principal exhibitors. The latter gentleman had on view twenty-four varieties (named), all newly imported.

Mr. W. H. Boulton showed a few good Foliage Plants, and also some fine Cockscombs.

In Achimenes, Mr. Gzowski and Mr. W. H. Boulton were competitors, the specimens shown by each being very fine.

The display of Greenhouse Plants was not large, and there were few competitors in this department. Judge Harrison carried off the first prize, and Hon. J. C. Morrison the second prize. Mr. Morrison also exhibited a very pretty stove Orchis, growing in moss, which was highly commended.

Mr. J. Fleming had on view three varieties of the Gladiolus, a very showy and handsome plant, which attracted much attention.

In Annuals, Mr. Forsyth, of the Normal School, bore away the palm.

There was a good display of beautifully-arranged Hand and Table Bouquets.

#### FRUIT.

In this department the fine display of Grapes requires to be first mentioned, and certainly finer-grown Grapes were never shown in Canada than those on exhibition. Crowds of persons lingered near them for hours, and all saw something to praise. The clusters were large and luscious. Three bunches, belonging to Mr. H. Eccles, weighed, in the aggregate, not less than 121 ounces.

Hon. Mr. Cayley exhibited five varieties grown in a cold grapery, the clusters weighing from 32½ to 47½ ounces.

Mr. G. S. Gzowski carried off the Vice-President's medal for eleven varieties, while Judge Harrison and Mr. W. H. Boulton exhibited specimens which were greatly admired.

Near the middle of the centre table was a very fine Grape-vine in a pot, with six large clusters, and was from the nursery of Mr. John Gray.

Hon. J. C. Morrison also exhibited a handsome Grape-vine in a pot.

The display on the tables gave ample proof that all kinds of grapes can be profitably cultivated in Canada.

The number of Peaches was not very large, and those exhibited by Judge Harrison and Mr. D. L. Macpherson presented a fine appearance and gained the prizes.

Mr. W. H. Boulton and Judge Harrison were the principal exhibitors of Nectarines, while some beautiful plants were shown by the Rev. Edmund Baldwin and Mr. H. Eccles.

There were many varieties of Apples on the tables, but none of them calling for special mention.

The Pears were fully up to those of last year. Mr. John Gray, Hon. Mr. Allan, and Mr. R. Stibbard excelled in this department.

#### VEGETABLES.

While great attention appeared to have been paid to Fruits and Flowers, the tables gave ample evidence that the kitchen-garden had not been neglected; and, although a pretty young lady asked her mamma, "Who would be so vulgar as to look at onions?" the visitors gave much attention to the Vegetable department. On the tables were a very fine collection of mammoth Cabbages, Turnips, Onions, Potatoes, Beets, Cauliflowers, Tomatoes, Sweet Corn, Vegetable Marrow, Celery, Parsnips, and Salsify, and, as usual, there was a large number of exhibitors.

In Potatoes, Mr. C. S. Gzowski gained the first prize, and Mr. Tattle the second.

In Cabbages, Mr. William Burgess was the successful competitor, while Mr. T. Tillman gained the prizes for Red Cabbages.

Mr. Edward Lewis and Mr. Tattle showed some fine Cauliflowers, and the last-named gentleman also exhibited a few large specimens of Beets and Tomatoes.

The Onions belonging to Mr. George Veer were awarded the first prize, as was also the Sweet Corn belonging to Mr. E. Lewis, and the large Vegetable Marrows exhibited by Mr. H. Eccles.

The Judges in almost every department appeared to have considerable difficulty in giving their decisions, owing, no doubt, to the excellence of the various specimens exhibited.

#### KEOKUK (IOWA) HORTICULTURAL SOCIETY.

THE exhibition held on the 5th of September was considered the best ever held in that section of the country. The successful exhibitors were:

|                   |                           |
|-------------------|---------------------------|
| Mr. Stripe,       | Mr. Woodward,             |
| Mr. Gillespie,    | Mrs. Morrison,            |
| E. H. Wickersham, | Dr. Shaw,                 |
| H. Weyand,        | S. A. Duke,               |
| Mrs. Beebe,       | Mr. Barclay,              |
| Mr. Belknap,      | Mr. Chittenden,           |
| Mr. Fletcher,     | Mr. Bauer, Nauvoo,        |
| Dr. Knowles,      | Mrs. Miller,              |
| Mrs. Furman,      | S. S. Vail,               |
| Mr. Hubbell,      | Mr. Voorhies,             |
| Mr. Bridgeman,    | Rev. I. Brown,            |
| Mr. H. Tucker,    | Mr. J. B. Billings,       |
| Mr. Sellars,      | Mr. J. L. Zwart,          |
|                   | Mr. Wessersicher, Nauvoo. |

Amongst whom we are pleased to find so many of our friends.



Drawn from Nature by Max Rosenthal.

Lith by L. N. Rosenthal.

### CARVER APPLE.

DRAWN ON STONE EXPRESSLY FOR THE GARDENER'S MONTHLY

# THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

DECEMBER, 1861.

VOL. III.—NO. 12.

## Hints for December.



### FLOWER-GARDEN AND PLEASURE-GROUND.

BEYOND preparing for alterations and improvements to be made next spring,—getting ready stakes, labels, and other necessary items that will certainly be wanted, and preparing things in advance, so that when the busy time shall come, all things will be in readiness,—there is little that can be done in this department at this season.

There are some things, however, that should be done, and for which preparations should be made now, that are not often done, but are very essential to a well-kept place, particularly the *thinning out of trees and shrubbery*, and the *preparing of composts* for plants and flowers. The great fault in most places is the neglect of timely thinning out. We cannot call to mind one place that is exempt entirely from this criticism. Grounds have to be planted thickly when they are first formed to avoid a hungry and neglected appearance. Cheap and common trees may be interspersed with more valuable ones, and when the place is pretty well overgrown, have these indifferent trees taken out. But most places have been thickly planted without any view to ulterior fitness; still, the least desirable should be taken away. One fat, luxuriant, robust tree, perfect in shape from collar to the apex, will give more real pleasure than a clump of a dozen half-starved specimens, struggling with each other for a mere existence.

In thinning-out trees, the best plan is to open the soil away from the stem a few inches under the ground, and cut it away with an axe. Often, the regret to lose a fine tree induces an attempt to trans-

plant; generally, such trees fail from the usual difficulties of removing large trees. When they succeed, they seldom grow with a healthy vigor, and when they have escaped all these, an ugly spot is left on the lawn where the tree came out; for the grass will grow stronger there for years to come, and the lawn have the irregular appearance of a cattle pasture. This is the best season to mark such trees and shrubs as it will be desirable to thin-out, and early in spring the axe may be allowed to do its duty.

Soil for flowers may also be looked up during the winter season. Very few understand that an occasional change of soil is very beneficial to flowers in beds, though all know how important it is to flowers in pots. There is nothing better than surface-soil from an old pasture, taken off about two inches deep, and thrown into a heap with about one-sixth part old hotbed dung, to partially decay. In addition to this "staple" item, smaller quantity of different matters should be gathered together for peculiar cases, or particular plants. Peat, for instance, will be found very useful for many kinds of plants. This is not, as is often supposed, mere black sand; but a spongy, fibrous substance from the surface of bogs and boggy wastes. Sand should be collected sharp and clean; the washings from turnpike ditches are as good as any thing. Leaf mould is best got already well decayed from the woods. That one makes for himself from rotten leaves is seldom good for any thing; it is always sour and seems "indigestible" to vegetation. A load or so of well-decayed cow-manure is a good thing for the gardener to have by him, as all those plants that dislike our hot summers, and want a cool soil to grow in, prefer it to any other manure. A small pile of hotbed manure is almost indispensable to a garden.

Many kinds of trees that do not seem to thrive well, will be greatly improved next year by having a surface dressing of manure or rich soil thrown about them. Evergreens are no exception. A singular notion used to prevail, that manure of any kind was injurious to evergreens, probably through noticing that they were usually found in poor, barren soil. Our best American conifera growers, however,

have long practised manuring them, and with the best results. Guano has been found particularly beneficial to the Spruce family, and it will probably be found as good for the whole family of evergreens.

#### FRUIT GARDEN.

Now, when "the summer tresses of the trees are gone, and the autumn woods have put their glory on," the fruit grower will have to inquire what he can do to save his treasures from the rapacities of the winter's frosts that will soon be upon him. It is not a generally recognized fact that frost seriously injures vegetation without any immediate effect being visible. Cherries and other fruits will often be fatally injured, and yet no sign of it be discernible until after the plant is in leaf or flower, when it suddenly droops and dies. Yellows, curl, mildew, and other failings, no doubt, frequently owe their remote origin to the effects of frost in times past. We could give an explanation why this is so, and may do so at another time, in another part of our journal. Here we confine ourselves to hints and advice, and in this case it is to protect all fruit trees possible, no matter how hardy they may be. We would have some few trees trained on espaliers so that they might be protected by mats—others so that they might be bent over, and entirely covered with soil, which is one of the very best plant protectors. Where large orchards are planted, we would surround the whole, if practicable, with a belt of evergreens as the best thing we could do. Evergreens not only protect from cold, but they add to the heat by their own exhalations. Let any one hang a thermometer in winter in a clump of evergreens, and another in a near mass of deciduous trees, and he will be surprised at the difference. The hardest fruits are also benefitted by having a cover of litter over the roots, that will prevent the frost penetrating deeply.

Plants suffer severely during hard frost from evaporation, and when the roots are prevented from being frozen, they can better supply the waste. Old tan bark is often used to protect strawberries, which is very well, but old manure or other litter is nearly or quite as good. If an examination in apples, dwarf pears, quinces, peaches, and plums for borers has not yet been made, go at it at once; they make fearful havoc during winter.

#### GREENHOUSES AND PLANT CABINETS.

The most interesting tribe of plants at this season of the year is undoubtedly the *Camellia*. The buds frequently drop off before flowering; this may spring from three causes—from the plants being kept too dry, or from the drainage being bad, whereby the

soil becomes sodden; or from the house being kept too warm by insufficient ventilation. As the leaf buds burst, the plants are benefitted by occasional syringings, and indeed an increased supply of water altogether, in order to accommodate the demands of the young growth.

*Australian and Cape Plants* are the chief ornaments of the greenhouse at this time. The *Acacia*, amongst the principal, will, like the *Camellia*, require more water while flowering; indeed, most plants which produce flowers before they make a new growth, require more water as they flower. On the other hand, most plants which flower on the young wood at or near the completion of its growth, take less. The *Correa* is another beautiful tribe, but does not do well in most collections; it is generally grown in a peaty soil; we observed that where it seems to succeed well, the growers use a considerable portion of loam in their compost for it. This is consistent with our own experience, and we are inclined to the opinion that more loam should be used with the peat for hard-wooded plants than is generally done in this country. As soon as any Cape or hard-wooded plant has ceased to flower, it should be repotted, if it require it; many prefer waiting till the plants are placed in summer quarters before this is done, and some in the fall. We prefer before they commence to grow, whatever the season may be, as the roots being then in their most active state immediately penetrate the new soil, and before it becomes sour or sodden by frequent waterings, reap whatever advantages the air it contains when fresh may afford them. Some greenhouses are rendered very gay in February and March by having young plants of *Verbenas*, *Petunias*, and other bedding-out plants potted at this time into large pots, and encouraged to grow.

*Hyacinths* that have been out of doors, or in any reserve place for protection, may be brought in a few weeks before wanted; they should not have much heat, light or moisture for a few days, and then only gradually. *Carnations* and *Pinks* are much admired when grown in pots and flowered there early; they do not force well if much warmth be given, but the usual temperature of the greenhouse will bring them forward a month before they can be had out of doors; whenever the roots make their appearance through the bottom of the pots, they should be shifted into a size larger. They require very little water and love the light, and whatever manures are used to enrich the soil should be thoroughly rotten. The *Pansy*, on the other hand, delights in half-rotten, strawy manure and turfy loam. If a quantity of seedlings have been raised in the fall, they will require potting this month; they do not flower well here when the weather becomes

warm; but when grown in pots and forwarded slightly by the aid of a cool frame, they do very well.

*Cinerarias* will be soon the chief attraction; the least frost kills them, yet they will not do well if kept in a high temperature. They love moisture, yet are very impatient of damp. No plant is more improved by the use of charcoal in potting than this. This plant bids fair to become more popular than ever, as supplying a very early spring want. The *Calceolaria* will require the same conditions as the *Cineraria*.

*Pelargoniums* become "drawn," spindly, and worthless, if they are not allowed to occupy the lightest and most airy part of the house. If fine specimens are desired, the shoots should now be tied down to the surface of the pots and pinched off so as to induce them to shoot freely; but avoid a too frequent use of the "finger and thumb"—nothing renders a *Pelargonium* weaker; rather encourage them to grow bushy, by the free use of light air and manure-water. A good supply of young *Fuchsias* should be coming on now—re-pot as their roots fill each pot, let them not want for moisture or light, do not pinch off their tops, but let them grow rapidly. The temperature in which they are grown should not exceed 55°. A turfy loam, moderately enriched with well-decayed manure and well drained with charcoal suits them admirably. The *Mimulus* is receiving more attention than it has been—where they are grown they are much improved by having pans of water kept under their pots. *Oranges* and *lemons* will require the coolest part of the house, and to receive no more water than will just keep them fresh. *Epiphyllums*, as they continue to flower, will require the warmest end of the house, and a fair supply of moisture. *Cacti* and *succulent* plants generally will scarcely require water at all, unless in very dry situations, and then receive but a slight sprinkling with a syringe. The rule "when you water a plant at all, let it soak right through," does not by any means hold good with these plants, if there be not some other good exceptions.

#### VEGETABLE GARDEN.

VERY little can be done now in this department except by way of preparation for another year. Manure can be placed on the ground wherever required, and *asparagus* beds, if not already done, should have a slight covering of it. Bean poles, pea brush, and stakes of all kinds should be got now, the tool house gone over, and put in order, and every thing kept in good order and studiously in its place. When the season of operations commences, there will then be nothing to hold back our atten-

tion. Where there can be a heat of 60° commanded *Bush Beans* can be easily grown in pots, and can be gathered in two months from the time of sowing. If there is an abundance of leaves or manure at command, and small frames, beds may be put up for early spring salads at the end of the month. *Radishes* and *Lettuce* are, however, very impatient of too much heat; they will come on well if the temperature be kept at 45°. When it goes above that, the sashes should be lifted entirely off. The same remarks apply to the *Potato* and the *Early Horn Carrot*. *Cauliflowers* in frames require all the air possible. Never allow them to become dry, this is the cause of many failures by way of "buttoning off."

### Communications.

#### EXOTIC GRAPES OUT OF DOORS.

BY NOVICE.

NOTWITHSTANDING the traditional failures of all attempts to grow the exotic grape in the open air in this country, the writer was tempted to try an experiment this year upon some foreign vines, all of which, since they were planted, (three years ago,) have failed to ripen either their fruit or their wood, on account of mildew.

The varieties grown are the Frankindale, Hanstretto, Malaga, Clapier, Brincklé, and, until this year, the Black Hamburg, Secord's Sweet Water, and Canadian Chief. The latter, after three years of discouraging failure, were removed this spring, to make room for native vines. The Clapier and Brincklé were selected for experiment. The former is a French variety, imported by Mr. Clapier, a former resident of Germantown, Pa. Its name being lost, it was re-named after him. The Brincklé is a seedling raised by Mr. Peter Raabe from imported German seed.

When the Brincklé was in bloom, the top soil was removed to the depth of about two inches, so as to lay bare its surface roots; flour of sulphur was then evenly and thinly sprinkled over the soil and the top soil restored. The Clapier was served in the same manner, but some weeks later, about the period of the second swelling of the fruit. The after-treatment of these two vines was precisely the same as that of all the other native and foreign vines in the garden.

The Brincklé ripened five good bunches, and the Clapier, which was an old vine cut down to two eyes, set and ripened one bunch of large white berries, equal in flavor to the White Frontignan, and much larger. Having been sulphured quite late in the season, it suffered somewhat from mildew,

though less than ever before. The Brincklé was scarcely affected by mildew,—far less than other Brincklés, Dianas and Rebeccas growing beside it. All the other foreign sorts set their fruit freely, but did not ripen a berry, and have lost their foliage by mildew.

Better results would, doubtless, have been obtained had the sulphur been applied early in the spring, before growth commenced.

"One swallow does not make a summer," nor does a single experiment, however successful, establish a principle; yet the result here stated may serve as an incentive, if not a guide, to further trial and investigation. If we can, by any inexpensive method, attain to perfect foreign grapes in open-air culture, it is surely worth persevering effort to accomplish so desirable a result. Trials, however, should always be made on a *small scale*. Investigations extensively and expensively conducted, too often dishearten the investigator, and defeat or postpone a favorable result.

This experiment was first induced by the following facts and reflections:—Sulphur has been found an effectual remedy for the mildew on foreign vines when applied to the foliage or mildly diffused in vapor through the atmosphere of the vinery. If thus, topically applied, it prove a *remedy*, why may it not, administered to the soil, and so taken up by the roots, and entering into the circulation, of the plant, prove a *preventive*? The vine flourishes best in tropical volcanic countries, as Asia Minor, Greece, Italy, Spain, Mexico and California, whose soils are more or less impregnated with sulphur.

Sulphur is insoluble in water; in the air, under certain conditions, it slowly, almost imperceptibly, oxidises and is diffused in vapor. When heated, sulphurous acid gas is rapidly evolved, and, if confined, is very destructive of animal and vegetable life. In the earth it is decomposed, more or less rapidly, depending upon the constituents, condition, temperature and moisture of the soil.

In the case above related, the soil was dug up deeply in October, and no trace of the sulphur applied in the spring could be found, except one or two small masses that had not been well *sifted*. The rest was apparently entirely decomposed, without even changing the color of the soil.

Sulphur is no *panacea* for vine disease. The plant can neither grow in nor feed on it exclusively. The result of this experiment would seem to be, simply, that the foreign vine needs more sulphur than the native and than is usually present in our soils, and that it should be given in such form or manner as to be assimilable by the vital action of the vine. Perhaps very dilute sulphuric acid, or superphosphate of lime, which always contains free sulphuric acid,

may prove a better medium of supply than the crude sulphur.

Of course, exotic grapes can only be grown when the season is long enough to thoroughly ripen their wood. The beautiful specimens of Black Hamburg, Chassclas, Black Morocco (a very late grape, seldom ripened, even in a cold vinery), and other foreign varieties, grown in the open air, by means of sulphur applied to the soil, which were exhibited at the Grape-growers' Convention held at Lancaster, Pa., October 27th, prove, at least, that our Central Pennsylvania season is *long* enough, and confirm the views held on this subject by a **NOVICE**.

#### A SIMPLE METHOD OF GROWING CELERY.

BY A NEW JERSEY MARKET GARDENER.

MR. EDITOR—I have often before given my experience in celery culture in different horticultural journals, but never before, that I recollect of, in the columns of the *Monthly*; and if not repeating a twice-told tale to your readers, I will briefly describe a very simple method, and one which I have not before described, whereby any one who can grow a plot of cabbages may grow a plot of celery, and that, too, pretty much in the same manner as in the culture of the cabbage.

The ground necessary for the growth of celery need not be damp, as is generally supposed. Any good, rich vegetable soil, if level, is all sufficient. Although the plant luxuriates in moisture, if properly applied, yet it is as quickly impatient of stagnant water at the roots as almost any other vegetable.

One of the best varieties for private culture is the Incomparable Dwarf, a solid, stocky, white variety, never attaining more than two feet in length, but of the most delicious flavor. This variety is particularly well adapted to this simple mode of cultivation, which consists in planting the plants on the surface, one foot apart *each way*, so as to form a square bed. The object in having the plot thus square or oblong is, that when the celery is so planted, the plants crowd each other when full-grown, so that in the struggle for light, the hearts are drawn upwards—one of the most important objects to be obtained; which, when the celery is planted in single or double rows, cannot be attained, without the processes of what we call "handling" and "hoeing up." The time of planting is usually the month of July; but if good strong plants can be had, fine celery may be grown by planting in August. Nothing further whatever is necessary in its cultivation but simply hoeing to encourage growth and keep down the weeds, as is

done in a cabbage or onion bed. This, then, is the whole process from the time of planting in July until November. Thus far, it is, of course, green—unblanched; the blanching process being done when stored in winter quarters.

The time of digging up, of course, varies somewhat in different localities. In this district we usually have all put away by the middle of November; and after some ten years' experience, we find no plan so simple or so safe as the French or drain system for blanching or preservation.

The process consists in digging a trench or drain ten or twelve inches wide, and of the depth of the length of the celery. The celery is then packed *perpendicularly* in the trench, moderately tight, until the whole is filled up. It will be understood that there is no soil thrown in about the roots—none being necessary. The roots, being at the bottom of the trench, quickly absorb sufficient moisture to encourage new roots, which, as soon as formed, the blanching process is begun, and the celery will be fit for use in four or six weeks from the time of being put in the trench. It is indispensable to cover the trench with leaves or stable litter to the depth of six or eight inches; but this must be done gradually—two or three inches at a time—as the season advances. If put on all at once, it stops the evaporation from the mass of celery packed in the trench, and the blanching being prematurely hastened, it would not keep so well as if covered gradually.

A great advantage we find in this way of preserving winter celery, is in the easy access we get to it in all weathers,—nothing more being necessary than to remove the litter and take out what is wanted, and cover in carefully again.

I have been induced to offer these remarks on seeing your article on the subject in last month's number, which, although it is, no doubt, all claimed for it, is expensive and troublesome; and in localities where drain-tiles are not to be had, impracticable; while by the plan above narrated, you can have as fine an eating celery as can be produced by any other method, and that, too, at the cost of not more than one cent per head. In field-culture its cost is less than half a cent per head, although the elaborate system of "bunching" it for the New York market costs at least half a cent more.

#### THE DELPHINIUM.

BY FRANCIS PARKMAN, JAMAICA PLAIN, MASSACHUSETTS.

THE Delphiniums form a tribe of plants fast rising in esteem, and promising soon to take a conspicuous rank among florists' flowers. Their culture is easy,—nearly all are perfectly hardy,—their flowers are

often of the greatest beauty, and they supply, in their rich and varied shades of blue, the color most deficient in the flower-garden. Some in beds, or others in the garden or on the lawn; others rearing their tall spikes amid the shrubbery; and others, again, standing singly, as decorations of the border; they form, when rightly managed, a neat, brilliant and effective ornament.

The annual varieties are well known. There are also a few biennials in the genus, but they are not equal in beauty to the perennial species. These latter may be separated into groups, of which the Chinese Larkspur (*Delphinium sinensis*) may stand as the type of the first, and the common Bee Larkspur (*D. elatum*) of the second. In the first group the number of varieties is limited; in the second it is almost without bounds. The former is of a somewhat diffuse growth, with leaves very deeply cut; the latter is erect and straight, and though infinitely diverse in the character of its bloom, has the unfailing characteristic of a notch in the two lower petals, which form, what is called the eye of the flower.

The Chinese or Siberian Larkspurs vary a good deal in habit, some being more compact and dwarf than others. These are preferable for most situations. Plant them in a light soil, well enriched with leaf-mould, six inches apart every way, and they will support each other. In June they will burst into a brilliant mass of bloom, long-continued, and renewed later in the season, provided the plants are cut down to the ground as soon as the first bloom is past. Their expanded flowers often gleam in the sun with a peculiar metallic lustre. Some are of the deepest blue,—some of a softened tint, precisely like that of the sky on a clear summer day,—while others are pure white. These varieties should be separated, and separate beds or circles in the grass made of each. The dark blue varieties are often marked with a red or purple spot on each of the extended wings of the calyx. A few are seen of a lilac tint. Double varieties of all occur, usually much superior in beauty to the single. In a bed of seedlings we sometimes find individuals bearing flowers twice as large as those of its companions; but this peculiarity will not perpetuate itself with any certainty by seed. The beautiful Delphinium known as "Breck's No. 1," may be referred to the Chinese division of the tribe.

A species, which may be called intermediate between the Chinese and the Bee Larkspur, is well worthy of mention here, not so much for its own sake, as for that of the beautiful varieties which have either sprung from it or are closely assimilated to it. This is the Delphinium cheilanthum, a native, like the former, of Northern Asia. It is the parent



of two fine seedlings, *D. magnificum* and *D. Hendersonii*; and is, if not the parent, at least the near kin, of the splendid *D. formosum*. The name of the first of the three, by the way, is sometimes, in this neighborhood, erroneously applied to a tall and pallid variety of *D. elatum*. The trio resemble each other closely, the first being the least desirable. *D. Hendersonii* is a shy seed-bearer, and with me has never borne seed at all; but I once procured seed of it, expressly guaranteed as "true," from one of the best and most trusty of the English seedsmen. Of the plants which resulted, a few bore the features of the reputed parent, while the greater part showed the broader sepals and golden coloring of the unmistakable *D. formosum*. Granted the good faith of the seedsman, the experiment may be held to prove that the two are mere varieties of the same species. *D. formosum* is one of the finest of the genus. The freedom of its growth, the ease of its culture, the size, metallic brilliancy and rich profusion of its deep blue flowers make it, to borrow the hackneyed phrase, indispensable to every garden. Last May I planted several hundred young seedlings, raised under glass, about the end of March, in a carefully prepared bed. The soil, a strong loam, was trenched two feet deep, dressed with peat, a little sand and old manure, and the whole well incorporated with the spade. Into this the seedlings were turned out of their pots at intervals of eight inches. In June the whole burst into flower. The lustrous mass of bloom, seen from a distance, lay beneath the foliage beyond, like a stream of water, preternaturally blue. The flowers were of unusual size, the largest measuring two inches across.

This variety is a good seed-bearer, and always "comes true;" that is to say, without any essential variation. Very rarely in a seedling the eye of the flower will be pure white; whereas, it is commonly shaded with blue or purple. The flowers vary also in the coloring of the sepals, and in their degree of symmetry. Among the seedlings just mentioned, was one very striking, from the almost perfect roundness of its form, and its deep and vivid blue. Being thought worthy of the superlative degree, it was christened *Delphinium formosissimum*.

The culture is the same for all the members of this group. They like a rich, light soil, and an open, sunny exposure. A little peat or leaf-mould is very beneficial, and they will bear in this climate a good proportion of animal manure, provided it is well rotted. Cut them down after their first bloom, and they will reward you with a second. Indeed, with a little management, they may be kept in flower throughout the season.

Of the Bee Larkspurs and their innumerable kindred, I shall speak in the next number.

### THE PEONY ONE OF THE MOST NORTHERN PLANTS.

BY W. R. PRINCE, FLUSHING, N. Y.

HAVING noticed in your columns some very appropriate comments on the splendor of the numerous species and varieties of the Peony, which appear to have attracted so much attention at a Parisian exhibition, I have thought it would be a matter of interest to your readers to present a summary of the different species and of the gorgeous varieties which the (so-called) barbaric China and Japan presented to the world whilst Europe was actually in a state of utter barbarism, and long antecedent to the period when any of the nations we call civilized had ever blended the pollen of flowers, or produced any new variety by artificial means.

The most important and splendid of this family is the *Moutan* or *Tree Peony of China*, a very hardy shrub, growing to the height of three to four feet, and expanding its roots and shoots so as to often cover a space of six to eight feet in diameter. Of this species there were introduced from China, in 1789, three varieties—the *Banksii*, *rosea*, and *papaveracea*.

It is related that Lord Macartney's embassy to China in 1795 saw a collection comprising two hundred and forty varieties of the *Moutan*, and yet it was not until the recent expeditions of Robert Fortune to that country that any new varieties were obtained. Of these, twenty-two have been named and described, and are now to be found in many collections. My father made frequent attempts to import new varieties from China from 1810 to 1830, and finally succeeded in obtaining a dozen living plants in large and peculiar green glazed pots, every one of which proved to be the *rosea*. The three varieties existing in Europe he imported at the price of one guinea for *Banksii*, three guineas for *rosea*, and five guineas for *papaveracea*.

As it takes from four to five years for a seedling plant to produce flowers, we may form some idea of the immense period that must have elapsed during which the Chinese amateurs were producing the seedlings from which they made their selection of two hundred and forty varieties. I wish here to premonish your readers, that this species is a native of Northern China and Tartary, where the thermometer falls as low as in the most northern limits of our country.

The next species in point of importance is the *albaflora* of Siberia and Tartary, a tuberous, herbaceous species, growing to the height of two and a half feet, with large single white flowers, which was obtained from China in 1784, and of which three double varieties were imported from there in 1790, the *Whitleyii*, *Humei*, and *fragrans*. It is of this

species that very numerous varieties exist in China and Japan, and from which the French and Belgians have produced above two hundred most admirable varieties, and ourselves about fifty varieties.

It is an amazement to what an extent the varieties of this species have been multiplied, combining every hue, several of which have yellow and straw-colored flowers. They are so rustic and easy of culture, that no one can fail in having fine flowers, and the plants will become so enlarged as to afford hundreds of flowers from one stool.

*Peonia officinalis*—this old tenant of our gardens is a native of Switzerland; and the common crimson variety has been grown since 1548. We can boast of but ten varieties to contrast with the hundreds which the Chinese produced.

*Peonia paradoxa* is a native of the Levant, rather more dwarf than the preceding, and the foliage more downy. Of this the French have produced about twenty-five double varieties, many of which are very neat and beautiful, and mostly of crimson, violet, and purple hues.

[To be continued.]

### THE NATURE OF MANURES.

BY BROOKLYN.

DIFFERENT manures act so differently, that a classification of them might be acceptable to your readers. What I state here is my own experience, gathered in cultivating the farm and the garden, and is noted with the hope and wish that it may draw out the experience of other and better gifted readers.

*Horse-dung*.—Dry, hot, and soon consumed, because it heats rapidly and strongly; good for cold, wet, and tough clay; bad on warm and sandy soil; best thing for pits. According to purpose desired, very excellent if mixed with more or less spent tan, lime, and rotten leaves.

*Cow-dung*.—Very mild and very "pleasant;" acts slowly, but all the more surely; good for any kind of soil, especially for warm and sandy soils.

*Pig-dung*.—Cool, watery, mild, fermenting very slowly; of much benefit to meadows and nurseries, otherwise little useful if not mixed with other manures.

*Sheep-dung*.—in its action and nature resembling horse-dung, only "more so;" kills plants pretty effectually, if not used with great discretion; excellent, of course, for your stiff and heavy clays, to which it will impart warmth and life.

*Goat-dung* I know little about, but I hear it is similar to sheep-dung.

*Fowls*.—Their excrement is generally of the sharpest

kind of action. Like all such potent agents, they may prove both poison and meat, according to the hand that applies them. They can be rarely applied in a "neat" state, but must be diluted with water or urine matter, or they will consume the vegetable material in almost no time. Best mode is to apply them on the ground just before a nice April shower, and let the rain dissolve the matter. Miraculous will be the effect therefrom. In regard to potency, this seems to me the classification: 1. Pigeon. 2. Chicken. 3. Geese and ducks. 4. Turkeys.

Pigeon manure is praised for grapes, giving them color and flavor.

*Human excrements* are too caustic to be used by themselves, but all the more fit to be mixed with cool substances, as sods, leaves, or with lime, etc.

In return, I wish to know if manure has ever been known materially to effect the color of flowers, or the taste and flavor of fruits and vegetables.

Also the results of experiments, made with different manures, on a given object.

### BARREN SEEDLING FROM FOREIGN GRAPES.

BY PROF. C. G. PAGE, WASHINGTON, D. C.

JUST two years ago I discovered a bunch of grapes on a seedling vine growing near an oak tree on my grounds, into which it had climbed by means of underbrush to the height of fifteen feet. The fruit was superior in flavor, about the size of Catawba, and the color of Black Hamburg. The foliage is decidedly foreign, and the growth very distinct. I removed the vine to a congenial place in the garden, where it has proved to be an enormous grower, and hardier than any other vine in the garden. This spring it set an immense bloom, but every flower was abortive or purely staminate. As this was a chance seedling, I cannot vouch for its parentage, though I presume every one would infer from its growth and foliage that it was foreign. But I can vouch for the following facts, that two years ago it bore fruit, and this year all the blooms were males. I have usually permitted all the chance seedling grapes about my grounds to grow, and have transplanted many to good soils, and thus far every vine (five in number) has proved to be abortive or male. For the sake of trial, I have suffered one huge vine to bloom for eight years in succession, and it has always been obstinately and entirely male.

### INFORMATION GIVEN AND DESIRED.

BY A DELAWAREAN.

I AM induced to write a line to thank, through you, Fox Meadow, for having prevented me making a

permanent investment in the Allen Raspberry. It is exactly such statements as his last that benefit the horticultural public. We hear too much of the good,—the worthless is too rarely condemned. Now, although I have not the acquaintance of Mr. Fox Meadow, yet I intend to ask a favor of him, and that is, what are his opinions, if he has made his mind up, on three new foreign grapes, viz.: Black Barbarosa, Trentham Black, and Buckland Sweet-water? And can you inform me when the book on Grape Culture, that was announced from the same source will appear? I have been anxiously awaiting, as a book from such an experienced cultivator will be looked to by many as a guide.

If Mr. Bright, of Germantown, would also give his views on the same subject, we would then have two independent and not easily biased opinions to guide us. We know that Mr. Bright brought with him from Europe a number of the latest novelties in the grape line; as he may have tested some of them, will he be good enough to let us hear from him through the *Monthly*?

A word about the native grapes. Delaware still maintains its high position, although pressed hard by Maxatawny—a new grape brought before the public by Mr. Crans, who liberally distributed the wood, and who, from present appearances, deserves the thanks of the entire horticultural world for having introduced the highest flavored native known. The berries are larger than Delaware, light flesh color, and the vine a vigorous grower; may be safely put down, promising *very* well.

If a man wants a vine for shade, Taylor's Bullitt is decidedly that vine; it is the most rampant of a large collection; about the fruit I know nothing.

El Paso, from the patent office, is a foreigner and worthless, as most every thing that comes from that source is.

Brandywine, although brought out with some noise, is also foreign and worthless for out-door culture.

Of Pears, the only two that bore fruit new to me were Ananas d' Ete, which was eaten August 24th, and very good, and Brandywine, a russety-coated, high flavored pear, with skin a trifle too astringent, but very well worthy of general cultivation.

Please remember, Brandywine Pear—good; Brandywine Grape—good for nothing!

Duchess d' Angouleme and Louise Bonne de Jersey produced fine crops, and are varieties worthy of general cultivation on the quince.

Bartlett was, as usual, unsurpassed in its season, but is ripe amid such a variety of good things that it is hardly appreciated. What would such a sized pear, as good a bearer, and in every other respect as desirable a pear be worth if it would ripen in Novem-

ber and keep until February? We have too much fruit at one time and too soon over with. Late autumn and winter varieties should receive more attention.

Winter Nelis and Lawrence stand very high among the winter pears, although the former has a bad name as a poor straggling grower; with me although not so vigorous as some, it is thrifty. I shall, without hesitation, recommend it. Winter Nelis is said to be in flavor among winter pears what Seckel is in autumn. Say a good word for it.

[We should like to inquire whether Winter Nelis does not crack badly in most localities, whether it is ever any thing but a poor bearer, and whether the Lawrence is not as poor a grower as the Winter Nelis? Such has been the experience of some growers. There are a great many excellent winter pears, but so little attention has been given to *cheap* and handy plans for preserving and ripening them, that they are unpopular, and thus there seems to be but few kinds. "Pity 'tis, 'tis true," for those who have only eaten pears as they come from the tree, have no idea of the delicious taste of a well-ripened winter pear. The Brandywine is considered by many Eastern pomologists the best Pennsylvania pear. We have not heard of the progress of "Fox Meadow's Grape Book." Should be obliged by his and Mr. Bright's response to our correspondent's grape inquiries.—Ed.]

#### A SUCCESSFUL ICE HOUSE.

BY C. B., CHESTER CO., PA.

TEN years since, I built an ice house. After inquiry and reflection, I adopted the following details of construction, which has proved a complete success, the supply rarely failing until ice forms again.

I chose as location, a north-laying bank, of sandy formation, made the excavation a cube of thirteen feet, or so that the earth removed would bank up to that height, put in an eighteen inch *dry wall*, except the top foot, which was mortared; inserted on each side three pieces of 3 by 4 inch scantling, to which perpendicular 1-inch pine boards were nailed as lining; put on a light shingle roof of double pitch, left the spaces at the eaves between the rafters *open* for a draft of air to enter, and placed a small Venitian window near the top of the north gable for its escape. Before putting on the shingles, and after nailing lath on the underside of the rafters, the intervening space was tightly packed with straight straw; the roof is kept whitewashed. The south gable consists of two doors, one of which answers for general use, but when filling, the ground being level on that side, both are opened, a small platform placed in front of them, and the ice is shot directly in from the cart. The bottom was made about one foot

deeper in the middle than at the sides, and 8 to 10-inch chestnut logs laid across it close together; the ice is thrown *on these*.

I fill only to the square with ice, and the remaining space with wheat straw, which I am careful always to keep covered over the ice and packed down the sides a foot or two, as it melts, leaving a space of about one foot between the ice and the lining. The bank was well sodded up to the wall, so as to throw off rain-water falling on the roof and prevent its ingress to the house. Free daily use is made of the ice during all the warm season, for a family of nine, and there is usually about a load or two over. The capacity of the house is about twenty well-filled ox-cart loads, with side-boards. My practice appears to accord with the theory and principle of "J. C. B."

#### THE DWARF JUNE-BERRY.

BY J. STOUGH, GENESEO, HENRY COUNTY, ILL.

REMARKS in some of the late *Monthlies*, about the June-berry as a stock for the pear, reminds me to inquire if you have the *dwarf* June-berry? I never see it mentioned in any nursery catalogues.

We got it some thirty years ago. Ours were found growing wild on the top of the Allegheny Mountains. It grows from three to five feet high. For a stock for dwarfing pears, I do not know its equal. Hardy, sound, healthy and long-lived. Not as large as the quince. But for their own fruit they are much superior to the large kind; they bear with certainty and profusely every season. I think the fruit a little better and larger than on the large trees.

When I have not more than fifty bushes on my farm of five rods, I have none to sell or make pear trees of. They might be easily increased, and rapidly from seed or layers; not readily from cuttings. Have a large increase from seed and layers this season.

[The plant alluded to is probably *Pyrus arbutifolia*.—Ed.]

#### RHODODENDRONS.

BY A MIELLEZ, FLUSHING, N. Y.

[Continued.]

HAVING tried to show how to improve rhododendrons by grafting, I now proceed to what may properly be called the first part of the work, viz: to raise stocks of standard varieties.

Very little has been done in this line, and I think you well may call it a "lazy" and "ignorant system" under which it has been done.

The little extra attention that has to be paid to seedling rhododendrons, will be amply repaid by their subsequent success, and the common phrase,

"it won't pay," is inapplicable in this respect.

In order to secure good stocks, collect seeds from such plants that have the type of Catawbiense, maximum, Californicum, and a little ponticum in them; or, if in want of these, cross the latter species with each other, and select such plants for seed-bearing as have the requisite qualities of the parents, *i. e.*, the hardiness of Catawbiense and maximum, the fine and robust growth and leaves of Californicum, with the facility of forming an abundance of fibrous roots of ponticum. The raising of standard varieties requires some little judgment, in order to keep all the desirable points in view, viz: hardiness, clean and robust growth and foliage; large, erect truss of flowers; clear, distinct colors, the single flowers of good substance; and with round petals; to which may be added a good, distinct blotch of spots. The first consideration should be given as to the hardiness and robust growth of the sort to be fertilized, to insure the same qualities for the breed. Next in view should be a stiff, erect truss of good substantial flowers. Where these qualities are combined in a variety, any desired shade of color may be brought upon it, from pure white, through the different shades of rose, cerise and crimson, to blood red and scarlet; and again from white through lilac, claret, violet, plum-color, etc., to deep purple. Though all these different colors have been obtained by skillful cross breeding between the American and Indian species, it is not advisable to use *R. arboreum* for breeding, as the first crosses of it are, in a great measure, liable to get their flowers cut by spring frost, on account of their early flowering.

The following list of hardy varieties will furnish a good selection, both for breeding and propagating by grafting:

Whites and blushes, or light colors, viz: Album elegans, Candidissimum, Delicatissimum, Athens, Chancellor, Californicum, Columbus, Cælestinum novum, Cunninghamii, Diadem, Exquisite, Faust, Invincible, Leda, Minnie, Mr. Otto Forster, Mrs. Mangles, Star of England, Queen of the Fairies, Standish's Perfection.

Different shades of pink and rose color, viz: Amazon, Aurora, Briareus, Broughtonii, Ceux, Criterion, Concessum, Eclipse, Etoile de Flanders, Esperance, Flora Macdonald, Lady E. Cathcart, Maculosissimum, The Gem, Mrs. John Waterer, My Seedling, Paxtonii, Pythagoras, Queen of Portugal, Roseum elegans.

Shades of red, cerise and crimson, viz: Aurelian, Blandyanum, Brayanum, Chloë, Erectum, Generalissimo, General Wilson, Giganteum, Jago, John Gair, Majesticum, Mr. J. C. Stevens, Neilsonii,

Prince Imperial, Reedianum, Rifleman, Robert Barns, The Colonel.

Different shades of blood red and scarlet, viz: Alarm, Brilliant, Brebneri, Garibaldi, Mars, Mr. John Waterer, Lord Clyde, Sunset, Vesuvius, The Major.

Purple, claret, lilac, etc., viz: Amilcar, Beadsman, Everestianum, Fastuosum, fl. pl., Lucy Neal, Maculatum grandiflora, Maculatum nigrum superbum, Marion, Magnoliflorum superbum, Monstrosum, Oberon, Orlando, Prince Arthur, Schiller, Shakspere, Young Seidel.

Rose and crimson, with white throat or margin, etc., viz: Bylsianum, Limbatum, Fleur de Marie, Nobleanum bicolor.

The best time to apply the pollen to the pistil of the flowers to be impregnated (the stamina of which have to be cut out as soon as the flowers open) is about nine or ten o'clock in the morning, when the whole plant has fully revived from the invigorating slumber of night. The puberty of pistil and stamina will be easily recognized by the careful observer. The passillary part of the pistil appears viscous, while the stamina issue pollen from their cells, especially when brought in contact with the pistil. As it may happen that there be a delay of a couple of days in waiting for pollen of a desired variety, the to-be impregnated truss of flowers has to be enclosed with gauze, lest bees or other insects should happen to carry pollen to them; whereas, there is but little fear from that quarter after they have been once properly impregnated. More convenient, however, it will be, if those sorts to be used for impregnating come into flower first, as the pollen may be preserved for at least a month, ready for use when wanted, though it, of course, be best if they come into flower together; and where there is a good collection there will be very little trouble in this way; moreover, some of them may be easily retarded, while others are forwarded.

#### TREATMENT OF SEEDLINGS.

On the beginning of February take earthen pans or wooden boxes, provided with holes in the bottom, and six inches high, of any desirable shape and size, and fill them half with broken pots for a drainage; then mix peat with one-third of white sand,—sift it and put the rough part of the peat (that which remains in the sieve) over the crocks, (a layer of about an inch,) and fill up the pans or boxes with the fine soil; shake gently, so as to settle the whole evenly, and smooth off the surface with a piece of board, at the same time giving a slight pressure.

Having the required quantity of boxes prepared in the way prescribed, sow the seed moderately

thick on the surface; take some fine dry peat and sand of the same proportion as before, and strew over, but so as to barely cover the seeds, (some prefer leaving them wholly uncovered,) and sprinkle with a very fine-rosed watering-pot. The seed-boxes may be put into a propagating-house, stove or forcing-house, of about 75°. They need no light till the seed germinate, about ten days or a fortnight, when they should be put near to the glass. Protect them a little from very bright sunshine, and be careful not to let them get dry, although an excess of watering should be equally avoided. Particularly beware of dripping places in the house; they will incur often great loss, as the seedlings in this young state are liable to get damped off.

[To be Concluded in our Next.]

#### PISTILLATE STRAWBERRIES

BY C., BURLINGTON, N. J.

It has always appeared to me very surprising that so much paper, ink, time and good nature should have been wasted in the discussion of a subject so apparently easy of solution as that of the sexual differences of strawberry plants, which has produced so much wrangling among growers and fanciers, and which would seem only to require a good pair of eyes, to say nothing of a small microscope, to settle, as far as the main facts are concerned, upon which the different theories are based in regard to the comparative merits of the (so-called) staminate and pistillate varieties. The whole matter, it seems to me, can be presented in a nut-shell. In the first place, there is no such thing as an *exclusively* pistillate strawberry flower (at least, I have yet to see one); all possess stamens, though with filaments of greater or less lengths; some being so short, it is true, as to render the anther scarcely visible; but if a flower of the varieties called pistillate, is closely examined, a ring of stamina will be seen, in the same position as those in the most perfectly staminate flowers, but so much depressed and concealed as to be, under some circumstances, of very little or no service in impregnating either their own flowers or those of other plants; yet under other and more favorable circumstances, these same stamina may answer all required purposes. Thus the climate of England may favor the *general development* and distribution of the pollen of their apparently defective stamina, so as to produce fair, or even large crops, without the propinquity of more decidedly male plants; hence the belief of Dr. Lindley, that "pistillate" plants have never appeared in England, may be perfectly orthodox; and hence Mr. Gløede's success in producing crops under glass, may be owing to some peculiarity of treatment or atmospheric influence tending

to the same development. I presume we have, all of us who have tried the experiment, found fruit, to a greater or less extent, upon "pistillate" plants under glass,—the *extent* of which, will always depend upon whether the house is much visited by *bees* during the flowering season; which fact must be taken into consideration in regard to the same plants growing out of doors. Those plants having their anthers elevated above their pistils, require no foreign aid in their impregnation; and those even in which the stamina are *almost* wanting, may, by the aid of the bees, in countries where they are very numerous, produce good crops. One thing I have noticed in my little experience, that the fruit of pistillate plants under glass, even when helped by artificial impregnation, was inferior, and of *entirely different shape* from the same variety out of doors; which was not the case with the perfect varieties.

[Some varieties throw up hermaphrodite and pistillate spikes of flowers from the same crown. In such cases, the fruit on the hermaphrodite spikes have been observed to be very different in shape from those on the pistillate ones.—ED.]

#### A CHAPTER ON CACTUS.

BY R.

"WHAT a whim of Dame Nature! Did the good old lady want to show us what she can do in the way of ugliness?"

"It would not be a bad idea to have a few ourselves, would it? Let them be the frightful examples, they will show off the beauty of our collection."

Thus spoke my good friends, Mr. and Mrs. W—, when they happened to see my little set of cactus plants. Thus spoke, before and after them, a good many folks. And not a few of them have their own collection now. Nothing like Mr. and Mrs. W—'s cacticum, though, (if I be allowed the making of that word,) for their's is quite an affair, and not every body can afford it. But whatever the number of plants,—be they six or be they six hundred,—the owner takes no less pleasure in them, and cherishes the possession of these deformities about in the same ratio as a mother makes a pet just of that one of her children that's got crippled. Can I help smiling when I see these cactarians fondle their nurselings now, after their having smiled on me with a smile full of generous pity, yet superiority, when they saw me fondle my own?

Whence this fascination?

It won't be difficult to explain it, kind reader of the *Gardener's Monthly*. Does not the very first sight of the cactus give us already a pleasurable shock? Suppose that, roaming over the bottoms of the

Nile, we stumble on a nest of hippopotami, young and old, large and small. Surely the sight would fascinate us. The gambols of these awkward monsters would delight us; their anatomy would interest us; and, perchance, we would poke one of them in the ribs merely to judge of the metal of his voice. Again, some people tame bears, others fancy ravens, still others think there is no dog like the Scotch terrier. And we are but right when we don't impugn their taste. The fact is, that uncommon ugliness gives us as pleasant a shock as uncommon beauty. Nor is this trait confined to a sense of right alone, but extends to that of feeling,—rough towels, for instance, a positive delight to the skin; and farther, to that of taste—say bitters, pickles, cigars, and who will deny *their* charms? And, in consequence of taste, it can't help reaching the sense of smell at the same time,—in proof, these same cigars, Russian leather, cow-stables, &c.

Getting, however, to nearer acquaintance, our cactus begin to show us their own charms, and remind us of some plain friend of ours,—male or female, kind reader, as you please or have experience of,—who, decidedly plain, yet interested us at first sight; but when she began to speak, positively fascinated us till we forgot that there was such a thing as face at all.

But I believe I have jumped too high in comparisons. That angel of a woman, with her heart and her mind, is as much above my plants as the hippopotamus is too low. Let my cactus keep the middle between them, and let me here discuss their merits.

Granted their ugliness. What interests us so much in it? Probably the absence of leaves, that distinguishing feature of most plants. Next their form, if not *distingue*, as milliners would talk, still unique. Next the diversity of their form—from the tall opuntia to the low, winding, creeping, serpent-like cereus, and again to the Mamillaria, that look so much like balled-up hedge-hogs.

And now come other features, prominently their own, by which they claim our interest. Their twigs and thorns, odd way of branching, their tenacity of life, the impunity with which they may be neglected, the dark corners they may be stowed away in when they are not wanted, and their being all over so much the same that the smallest thumb-pot specimen (of its kind), is as perfect as the biggest, and that you can't help thinking of the worm which, cut into pieces, seems each piece a worm.

When you have had any cactus in your window or your greenhouse for a little while, minor details will begin to court your eye. Such as the peculiar green, green-gray or gray-green, lustreless, boding the desert; again, the leather-like skin, evidently against the tropical blaze preventing the evapo-

ration of the sap,—that sap which cheers both man and his beast when the tongue cleaves to the palate and the brain reels for thirst! You know at once why these cactus have been made at home only within the tropics; also why they grow where nothing else will grow, and so accompany the poor traveller across uninhabitable stretches of land. It is on the score of this succulency, also, that botanists have chosen them as objects of their observation; the structure of their cells and their anatomy in general being of the most interesting kind.

Enough now of their ugliness, and let us turn to their beauty. Raise a cactus till it flowers, and you will be repaid; for their flowers have been given the intensest and most splendid hues, dazzling and attractive; and, that a cavilling spirit may have nothing to fasten its hooks in, perfume has been given them also; to some, at least such as the *Cereus grandiflorus*, the flower of which, expanding over night, emits a vanilla-like scent of the sweetest kind.

What more shall I say in behalf of my clients? Those people who live in the lands of the cacti will praise them for the fruit—aye, fruit—which they yield; particularly the genus *Opuntia*: approaching in taste our currants, to which they are also botanically allied. They will praise them for the impenetrable hedges and enclosures which they make,—for the "timber" and the fuel which the large kinds yield them; and, finally, for the pleasant acidulated beverage which flows from most of them when they are tapped.

#### HISTORY OF THE NELUMBUM, NEAR PHILADELPHIA.

BY COL. R. CARR, WEST PHILADELPHIA.

I HAD flattered myself with having the pleasure of seeing you ere this, but have been disappointed in getting the papers which I wanted to refer to respecting the introduction of the *Nelumbium*.

I will merely now state a few of the facts of which I have knowledge.

The elder John Bartram (the botanist) had a brother named William, who settled in North Carolina, near Cape Fear river, about the year 1725. On his property there was a large pond or cove of the river, in which the *Nelumbium*, then called *Nymphaea*, since named *Cyamus flavicomus*, grew in abundance. Knowing his brother's fondness for plants, and this being new to him, he sent a box of the roots and a quantity of the seeds, which arrived safely and were planted in several places in which Mr. Bartram hoped they might thrive. (This was Mr. Bartram's practice with many plants.)

I have seen the copy of the letter which Mr. Bartram wrote to his brother, acknowledging receipt of

the plants and seeds in good condition, and that he had planted part in his new garden and part in other places, in hopes of being able to naturalize them.\* We had them many years in a small pond in the garden, and when we wanted a number of roots or some seeds for our botanical correspondents, we went to the pond, or large ditch, below the city, in the meadows, then called "Brogdens," where they flourished in great abundance.†

Mr. William Bartram informed me that his father had planted them there on the property of an old friend; and about the year 1822, the venerable Timothy Matlack, of Philadelphia,‡ was in the Bartram Garden, when some of the plants were in flower, and, on my mentioning the quantity growing in Brogden's Creek, he told me "that they were abundant in Old Man's Creek, New Jersey, and that Mr. John Bartram had planted them in both places; that he had been down to Old Man's Creek on one occasion with Mr. John Bartram, to procure various seeds and plants, and that then Mr. B. informed him that he had planted the *Nelumbium* there and near Gloucester, as well as in Brogden's Creek, and other places." I have written this note in haste, but you can make use of it if you think proper.

[We are much indebted to our kind friend for this new chapter in our horticultural history, and yet we cannot reconcile the statements with others that have become part of the record of the times. For instance, the inference is very clear, from a letter of Peter Collinson to John Bartram, dated February 22, 1750, (see Darlington's Memorials, page 181,) that Bartram had written to Collinson, describing a "curious plant" which his "ingenious friend Kalm had found near Philadelphia;" to which Collinson replied, that he "knew the plant full well;" it was the *Nelumbium*, and he was surprised that it had been found aboriginal so far north of Carolina. It is hard to believe that Bartram, whose straight-forwardness and honest simplicity were proverbial, should have pretended to Collinson that it was aboriginal, and a new discovery to him in 1748, if he had himself planted it there between 1725 and 1731; and yet we can put no other construction on the circumstances, if all were as stated by our friend in the present note. We are still further puzzled when we turn to another letter of P. Collinson to John Bartram, dated February 2d, 1760, in which Collinson taunts John Bartram with an astonishing lack of "industry," that with this plant near him wild "in

\*This must have been previous to 1731, as he mentions the building of his new stone house, which was built in that year.

†When a school boy, in 1784—1791, I was in the practice every summer, of going down to this pond to gather the "*chinquapins*."

‡Then Prothonotary of the Supreme Court.

the Jerseys," he had not yet got it growing in his garden. (See Dar. Mem., p. 222.)

Are we to believe now that Bartram had it growing in his garden all the time, and for thirty years before? We are disposed to believe that the "Nymphaea" referred to in our friend's note could not have been the *Nelumbium* in question, but some other plant, and that our theory, that the *Nelumbium* owes its existence north to the Indians, is in all probability the true one.—Ed.]

#### AERIAL ROOTS ON THE SCUPPERNONG GRAPE.

BY J. THOMAS, MADISON, INDIANA.

As you ask for information in regard to aerial roots on page 313 of the *Monthly*, I will offer my store of knowledge, (which is limited, to a memorandum five years old,) with some later observations. The *Vitis vulpina* is the vine referred to, I believe.

Muscadine of the Mississippi Valley and Scuppernong of North Carolina are, I believe, identical. One is said to be a variety of the other. On the Mississippi and Forked-deer bottoms, I have seen those roots from two to ten or twelve feet long, hanging like hairs from a horse's tail, for twenty or thirty feet along the stem, the lower extremities of the roots not being within twenty feet of the earth. Vines growing erect seldom have any but those growing somewhat horizontal, or having a crooked stem, emitted roots in abundance on the underside of the vine near the point where the vine assumed an upright direction. The rootlets have the appearance of clean washed roots, about one sixteenth of an inch thick, and look fresh and plump, and having a tender whitish spongiole.

At first I supposed the emission of roots was caused by water standing around the stem in the growing season, but found they were far above high water; however, it is deep shade in the bottom.

I did not observe any, to my recollection at present, on the high ground where the vines were not so shaded. The bark of the vine is smooth as that of Beech or Hornbeam, and said to be hard to grow from cuttings. I did not observe any roots except on the main stem of the vine.

The fruit is larger and more of an oblong oval than the Isabella Grape, and from one to three or four berries in a cluster, and drop very easy when ripe. A light jar of the tree they grow upon, and the berries drop. They are prized very highly by those who never tasted a grape like the Catawba. They are more strong of the peculiar musky flavor

than any Fox Grape I ever tasted, and consequently unfit for the palate.

[Very much obliged for the information.—Ed.]

FRUIT FOR EASTERN NEW YORK.—The Farmers' Club of the American Institute adopted the following list at a recent meeting, best adapted to that region, from last year's experience:

Summer Apples—Early Bough, Early Harvest, American Summer Pearmain, Summer Rose.

Autumn—Autumn Bough, Gravenstein, Hawley, Fall Pippin, Porter, Jersey Sweeting.

Winter—Baldwin, Rhode Island Greening, Jonathan, Monmouth Pippin, Spitzenburg (*Æsopus*), Tallman's Sweeting, King of Tompkins County, Boston Russet.

Summer Pears—Doyenne d'Ete, Dearborn's Seedling, Beurre Giffard, Rostiezer, Tyson.

Autumn—Bartlett, Seckel, Beurre d'Anjou, Beurre Superfin, Beurre Boussock, Duchesse d'Angouleme, (on Quince,) Flemish Beauty, Fondante d'Autonne, Sheldon, Urbaniste.

Winter—Beurre Gris d'Hiver Nouveau, Beurre Diel, Lawrence, Vicar of Winkfield.

Cherries—Belle de Choisy, Bigarreau or Yellow Spanish, Black Eagle, Downer's Late Red, Early Purple Guigne, Elton, Black Tartarian, Governor Wood.

Plums—Green Gage, Coe's Golden Drop, Imperial Gage, Washington or Bolmar, Smith's Orleans, Jefferson.

Peaches—Crawford's Early, Crawford's Late, Early York, (large,) Bergen's Yellow, George IV., Old Mixon Free, Morris' White.

Clings—Heath, Large White, Old Mixon.

Nectarines—Downton, Stanwick, Early Newington.

Apricots—Dubois' Golden, (American variety,) Peach or Moorpark.

Grapes—Delaware, Diana, Concord, Union Village, Hartford Prolific, Isabella.

Quinces—Orange, Rae's Seedling, Portugal.

Currants—Large Red Dutch, Versailles, Victoria, Large White Province, White Dutch, Black Naples, White Grape Currant.

Gooseberries—Downing's Seedling, Houghton's Seedling, (hardy American varieties, and free from mildew).

Raspberries—Fastolf, Hornet, Franconia, Orange, Belle de Fontenay, Catawissa.

Strawberries—Triomphe de Gand, Bartlett, Wilson's Seedling, (acid,) Hooker's Seedling, (sweet,) Jenny Lind.

Blackberries—New Rochelle or Lawton, Dorchester, Newman's Thornless.

## The Gardener's Monthly.

PHILADELPHIA, DECEMBER 1, 1861.

All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY, Box 406 Philadelphia."

Persons sending two new Subscribers for 186 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

## OUR NEXT VOLUME.

THE public look for an Annual Address from us as regularly as they expect the President's Message to Congress. A magazine, too, stands in pretty much the same relation to its readers as the President does to the people. Both owe their positions to popular favor, and it is but right to expect a full account of their stewardship.

Of the past we need scarcely speak. We are now entering on our fourth year. Our talent, whatever it may be worth, has not been wrapped in a napkin. On the part of the Editor, a life-time of experience—twenty-five years of daily study and labor in horticultural pursuits—has been freely, and, in a great measure, gratuitously, offered for the public good; and the Publisher has as freely advanced his time and means to bring the *Monthly* up to its present position, without a thought of pecuniary profit. The great fear of its friends was, that *cheapness* and *excellence* could not be united. "You may," said they, "by scissors and paste, spend half an hour a month in copying from better papers than your own; or you may employ a clever clerk to steal other people's ideas, and re-write them up new, so as to avoid a trial for literary piracy, and yet get the credit of getting out an "original thing" with those who know no better; but there are not enough horticulturists of advanced taste in the country to enable you to make a standard work at that price." But we neither copied, nor stole, nor served up to our readers aught of literary "shoddy." While we have actively watched over a sea of exchanges for any original views on horticultural practices floating on its surface, in transferring them to our columns we have carefully given all credit to the originators, doing justice alike to friends and foes. Our pages are a clear reflex of the minds of our excellent contributors, and will, we honestly think, bear a favorable comparison with any horticultural journal in the world, at whatever price published.

We have assumed the position of a director of horticultural taste, in addition to the office of a recorder of its progress; and we can say boldly, with the great orator, that "Our errors, if any, are our own; we have taken no man's proxy." The result has been, that in spite of the times, the *Monthly* has now reached a point that will, for the first time in its existence, admit of its being placed in a business position that will insure its perpetuity for all time to come.

Mr. W. G. P. Brinckloe, who has had the actual business management since the commencement, will continue his labors, and be the responsible Publisher and Proprietor; while Mr. Meehan will continue, as heretofore, his Editorial services.

We offer no premiums, and make no promises. All we ask of our friends is, that they measure the future by the past. As then, so now they will find that every new subscriber they obtain for us, every new or interesting fact they contribute to our pages, or any favor in connection they may do us, is so much added to our power to serve them in return by adding to the value and interest of the magazine.

## IMPROVEMENTS IN PROPAGATING.

In our second volume the subject of striking cuttings occupied considerable attention, and many new modes of managing them were suggested, that have had considerable influence in making a very simple operation out of what has been one of the most intricate matters appertaining to the gardener's art. Still, it must be remembered that there never can be rules for striking cuttings so clearly developed as to apply to all individual instances. Every plant has a nature peculiarly its own, and its mode of treatment as to conditions of growth and method of propagation will be as peculiar as its nature. We can, for instance, propagate plants by budding; but a plum must here be budded in June or July, an apple in July or August, and a peach in August or September; and as to the manner of budding, in England the wood must be taken out of the bud before insertion, while in this climate it is unnecessary. In fact, as it is said of learning, that there is no "royal road to it," so neither in propagation of plants will regal science do a great deal to abridge the labors common mortals must take to master the art. It is a knot that must not be cut, but be carefully untied, even at the expense of years of careful study.

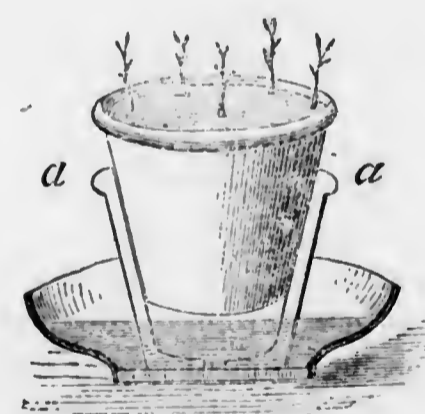
There are, however, a few principles that are very clear; and by understanding and acting on them, the most verdant tyro may soon get on the high road to success.

For instance, cuttings die from two causes,—

either from drying up, or from rotting before roots are produced. The object of the propagator is to hasten the production of roots, and also arrest evaporation or decay until this happy event occurs. Rotting frequently arises from the ruptured cells, made so by the act of cutting the shoot in suitable lengths. The modes of callousing heretofore described in our journal have done much to aid the propagator on this point. To hasten the production of roots requires, in the first place, practical knowledge of the nature of the plant, as to whether old wood or young wood roots easiest,—or whether it does best taken off in summer or spring, winter or fall. When the right season is discovered, bottom-heat assists rooting, as it hastens decay when an improper time is attempted. As a rule, cuttings in a state of rest require time, and those in a growing state pushing on. Bottom-heat would soon destroy the first, and the latter do badly without it.

The reader will thus see that no mode of striking cuttings can be perfect. All will possess advantages and disadvantages, and all and any mode that has been found successful is worthy of attention.

We have recently read an explanation of an idea of Mr. Beaton, that must be of service to amateurs who wish to propagate in a small way,—and the principle may be applied by those who are not satisfied with less than wholesale practices. We have made the following sketch of the plan proposed.



A common flower-pot (say four-inch) is taken and prepared with drainage and sand for the cuttings in the usual way. This is set in another four-inch pot, which we have shown cut in halves, and will only go down about three-fourths of the way, resting on the lower one, as shown at *a a*. When being set in, putty or cement of any kind is set around at the junction *a a*, which will make the passage air-tight. This double pot is then set in a saucer of water, so that the water shall only reach to the bottom of the upper pot. A section of the saucer only is given, to show the water-line. The advantage of this plan is, that when the pot is ex-

posed to the sun, it becomes warm—vapor is generated, and circulates around the inside pot, which makes as perfect a warm water tank on a small scale as one can have. On this plan, water will seldom or never be required on the sand,—all being applied to the saucer below. The cuttings, unless very delicate, indeed, will not require any bell-glass over them to check evaporation, which glass, after all, is useful, in any case, only at the expense of rapid growth.

There is also another idea in propagating, of which we have been recently reminded by Mr. Beaton, and which we know by experience to be a very valuable one. It is called *cutting layers*, and this sketch will explain it.



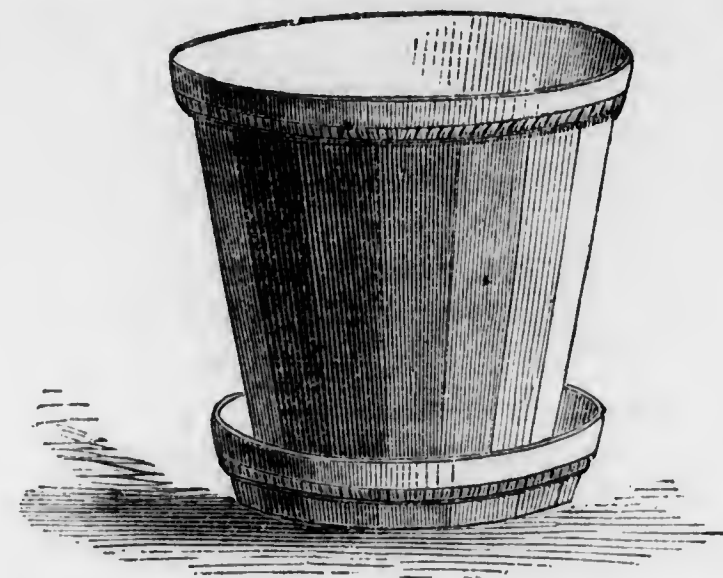
It is excellent for cuttings that will take their own time to root. The difficulty with such cuttings is, that if you take the lower end, it will not break well; if you take the top end, it rots; and if you take the whole shoot, the soft part exhales all the moisture before the slow hard end will hurry itself to put out roots. The *cutting layers* meet all these objections. The hard, firm end is put in the ground firmly, and the softer end, towards the apex, cut as for layering, always cutting on the upper surface, as we have hitherto taught in the *Gardener's Monthly*, and as shown in the sketch. Roots will soon come from the slit part, while sufficient vitality will be drawn from the lower part to prevent a premature decay in the upper end. After rooting, the lower part may be cut away.

We have some more useful hints for special modes of propagation, which we shall give from time to time, as the almost infinite subjects that occur to us monthly requiring attention will permit us.

## PARLOR POTS.

MR. BRIDGEMAN sends us a sample of some flower-pots intended for rooms and places where taste and elegance may reasonably be looked for.

Attempts of this kind have been before made, but the employment of crockery-ware for the purpose, in which plants do not generally grow as well, has been against their general introduction. Mr. Bridge-



man's pots are of the same porous material as the common flower pot, and we think so well of them, that we have made the above cut from one sent us.

### Scraps and Queries.

☞ Communications for this department must reach the Editor on or before the 10th of the month.  
☞ The Editor cannot answer letters for this department privately.

NAMES OF PLANTS.—A *Baltimore Subscriber* inquires:

1st. Are the *Populus angulata*, *P. Carolina*, and *P. macrophylla* distinct species of the *Poplar*? Which of these is the cottonwood of the West?

2d. Is there such a species of the *Ash* as the *Fraxinus longifolia*? What is the botanical name of the "*Variiegated Ash*?"

3d. Is there such a species of the Linden as the *Tilia macrophylla*?

4th. Is the Poplar-leaved the same as the Comewell Willow; and if so, what is its botanical name?

5th. Is the Prickly Ash the *Xanthoxylon fraxineum*, or the *Aralia spinosa*?

6th. What work can you recommend as best adapted for an amateur to consult in seeking information as to the technical names and general character of ornamental trees, shrubs, &c.?

[1. There is no *Populus Carolina*, or *P. macrophylla* recognized by botanists. They are nursery names given to *P. angulata* of Michaux. It is called often the Carolina Poplar, and is the Cottonwood of the West. *Populus monilifera* of Aiton or Virginian Poplar, called in Europe "Swiss" Poplar, is almost universally grown in our nurseries as the "Cottonwood," and sold for the true *angulata*, which we have not as yet found in any nursery. There is, however, a large specimen of the true kind near the old Marshall Nursery at West Chester.

2. *Fraxinus longifolia* is also but a nursery name. We believe it to be a variety of *F. excelsior*. The Variegated Ash is a variety of *F. acuminata*, though called in nursery catalogues "*Aucubæfolia*," from its leaves being spotted like the *Aucuba*.

3. *Tilia "macrophylla"* is but a garden name for a large-leaved variety of *Tilia Europea*.

4. The same. We have never examined what species this variety belongs to, and have no specimen by us just now to refer to in order to ascertain.

5th. The *Xanthoxylon fraxineum* is known in the North as the Prickly Ash. In the South *X. Carolinianum*, another species, goes by the same. The common name of *Aralia spinosa* is "*Angelica tree*."

6th. Meachan's Ornamental Trees, is the only work we know of, giving the technical names, botanical descriptions, and popular characters of the trees and larger shrubs cultivated in our country. Michaux and Nuttall's *Sylva* is the best work devoted exclusively to American trees. Of shrubs, there is no work that we can name.—Ed.]

NATIVITY OF DELAWARE GRAPE—*J. S., Geneseo, Ill.*, says:

"I have Delaware Seedlings growing one, two, and three years old, healthy; none have shown signs of mildew. Are not such facts pretty conclusive evidence that the Delaware grape is 'aboriginal' to America? See page 271, *Monthly*."

[In our first volume we stated that we had, years ago, seen in the upper regions of country bordering on the Delaware River, forms of grapes similar to what we in later years knew as the Delaware. There was at that remote period little talk of grape improvement, and no particular peculiarities in them arrested our attention. The past summer we had the opportunity of again botanizing in that direction, and found the same forms of grapes rather abundant. They proved to be varieties of *Vitis Estivalis*, our well-known summer grape. They are pulpless and of chocolate color just as the Delaware grape. Entirely worthless as eating grapes—of course, as most wild grapes are; but with all the necessary characteristics requisite to satisfy us at least that the Delaware grape is descended from that species, as an examination of its own characters sufficiently shows it to be.—Ed.]

WALKER'S MOUNT VERNON PEAR.—In the October number of *Hovey's Magazine*, the editor objects to this name, saying "we do not know whether that name was authorized or not by the *Gardener's Monthly*;" and so he proceeds to describe it under another one. Waiving all other principles of au-

thority, we might suppose Mr. Walker's own letter, giving this name as his choice, and his reasons therefor, (see our February number, page 62,) would be satisfactory to our contemporary. In a recent case, when he imagined the *Horticulturist* had overlooked what he considered a fact, he remarked that he knew its "editor was deaf, but he did not suppose he was blind also." We shall not follow such a questionable example of the courteous gentleman, but in charity express our belief that the editor of the *Magazine* overlooked Mr. Walker's letter above referred to. We must, however, say that it was very easy to inquire of us, or of his neighbors, Walker & Co., for some explanation if he really desired it, before rushing into print with another name.

Every pomologist deprecates the needless multiplication of synonyms, and takes every reasonable precaution to guard against the evil; but judging by this case, that of Boston or Pinco Pear, and other instances, we are sorry to believe Mr. Hovey does not consider it an evil that it is worth any research or inquiry to avoid.

FIRST YEAR VINERY—*H. P.* asks:—"I planted forty-three vines in a new cold graperly on the 17th of April last; the vines were just commencing to push when I planted them. They are now twelve feet long, having been stopped three times since the 1st of September. The kinds are Black Hamburg, Black Lombard, Sweetwater, Muscat of Alexandria, and Royal Muscadine. The canes are stout, and finely ripened. How should they be managed through the coming winter and spring?"

[If the vines are "very stout," a couple of bunches of grapes may be permitted to be borne by each next year, in order to test the accuracy of the kinds. The chief object next year, however, should be the production of good strong canes to bear well the season following. Therefore, cut down your vines to about three good eyes this winter. When they break next year, train up the strong terminal shoot and stop back the side ones left for fruit when three or four eyes in length.]

GRAFTING LARGE PLUM STOCKS—*J. S. H., Lansing, Mich.*, asks:

"I wish to know through the *Gardener's Monthly*, if Plum Stocks can be successfully whip-grafted? I have some that are large, though only one year seedlings; they are a quarter to a half-inch in diameter. I fear they will be large to transplant and bud next season."

[They may be whip-grafted successfully, but we should cleft-graft them when so large. The space

not covered by the scion heals quicker this way in such cases.]

MOLE TRAPS—*W. C. D., Louisville, Ky.*—We will place in our engraver's hands sketches of the various mole traps in use in this country and Europe, and have them ready for our next number.

UNION VILLAGE AND ONTARIO GRAPES.—A pomological friend on the Hudson, writes:

"I am pretty well satisfied that these two are the same, but not quite positive. Another season will determine."

BACK VOLUMES—"A Subscriber," *Pittsburg, Pa.*, who sends no name, writes:

"Please inform a subscriber whether he can get all of the numbers of the *Gardener's Monthly* of the years 1859 and 1860, and for what price?"

[The publisher replies, that full sets may be had bound, \$1.50; unbound, \$1.00 per volume.]

### New or Rare Plants.

At the September Exhibition of the Pennsylvania Horticultural Society a number of plants were exhibited for the first time. We made a few notes of some varieties that we thought desirable in the way of ornamental foliage plants:

*Alocasia metallica*.—Decidedly the most singular, striking and most beautiful of foliage plants. Imagine an oval, shallow bowl, or a concave, corrugated or ribbed shield of burnished copper of about a foot and a half in diameter, supported at the centre by a foot-stalk of about two feet in height.

*Micania speciosa*.—A stove climber, or rather trailer. Leaves, when fully developed, nine inches long, of an acute cordate shape, of a rich dark velvety green, veined with white somewhat in the style of *Cyanophyllum magnificum*; mid-rib and underside of leaf a dark crimson. Since the introduction of *Cissus discolor*, we have seen no stove climber that we have been so much pleased with.

*Argyrea argentea*.—Also a stove trailer. The underside of the leaves are like burnished silver. It was shown trained on a flat, perpendicular wire trellis, and had been grown where the light was admitted to but one side of the trellis. This treatment causes all the upper side of the leaves to turn to the light; leaving the silvery side next to the spectator. A curious, as well as beautiful, plant.

*Caladium Belleynei*.—This fully sustains the repu-

tation given it by the foreign periodicals and by the description and engraving furnished in this magazine.

*Cyanophyllum Assamicum*.—Hardly equal to its magnificent relative. Color a light, lively green.

*Campylobotrys argyro-neura* and *C. Smaragdina*.—Very beautiful additions to this very beautiful genus of plants. The latter has very large light-green leaves, of a very curious shade, and of a metallic lustre.

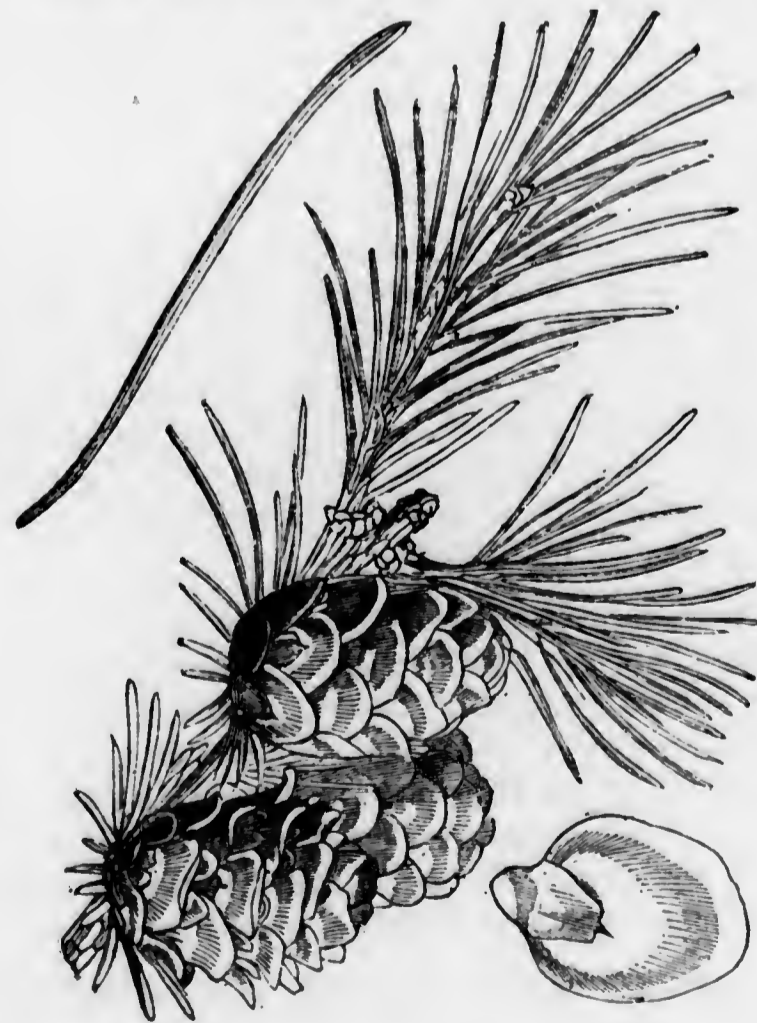
*Caladium Brognartii*.—Leaves quite sagittate, dark green like *bicolor picturata*, with a deep red stripe down the centre, with two or three red stripes or rays diverging from each side of it at the broad part of the leaf.

*Sphaerostemma marmorata*.—A stove climber, with large leathery leaves, dark, mottled with light green. Quite a striking plant.

*Heterocentron album*.—We have already noticed the *H. roseum* as being a valuable addition to our winter-blooming plants. The *H. album* furnishes us with what we greatly need in winter,—a graceful and persistent or durable white flower for bouquets.

**LARIX MICROSPERMA.** (*Lindley*).—Small-seeded Larch. Lambert calls our Larch *Larix microcarpa*. As the similarity of the names may cause some confusion, we give a cut of the new species, and the accompanying description from the *English Journal of Horticulture*; so that when introduced here, our cultivators may readily distinguish them.

"Among the conifers sent home by Mr. J. G.



Veitch is one which, on account of the unusual smallness of its seeds, Dr. Lindley has named *microsperma*. Mr. Veitch characterizes it as a tree from forty to fifty feet high, with foliage resembling the Spruce Fir in point of color, and very glaucous on the under surface. The leaves are as long as those of *Picea amabilis*, and perfectly silvery underneath. It was found at Hakodadi, in Japan.

**NEW BEGONIA "PHILADELPHIA."**—We were shown a few days since a Seedling Begonia from *B. rex*, which is quite an acquisition. In most of the seedlings from this parent, the green is generally of a dull sombre olive, imparting a gloomy effect to the foliage. In the seedling referred to, this olive-green is replaced by a bright and intense emerald, which adds greatly to the beauty and cheerfulness of the foliage. We understand it was raised by Mr. Sutherland, gardener to Mr. Falmestock, of this city, who named it "Philadelphia."

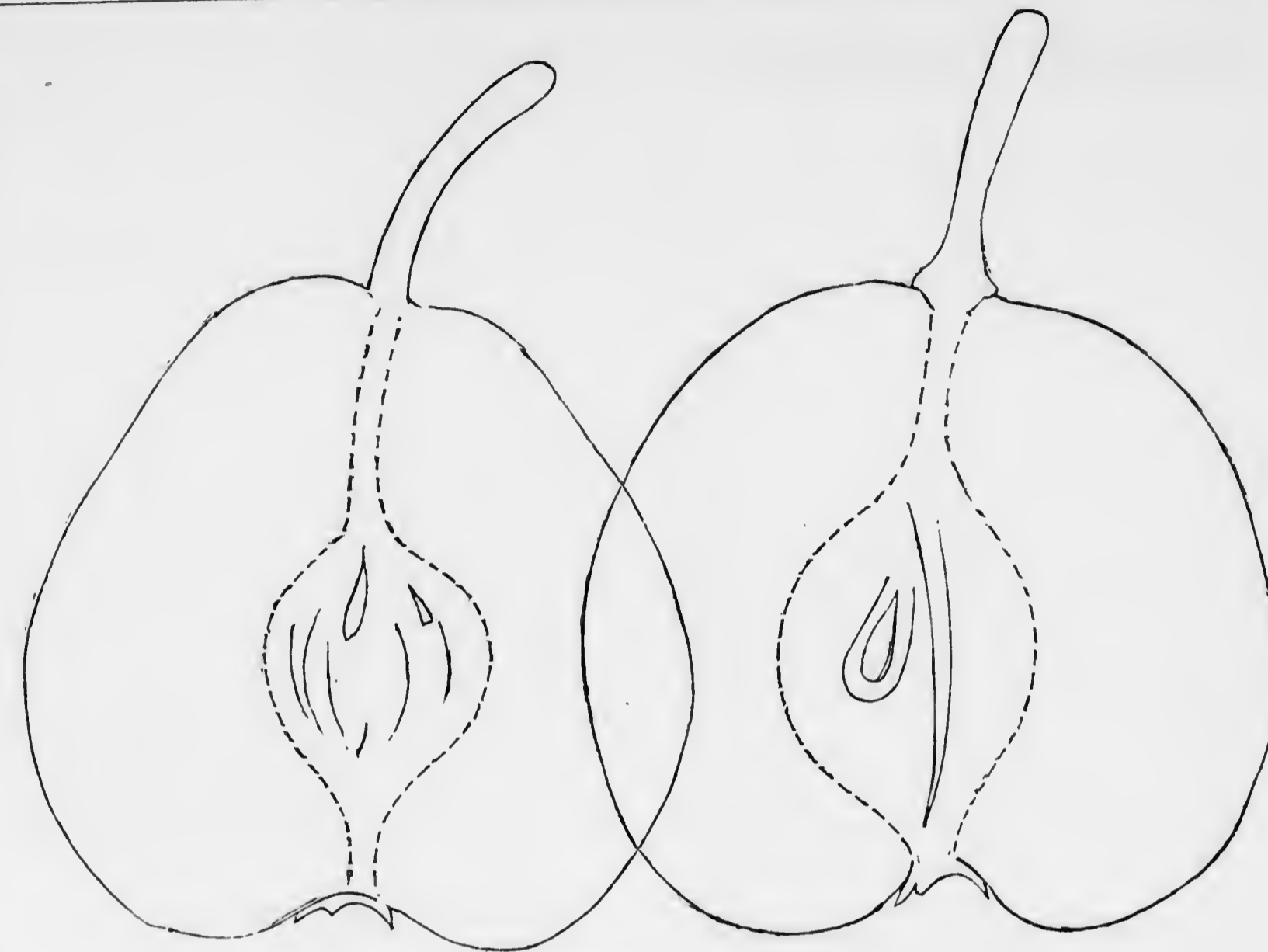
### New and Rare Fruits.

**THE CARVER APPLE.** (*See Frontispiece*).—As there are two very distinct apples known by this name, the one comparatively local, little known, and little more than second-rate; and the other pretty well disseminated, and of superior qualities, we have thought it would serve a useful purpose to figure the latter for identification in disputed cases.

The illustration was taken from a specimen grown by Mr. Lukens Peirce, of Ercildoun, Pa., whom we have asked to give us a description and history, to which he replies as follows:

"In regard to the Carver Apple, I regret not being able to furnish you with a complete history of its origin. After some inquiry, I learn that it has been cultivated in Lancaster County. One of the oldest trees grows in Burt Township by the side of Smith's Cider. My informant was led to conjecture, from their age, that they might have come from Bucks County together. The trees from which grafts were furnished us fifteen years ago, I am informed, were obtained in York County.

The specimens I furnished you were of average size, from a young tree which has borne abundantly during the last four unfavorable years. It is most highly esteemed where known for its abundant bearing. It is of large size; greenish white, and when fully ripe, yellowish white. In quality sprightly, acid, with quite an agreeable flavor when fully matured. Ripens middle of August, and keeps well without decay. On old trees is said to be much affected with transparent watery spots."



[THE ORANGE PEAR.]

**THE ORANGE PEAR AGAIN.**—We stated in our last that we failed to recognize this fruit under any name known to us. Anxious to ascertain, if at all possible, the real name of so desirable a variety, we sent a sample to Dr. W. D. Brinckle, New Jersey, but did not hear from him until after we went to press. In the hope that some of our friends may recognize it, we give the annexed outlines of two varying specimens.

Dr. Brinckle remarks, under date of October 29th:

"I received a pear from Mr. Allen, of White Hill, (Chief Engineer of the Camden and Amboy Rail Road Company,) which has brought the subject back to my recollection, from its bearing some resemblance, especially at the base, to the one you sent. The peculiarity to which I refer is the insertion of the stem, without depression, in a plain, flat surface, sometimes by a fleshy ring. I know but three or four pears—such as the Kingsessing, Hosenscheneck, some specimens of the Signeur d' Esperen, &c., that possess this peculiarity, with a roundish form and good size. The one you sent was "very good" in quality, and so was the one sent to me yesterday by Mr. Allen, but I can recognize neither of them as any known variety. Mr. Bennet, a neighbor, in-

forms me, in a note to-day, that the variety which both he and Mr. Allen have, came from Ireland."

**NEW WHITE STRAWBERRIES.**—Last season seems to have been prolific in either seedlings or sports—for we are not sure which—of a light color, from the Albany Seedling. Some of these have been already "named and described" in the papers,—in our opinion, much too hastily, as some, perhaps all, will prove so near alike as to be unworthy of even a separate preservation and existence.

The *Albion* has already been described by competent authority in our pages. *Lennig's White*, *Freas' White Pine Apple*, *Hein's Large White*, *Hein's Cherry-colored*, and *Welcome* are the names of the others referred to.

**THE LUCY WINTON GRAPE,** the *Havana Journal* says, originated with Dr. Winton, of that place, and is equal in quality to the *Isabella*, but three or four weeks earlier.

**THE ADIRONDAC GRAPE,** the *Montreal Herald* says, was raised by Mr. Bailey, of Plattsburg, New York, and is fifteen days earlier than any other, and equal to a hothouse grape in flavor. The "others" named are *Concord*, *Diana*, and *Delaware*.

## Domestic Intelligence.

THE OREGON SYCAMORE MAPLE.—It is remarkable that so many trees do better when removed into other climates than their own. Most English and Japan trees do better here than in their own country. We never saw, for instance, the *Cerasus padus* any thing more than a low, scrubby shrub in its own native country, and without beauty or interest. Here, near Philadelphia, it becomes a small tree of twenty-five or thirty feet, and is one of the most ornamental small trees we have. So with our weeds; at least one-fourth of agricultural pests are of foreign introduction, and emulating the example of the whites and the Indians, have driven the aboriginal tenants of the soil to sheltering corners. We thought of these facts while reading in the *Oregon Farmer* a notice of the Oregon Sycamore Maple, which does so well here. After quoting what we said of it some months ago, it remarks:

"It grows upon the bottoms of Oregon; sometimes in the forests; attains a height of sixty feet or more; has large leaves, and apparently is something of the English Sycamore Maple. Its true name is *Acer macrophyllum*.

"We do not believe it will make a good shade tree. It only grows in damp or wet soil. We have seen many young trees of this variety of maple set out for shade trees, but we have never seen a fully developed tree either in the timber or thus planted. What it would become where might be found all the circumstances favorable for its development, we cannot say."

HALF-HARDY COTTON PLANT.—A Peruvian plant, erroneously called *Gossypium arboreum*, and which grows near the region of perpetual snow, is creating attention with the view to culture in the North.

LARGEST APPLE TREE IN AMERICA.—Lewis Kohler writes us, that on the farm of Peter Kohler, Lehigh County, Pa., there is an apple tree which, by actual measurement just made, is 17½ feet in circumference, one foot above the ground. At nearly seven feet high it is 15¼ feet around. It forks at the height of seven feet, one branch measuring eleven feet two inches, and the other six feet seven inches in circumference. The tree is fifty-four feet high, and the branches extend thirty-six feet each way from the trunk.—*American Agriculturist*.

SCOTCH HEATH IN THE UNITED STATES.—Dr. Gray says, in *Silliman's Journal*:

That "America has no Heaths," is a botanical aphorism. It is understood, however, that an English surveyor nearly thirty years ago found *Calluna vulgaris* in the interior of Newfoundland. Also, that De la Pylaie, still earlier, enumerates it as an inhabitant of that island. But this summer, Mr. Jackson Dawson, a young gardener, has brought us specimens and living plants (both flowering stocks and young seedlings) from Tewksbury, Massachusetts, where the plant occurs rather abundantly over about half an acre of rather boggy ground, along with *Andromeda calyculata*, *Azalea viscosa*, *Kalmia angustifolia*, *Gratiola aurea*, &c., apparently as much at home as any of these. The station is about half a mile from the State Almshouse. Certainly this is as unlikely a plant, and as unlikely a place for it to have been introduced by man, either designedly or accidentally, as can well be imagined. From the age of the plants, it must have been there for at least a dozen years; indeed, it must have been noticed and recognized, two years ago, by a Scotch farmer of the vicinity, well pleased to place his foot once more upon his native heather. So that even in New England he may say, if he will, as a friend of ours botanically renders the lines, that

"*Calluna vulgaris* this night shall be my bed,  
And *Pteris aquilina* the curtain round my head."

NEW AND VALUABLE FLOWER-SEEDS.—Such is the taking title of a notice, emanating from the Patent Office, in the daily papers, of seeds now ready for distribution. What do our readers think this list is composed of,—this new and VALUABLE list? The common *Yellow Evening Primrose*—one of the vilest weeds of our cultivated grounds—strikes us prominently. The rest is made up of common Wallflowers, Snapdragons, Yellow Mimulus, Sweet Violet, Ten-week Stocks, White Egg-plant, Venus' Looking-glass, Indian Shot, &c. To be sure, they are sent out as *Oenothera biennis*, *Antirrhinum* varieties, *Cheiranthus cheiri*, *Mimulus aureus*, *Viola odoratus*, *Mathiola annua*, *Solanum ovigerum* (!) *alba*, *Campanula speculum*, *Canna indica*, &c., and there is something in a Latin name! About one hundred are named, and the above is a fair sample of these "new and valuable seeds." Thirty thousand dollars of the people's money has been voted to be spent in this way, and the deficiency in the mail service we are taxed to supply, is owing, in a great measure, to these "free government parcels." We again ask, what is the object of this scandalous waste of public money?

TAYLOR'S BULLITT GRAPE.—At a meeting of the Cincinnati Horticultural Society last week, a sample of this grape was exhibited by Mr. Sterrett,

of Glendale, and on motion of Mr. Heaver, it was agreed that from this specimen and that of others previously exhibited before the Society, they deem it unworthy of general cultivation.—*Field Notes*.

HEDGING IN TAZEWELL COUNTY.—Below we give the statement of Mr. Clark Barton, of Tazewell County, Illinois, of the cost, culture, etc., of an Osage Orange hedge, entered by him for a premium at their recent county fair. It is brief, yet plain and comprehensive:

In the year 1858 I purchased hedge plants to the amount of ten dollars, which I set out, making one hundred rods of hedge. The first year the setting and cultivating cost me six dollars. The second year, cultivating and trimming cost two dollars. The third year, trimming, two dollars.

*Preparing Ground and Setting*.—I ploughed a large land on the side of the field on which I set my hedge, so I had neither the ridge nor the dead furrow for my hedge row, but level ground; then with a common plough I made a furrow in which I set my hedge, placing the plants about four inches apart, and covered them so as to leave the ground perfectly level.

*Cultivating*.—I took a double shovel-plough, and as often as the weeds sprang up, or the ground became baked, I ploughed it up, keeping the ground level.

*Trimming*.—I did no trimming the first year. The second year I trimmed once, which I did about the first of April, cutting the hedge about three inches above the ground. The third year I trimmed twice; first, about the first of April, cutting the hedge about one foot from the ground. Second, the first of July, cutting about three feet above ground; after which, my hedge has been completely adequate to turn all my stock.

Of the hedge, the committee says: We do hereby certify that the above-named hedge has been well cultivated, that it is a good, substantial fence, and that it is worthy of a premium from our County Agricultural Society.—*Prairie Farmer*.

EXCRESCENCES ON GRAPE-VINES.—We lately visited the residence of H. N. Fryatt, Esq., of Belleville, New Jersey, for the purpose of examining a grape-vine which was supposed to be bearing fruit differing widely from the grape. We found excrescences upon the vine resembling a green fig in appearance, and of a texture on the surface not unlike that of a fig. Upon cutting them open, however, they showed indications of cells, as if nature were making efforts to produce seeds, and these arranged with great regularity and method.

We carried a branch from this vine containing two of these excrescences, to the Farmers' Club, and, although many experienced horticulturists were present, none had ever seen a similar phenomenon. The vine was well charged with grapes, and the excrescences were numerous.—*Working Farmer*.

LIMA BEANS AND BEAN POLES.—In place of the sharpening process, punching holes in the ground, inserting poles deep enough to withstand the force of summer gusts and autumn blasts; and having them rot off every year, a simple block of hard wood, four inches square and two thick,—having four one inch holes bored right through it, receives the smaller ends of four poles six feet long, which being spread apart at the bottom, form a quadruped standing like a huge spider, firmly upon the surface, and receive the vines from four hills, leading them per necessity to a union at the apex. Whenever the vines attain the summit of their support, a clip from the garden shears admonishes them to keep down, and apply their sappy vigor in perfecting a more stocky growth and uniform crop of perfected fruit, instead of exhausting their beany energy in skyward ambition.

When the crop is harvested the spider is readily lifted from its position, the dead vines stripped off, the legs closed like a surveyor's tripod, and the thing housed for service another year.—*Working Farmer*.

## OBITUARY.

DR. E. JAMES, the Botanist, attached to Long's Exploring Expedition, and the first to make us acquainted with the plants of the Rocky Mountains, died, from an accident, at his residence, in Monmouth, Illinois, on the 29th of October.

## Foreign Intelligence.

HOW TO JUDGE CELERY.—Solid, close, clean; stems not burst; size of the Close Heart is the great point, all others being equal. No outside burst or open or damaged stalks to be shown. White first, red second, any other color last. If shown for weight, they must be properly trimmed of their green leaves, and no cracked or damaged stems to be passed; and if not perfectly solid, must be rejected.—*Glenny*.

PEACH FROM A NECTARINE.—The nectarine originally was a sport found on a peach tree.—Recently, Mr. Rivers has raised a fine seedling peach from the stone of a Pitmaston Nectarine.



**GRAFTING THE PELARGONIUM.**—In the culture of the pelargonium, grafting is occasionally had recourse to, as a means of propagating kinds that are shy of culture by other means, or for the sake of increasing the extent of collections where space is limited, and for the obtaining of fine specimen plants. They are grafted by cutting off the top of the stock, and splitting the top of it into halves, and wedging the end of the graft down into the slit.

This is an operation easily performed; indeed, any one who has ever grafted an apple on a crab stock, or who has ever seen the process, may soon become an adept in grafting geraniums. The stocks should first be secured, and the best for the purpose are summer-struck cuttings, taken from old, woody, strong plants, two years old at least. Grow these stocks into strong, bushy, dwarf plants,—promoting their vigor by the means already pointed out for the



[The Graft tied up.]

culture of specimens. In the ensuing summer pot them into large pots, about a month before you intend to graft them; for to make the graft "take" there must be a brisk flow of sap in the stock. In the grafting, first cut back the stock to a place where the wood is just half ripe; it must be sound and hard, but neither green nor brown. Let the scion be in the same half-ripe state. After cutting back the stock, split it down an inch and a half; and if you can choose a part where the stock breaks into two branches, the fork will be just the place for letting in the graft. Cut the graft into a clean wedge, and insert it to fit neatly bark to bark; if this be not possible, let one side at least be united, so that when the graft "takes" the bark will close over and complete the union. Tie up moderately tight with worsted thread, and paint over with a thick coat of clay paint, to be made thus: Take some soft clay and knead it with a little water till it is of a pasty consistency, then put it into a clean vessel with a little more water, and work it about with an old brush till it is of the thickness of cream,

free from grit and semi-liquid. Paint the graft over with this, and shake over it as much dry sand as will dry it *immediately*. Then apply another coat, and another, drying each with sand as soon as applied.

To secure the graft against damp, it will be advisable to surround it with an inch of silver sand,—not only around the grafted part, but an inch above and an inch below; and the best way to do this is to make a paper funnel, similar to a grocer's sugar paper, tying the close bottom of the funnel around the stock below the graft, filling it in with dusty peat and silver sand, and then closing the top over into a barrel shape. This will be the best security against the failure of the graft. The scion will need support for a time.

Three weeks after grafting, stop the top parts of the



[Grafting Geranium.]

stock, and loosen the bandage slightly; but there must be no haste, for geranium wood does not unite very quickly. Any exhausting influences will, of course, check the union; hence it is advisable to syringe the leaves of the scion occasionally, and to keep the stock in a state of robust health. When they show that they have fairly united, and the scion begins to grow, the bandage may be removed, and a little soft moss applied in its stead, and in time this may come away altogether. When they make a fair start, grow them as directed for specimen plants, and their appearance, when blooming time comes, will be quite superb. Geraniums may be side or whip-grafted, but the wedge plan is the best, because of the soft nature of the wood we have to deal with.—*London Gardener's Weekly*.

**THE LARGEST GARDENS IN THE WORLD** are those of Versailles, in France. They comprise three thousand acres.

**PACKING FRUITS FOR LONG DISTANCES.**—I may here state, that I have found no better method in all my experience, which has extended over a period of twenty years, with all kinds of fruits, varying in distances from fifty to five hundred miles. It simply is: box, soft paper and sweet bran. A box is chosen in size according to the quantity to be sent. A layer of bran is put on the bottom; then each bunch of grapes is held by the hand over a sheet of paper; the four corners of the paper are brought up to the stalk and nicely secured; then laid on its side in the box, and so on until the first layer is finished. Then fill the whole over with bran, and give the box a gentle shake as you proceed. Begin the second layer as the first, and so on until the box is completed. Thus with neat hands, the bloom is preserved, and may be sent to any distance; but with clumsy hands, quite the contrary, and often an entire failure, as the putting in and taking out of the box are the most important points to be observed. I have invariably packed sixty or eighty bunches of grapes and fifty or sixty dozen of peaches or apricots in one box, and received letters from employers to say that they had arrived as safe as if they had been taken from the trees that morning.—*Collage Gardener*.

**LASTS OF SELECTED CHRYSANTHEMUMS.**—I have very much pleasure in forwarding your Christmas box. May it meet your every wish and expectation.

I have made some additions, so that you will please consider I have also included a New Year's gift.—*W. Holmes*, Frampton Park Nursery, Hackney.

*Twelve Late-blooming Large Varieties.*

Orion, white, yellowish base. Perfection, blush white. Chryssippe, rosy purple. Eole, rosy white. King, creamy white. L'Emir, red. Nonpareil, rosy lilac. Plutus, golden yellow. Racine, yellow, gold tipped. Cassy, orange. Madame Andre, pinky white.

*Twelve Best Varieties for Pot Specimen or for Decorative Purposes.*

Alcibiade, orange. Chevalier Dumage, yellow. Defiance, white. Vesuvius, crimson. Mount Aetna, red. Prince Albert, crimson. Plutus, yellow. Pilot, rose. Dr. McLean, rose. Vesta, white. Auguste Mie, red, tipped gold. Annie Salter, yellow.

*Twelve Best Incurved Varieties.*

Novelty, white. Beauty, blush. Cassandra, white, rosy tip. Yellow Formosum, yellow. Nonpareil, rosy lilac. Pio Nono, red, tipped gold. Plutus, yellow. Queen of England, blush. Themis,

rosy pink. Vesta, French white. Miss Kate, lilac. Dupont de l'Eure, carmine.

*Twelve Best Pompones for Specimen Plants, and for General Decorative Purposes.*

Bob, chestnut brown. Drin Drin, yellow. Andromeda, creamy white. Cedo Nulli, white. Canrobert, yellow. La Vogue, yellow and orange. Helene, purplish rose. L'Escarboucle, yellow. Sainte Thais, chestnut. Nelly, creamy white. Mrs. Dix, white, purple tip. Duruflet, rosy lilac.—*Collage Gardener*.

**TOMB OF REPTON, THE LANDSCAPE-GARDENER.**—He himself selected the small enclosure on the south side of the picturesque church of Aylsham, in Norfolk. A simple Gothic monument records his name and age, followed by some lines written by himself:

"THE TOMB OF HUMPHREY REPTON, WHO DIED MARCH 24th, 1818.

'Not like the Egyptian tyrants—consecrate,  
Unmixt with others shall my dust remain:  
But mouldering, bleuded, melting into earth,  
Mine shall give form and color to the rose;  
And while its vivid blossoms cheer mankind,  
Its perfumed odor shall ascend to heaven.'

**THE LILY OF THE VALLEY** is popular for winter forcing in some countries. Its sweet white flowers give a great charm to a winter bouquet or mantel vase.

**VARIATION IN SEEDLINGS.**—In 1688 the lady of Ribston Hall, Yorkshire, England, raised two seedlings from the old Nonpareil Apple. One tree produced large, sour Crabs,—the other the famous Ribston Pippin, the most popular apple in England.

**THE JARDIN DES PLANTES**, one of the most famous in Europe, was founded in 1635. Buffon, Cuvier, and other eminent naturalists first gave it a name and consequence.

**THE CHINESE PRIMROSE** was introduced into England from China in 1820. It was purple, as we have them now in our greenhouses. Since then, the white has been introduced, and a double white and double purple have been produced. Recently, in England, a new race of double ones has been produced, with large fringed flowers, and, we believe, of a character that will reproduce themselves from seeds.

**THE NEWTOWN PIPPIN APPLE** is so popular in England, that when the real American article is scarce, it is not unusual to find other kinds in Covent Garden colored up to imitate them.

SPRING FLOWERS BLOOMING THROUGH THE SEASON.—At Hampton Court, in England, they cut off the flower shoots of Lamiums, Alyssums, Iberis, and other spring-blooming plants, before they are quite out of bloom. They then shoot up again new flowers, and are thus made to continue a succession through the season, and make good bedding plants.

MYRTACEOUS PLANTS.—It is said by the *Revue Horticole*, that the atmosphere of Australia is filled with the odors of balsam and camphor, from the myrtaceous trees that abound there; and that fevers never exist in even the most malarious of swamps, where these plants grow.

GAZANIAS.—The *Gazania rigens* (not *ringens*) of gardens, which is, perhaps, the *G. speciosa* of books, has smoother leaves than *Gazania Pavonia*, in which they are regularly pinnatifid with elliptic lobes, and sprinkled with rigid hairs above and on the ribs beneath. The flowers of the latter are deeper colored, but not so freely produced. In *G. rigens* the leaves are either simple or furnished with three or four long narrow lobes, smooth above, but with a few distinct marginal spine-like hairs. The genus *Gorteria*, as now restricted, does not include any of these plants. —*Gardener's Chronicle*.

PRIZE FUCHSIAS AT THE LATE LONDON HORTICULTURAL SOCIETY'S SHOW.—The varieties were Senator, Prince Imperial, Prince of Orange, Flower of France, Guiding Star, and Omer Pasha. It will be seen that half of these are new varieties. A good group was also shown by Mr. Page, whose sorts were Souvenir de Chiswick, British Sailor, Venus de Medici, Pearl of England, Crinoline, and C. Hayes. We also noticed a kind with white corolla, called Princess of Prussia.

## Horticultural Societies.

### PENNSYLVANIA HORTICULTURAL SOCIETY.

The regular monthly meeting for November was held at Concert Hall.

The display of Plants and Fruits was not as large as usual, the principal interest of the evening being the annual election for officers and the discussion of the reports of the Committees.

Some very fine Chrysanthemums were shown by Mr. Robert Buist; by James Eadie, gardener to Dr. Rush; and by Adam Graham, gardener to General Patterson.

The awards of premiums were as follows:

For the best six Chrysanthemums, to Robert Buist.

For the best Large Specimen and best Dwarf Specimen, to James Eadie.

For the best Pair of Plants and best Specimen Plant, to James Eadie.

For the second best, to Adam Graham.

A special premium was given to Mr. Buist for a fine large plant of *Heterocentrum roseum*, shown for the first time in bloom.

William Joyce, gardener to M. W. Baldwin, Esq., exhibited eight fine specimens of the Queen Pine Apple, of large size, fully ripe, and of the highest flavor, which were duly appreciated by the Committee and the ladies present. To these a special premium of \$3 was awarded.

The two premiums for best six varieties of Pears, and six largest of any variety, were taken by John McLaughlin, gardener to Mr. I. B. Baxter.

Specimens of the Ontario Grape were shown, a large showy fruit, but deficient in flavor.

Mr. William Saunders presented two large dishes of the Black Lombardy and West's St. Peter's Grapes. These two varieties are generally considered synonyms, and so laid down in horticultural works generally; but the samples presented, while quite similar in size and flavor, show some difference in the form of the bunch and color of the berry, and Mr. Saunders states that the diversity in foliage and wood is still more marked. They certainly appear to be distinct varieties.

The Committee appointed at a previous meeting to obtain suitable quarters for the Library and weekly meetings of the Society, made their report, and were empowered to negotiate for a convenient room.

The following gentlemen were elected as the officers of the Society for the ensuing year:

*President*—M. W. Baldwin.

*Vice-Presidents*—James Dundas, B. A. Fahnestock, D. R. King, Caleb Cope.

*Recording Secretary*—A. W. Harrison.

*Corresponding Secretary*—W. Saunders.

*Treasurer*—Robert Buist.

*Professor of Entomology*—S. S. Rathvon.

*Professor of Botany*—Dr. W. Darlington.

*Professor of Horticultural Chemistry*—James C. Booth.

### BROOKLYN HORTICULTURAL SOCIETY.

We have received the following:

"Dear Sir:—At the regular business meeting of the Brooklyn Horticultural Society, held on Tuesday evening, November 5th, at their rooms, it was unanimously

"Resolved, That the thanks of this Society be presented to the Editor of the *Gardener's Monthly* for the very handsome manner he had published the Reports of the Exhibitions and Conversational Meetings, and that the Corresponding Secretary be directed to send a copy of the Minutes.

"Respectfully yours, &c.,

"C. B. MILLER, Cor. Secretary."

We would take the opportunity to say, that we could render good service to other Horticultural Societies were we favored with such assistance as the energetic Secretary of this Society kindly affords us.

## INDEX—VOL. III.

- A.**
- Abies microsperma*, 188  
 " *Tonga*, 188  
 " *Veitchii*, 189  
 " *Alcoquiana*, 189  
 " *Leptolepis*, 189  
 " *firma*, 214  
*Abronia umbellata*, 314  
*Acacia Drummondii*, 23  
 Acclimatizing Evergreens, 157  
 Advertisers, To, 16  
 " Special Notice to, 119  
 Advertisements, 185, 212, 243  
*Echium Melinonii*, 157  
 Aerial Roots from the Native Grape, 313  
*Agathaea cecilestifolia variegata*, 249  
 Age, 41  
 Agriculture, Gardening is not, 119  
*Ailanthus Silkworm*, The, 95, 214  
*Allen Raspberry*, The, 37, 117, 331  
*Alocasia metallica*, 25, 369  
 American Trees, New, 92  
 " *Pomological Society*, Official Report of the, 177.  
*Ammonia Artificialis*, 253  
 " and Vegetation, 272  
*Angraecum Susquepedale*, 248  
 Ants, 154  
 " about *Pæonies*, 213  
 An Old Botany and Older Botanists, 178  
 Another Chapter of Hints, 205  
*Anoctochilus inornatus*, 25, 62  
 Apple, 341  
 " *New*, 143  
 " Chenango Strawberry, 20  
 " Governor Charter's Seedling, 26  
 " Custard, 29  
 " Jackson, 53, 87  
 " Willow, 83  
 " Diseases in, 88  
 " *Reinette Dell*, 150  
 " from C. Hiller, 284  
 " Tree, Aphid on, 119  
 " *Gipson's Kentucky Seedling*, 123  
 " Orchards, 131  
 Apple Tree in America, Largest, 372  
 Apples from Georgia, 29  
 " Thirty Thousand on a Tree, 30  
 " Ben Davis and New York Pippin, 56, 85, 116, 136, 154  
 " Pruning in Northern Latitudes, 86  
 " Identical, 89  
 " for Central New York, 124  
 " The Ohio Beauty, 124  
 " Late Keeping, 155  
 " from Bucks Co., Pa., 185  
*Arborvitæ*, New Golden-striped, 26  
*Arborvitæ*, Grafting, 306  
*Argyrea argentea*, 369
- B.**
- Back Volumes, 369  
 Baked Beans, 29  
 Balcony Gardening, 204  
*Barbarossa* and Prince Albert Grapes, 19  
 Barometer, Woodruff's Patent Portable, 216  
 Baskets, Hanging, 186  
 " A Fancy, 218  
 Beans, Baked, 29  
 Beauty, Cost of, 337  
 Bedding Plants, Notes on, 76  
 " *New Variegated*, 157  
*Begonias*, New Dwarf, 248  
*Begonia incarnata*, 254  
 " 281  
*Begonia*, New, "Philadelphia," 370  
*Belle de Fontenay Raspberry*, 13  
 Belted Parks, 41  
 Ben Davis and New York Pippin Apples, 56, 85, 116, 136, 154  
 Blackberries, Propagating, 280  
 Black Currant Wine, 31, 281  
 " Cap or Double Raspberry, The, 75, 119  
 " Rust, 133  
 " Knot on the Peach, 213  
 " Apricot Stock for the Peach, 261  
 Blocking-out for Stock, Plan of, 265  
 Boilers, Greenhouse, 200, 213
- BOOKS, CATALOGUES, &c.
- January—Third Annual Report of the Board of Commissioners of the Central Park, New York, 1860; Buist's Almanac and Garden Manual, 1861; The Agricultural Press, 20  
 February—Rural Annual and Horticultural Directory; The Illustrated Self Instructor in Phrenology and Physiology; Proceedings of the Southern Vine-growers' Society at Aiken, S. C.; Nursery Catalogues; Landreth's Rural Register; Gardener's Progressive Society, Philadelphia; Hortus Lindenianus; Agricultural Press, 60  
 March—Transactions of the Massachusetts Horticultural Society for 1860; American Pomological Society, Garden Annals and Directories; Descriptive Catalogues; The Press; Hints on the Culture of Exotic Grapes; Report of the Inauguration of the Botanical Society of Canada, 90  
 April—Bright on the Grape-vine; The Principle and Practice of Land-draining; The Press; Descriptive Catalogues, 122.  
 May—The Press; Sweet Potato Culturist; Second Annual Report of the Proceedings of the Fruit-growers' Society of Eastern Pennsylvania; Annual Meeting of the Fruit-growers' Society of Western New York; Transactions of the Illinois State Horticultural Society; Catalogues; Class-Book of Botany, 150  
 August—On the Sources of the Nitrogen of Vegetation; Bright on Grape-culture; The Repository; Catalogue of the Officers and Students of the University of Michigan; Catalogues, 245  
 September—On the Sources of the Nitrogen of Vegetation, 281  
 October—On the Sources of the Nitrogen of Vegetation; Patent Office Report, 1860; Trade Lists; Descriptive Catalogues; the Horticulturist, 317  
 November—Fourth Annual Report of the Board of Commissioners of the Central Park, New York, 1861; Descriptive Catalogues, 344  
 Books, &c., 244  
 Bones, How to Dissolve, 218  
 Botanists, Sketches of Philadelphia, 3  
 Botanical Garden, St. Louis, 7  
 " Knowledge in the Nursery Business, 8  
*Bouvardia Humboldtii*, 238  
 Bouquet Flowers, White, 285  
 Brompton Stocks, Double, 281  
 Buckingham Apple, 20, 249  
 Butter Pear, Diseases of the, 266
- C.**
- Cabbage, Fertilizer for, 219  
 Cactus, A Chapter on, 363  
 California Mammoth Trees again, The, 189  
 Calla Ethiopica, How to Flower by Christmas, 159  
*Caladium Belleymei*, 61  
 " bicolor, var. *Verschafeltii*, 319  
*Caladium Belleymei*, 369  
 " *Brognartii*, 370  
*Calceolaria*, New Shrubby, 248  
*Calixene polyphillum*, 25  
*Calomyction diversifolium*, sulphureum, 157  
 Camellias, House-culture of, 116  
 " 120  
*Camellia spiralis rubra*, 284
- Campylobotrys argyrocnura*, 370  
 " *smaragdina*, 370  
*Campylobotrys regalis*, 156  
 Carnation, Grafting the, 29  
 " and Parks, 222  
 " at Christmas, 319  
 Carver Apple, 370  
*Catawba Grape*, Introduction of, 28  
 Caterpillars on Grapes, 142  
 " Trees, 337  
*Celery*—The Vegetable Question, 308  
*Celery*, A Simple Method of Growing, 356  
*Celery*, How to Judge, 373  
 Cement for Stopping the Fissures of Iron Vessels, A, 346  
*Cephalotaxus drapacea*, 189  
*Cereus Kingiana*, 248  
 " *Mac Donaldii*, 319  
 Certainly an Idiot, 157  
*Ceriathe vetorta*, 318  
*Chamærops Fortunei*, 93  
 Chenango Strawberry Apple, 20  
 Cherry, Cocklin's Favorite, 249  
 " Triumph of Cumberland, 249  
 " for Orchard-houses, The, 255  
*Cleome* and *Dandelion*, Forcing, 256  
*Chorizema*, 155  
*Chrysanthemum*, Cultivation of the, 11  
*Chrysanthemums*, Lists of Selected, 375  
 " The, 12  
 " New, 255  
*Cissus discolor*, The, 238  
*Cissus velutina*, 25, 62  
*Cistus vaginatus*, 249  
*Chysis aurea* var. *Lemminghei*, 319  
*Cineraria*, 100  
*Clarkia elegans*, Double White, 26  
 Climate and Soil of Central Minnesota, 29  
 Climatic Changes, Influence of on Fruit-culture, 180  
 Cocklin's Favorite Cherry, 243  
*Cocculus Carolinus*, 11  
 Cold Pits, 142  
 " *Vineries*, 211  
*Convolvulus*, Double, 29  
 " *oculata*, 249  
 Cooking Potatoes, All About, 143  
 Correspondents, names of, 19  
 Cotton Plant, Half-hardy, 372  
 Cracking of Grapes, 59  
 Crab Apple and Almond Dwarfs as Stocks, The, 329  
 Cranberries, 341  
 Crinum, Remarks on the Genus, 267  
 Critique on the December Number, 9  
 Crops, The Weather and the, 186  
*Cryptomeria japonica*, 255  
 Cucumbers, About, 264

# The Gardener's Monthly.

Culture of Solanum Capsicastrum, 30  
" " Trees for Shelter to Buildings, 138  
Cunningham Grape, The, 83  
Custard Apple, 29  
Cuttings, Rooting, 79  
" Fungus amongst, 174  
Cutting down old Canes in the Vinery, 15  
Cuphea Jouellensis, 155  
Cypripedium macrocarpa and Lambertiana, 31  
Cuyahoga Grape, 27  
Cyanophyllum Assamicum, 370  
Cyrantillus sanguineus, 62  
Cyclamens, 125

**D.**  
Dahlia, New, 62  
Delphinium, The, 357  
Dendrobium nobile, Notice of, 74  
Dendrobium nobile, Remarks on the Culture of, 155  
Dew, Effects of on Rot and Mildew on the Grape, 86  
" Question Again, The, 110  
Destroy Plant Lice, How to, 254  
Diseases in Apple Trees, 88  
Domestic Intelligence, 27, 93, 124, 157, 216, 284, 345, 372  
Dormant Rose-buds, Protection to, 314  
Double Flowers, Ripening Seed for, 254  
Dracut Amber Grape, 26  
Draining without an Outlet, 59  
" Tiles for Pots, 204  
Drouth, Benefits of, 144  
" on Soils, Action of, 157  
" etc., Science and Practice, 172  
Drying the Common Red Currant, Mode of, 221  
" Specimens of Plants, 183  
Du Solis Pear, 82  
Dye, A New Canadian, 218

**E.**  
Editorial, 16, 54, 81, 118, 144, 150, 298, 210, 272, 308, 338, 366  
" Compensation, 210  
" Correspondence, 276  
Effects of Dew on Producing Rot and Mildew, 43  
" " the Winter on Fruit Trees at Hudson, N. Y., 202  
Egg Plant, New White, 19  
" Plants, 154  
Emily Grape Again, The, 261  
English Black Raspberry, 134  
Entomological Essay, 5, 69, 105, 165, 197  
" Articles, 242  
Errata, 315  
Eucas, 59  
Essay, Entomological, 5, 69, 105, 165, 197  
Evergreens, Pruning, 16, 45  
Everlasting Flowers, 159  
Experimental Gardens, 28  
Experiences, My, 198, 348

**F.**  
Fairchild, An Account of, 29  
Farfugium grande, 219  
" Hardness of, 244  
Farmer and Horticulturist, The, 50  
Feather Grass, How to Raise the Seed of, 239  
Ferns, New Garden, 26  
" 29  
Fertilizers for Cabbage, 219

Figs, 312  
Flower-Garden and Pleasure-Ground, Hints for, 1, 33, 65, 97, 129, 161, 193, 225, 257, 289, 321, 333  
Flower Seeds, New and Valuable, 372  
Flowers, Influence of, 65  
" The Descriptions of, 239  
Foliaged Plants, New Ornamental, 156  
Forcing, Hints for, 65, 290  
" Fruits and Vegetables in the Open Ground, 57  
" Vegetables in the Field, 19  
" Violets, On, 255  
Foreign Intelligence, 29, 95, 124, 158, 253, 285  
" Correspondence, 125, 222  
" Vines and Fruits, Importation of, 253  
French "Leaf" Plant, A, 160  
Fruit-Growers' Society of Eastern Pennsylvania, 12  
" 52, 233  
" Forcing, A New Theory of, 10  
" Garden. Hints for, 33, 65, 130, 162, 225, 239, 290, 354  
" Packing, 44, 212  
" Culture, Influence of Climatic Changes on, 180  
" in Canada, 295  
" Hints, 394  
Fruit for Eastern New York, 365  
Fruits and Vegetables, Forcing in the Open Ground, 57  
" Receipts, 243  
" for Maine, 343  
Fuchsia, Mammoth, 91  
Fuchsias, Prize, 376  
Fungus amongst Cuttings, 174

**G.**  
Gardeners Improved, 222  
Gardens, Experimental, 28  
Garden Ferns, New, 26  
" City, The, 158  
" Decorations, 235  
Gomphia oliviformis, 319  
Gardening, Landscape, 13, 37, 78, 90, 102, 114, 141, 176, 195  
Gardening, 170  
" Observations, on Taste as applied to, 81  
" Is not Agriculture, 118  
" for the Ladies, 203  
" in England, 207  
Gas, Tar and Hot Water for Peach Trees, 117  
Gazania rigens and splendens, 30  
Gazania splendens, 187  
Gazanias, 376  
Geothermal Culture, 159  
Geranium Hendersonii nanum, 248  
Gipson's Kentucky Seedling Apple, 129  
Gladiolus, The, 299  
Glazing Greenhouses, 228  
Green Corn Vending, 221  
" Gages, To Preserve, 219  
Golden-striped Arborvitae, New, 26  
Governor Charter's Seedling Apple, 26  
Grafting, New Mode of, 83  
Grafting-Wax, 95, 346  
" the Carnation, 29  
" Arborvitae, 306  
Grapes, Shrubs and Roses, 58  
" Barbarossa and Prince Albert, 19  
" Hothouse, 30  
" Cracking of, 59  
" Native, near Boston, 93

Grapes, New and Foreign, 213  
" in the Mountains, 107  
" Sorts to Grow for a Vinery, 116  
" Caecipillars, 142  
" Notes on Some New, 169  
" Pruning Hothouse, 175  
" Indigenous, 176, 231  
" 187, 242, 327  
" Ontario and Union Village, 342, 369  
" Notes on English Sources, 264  
" in Vineries, Protecting, 314  
Grapes, Exotic out of Doors, 355  
Grapes, Barren Seedling from Foreign, 359  
Grape, The Lucy Winton, 371  
Grape, The Adirondack, 371  
Grape-vines, Excrescences on, 373  
Grape, Taylor's Bullitt, 372  
Grape, Dracut Amber, 26  
" The Oporto, 27  
" Cuyahoga, 27  
" Catawba, Introduction of, 28  
" Marion Port, 52  
" Insects, &c., 58  
" Cuttings, 59  
" Vine Leaves, Scorching, 60  
" Mildew, 60, 153  
" A New, 83  
" The Cunningham, 83  
" Cuttings, Propagating, 89  
" Treatise, 89  
" The, 115  
" Eyes, 124  
" Mildew on the, 137  
" The Schoonenunk, 147  
" Mead's Seedling, 34, 147  
" Pruning, 153  
" Trellis, 187  
" Houses, 188  
" The Emily, Again, 261  
" Crop in Central Missouri, 268  
" Growing, Failure in, 296  
" " An Essay on, 323  
" Maxatawny, 341  
" Blood's Seedling, 342  
" For Distribution, 343  
" Leaves, 343  
" Muscat Hamburg, 343  
Grape, Aerial Roots on the Scuppernon, 365  
Grape, Nativity of the Delaware, 368  
Grape-ology, A Chapter on, 270  
Graperies, Ventilation of, 342  
Grand Admirable Peach, 55  
Green Rose, The, 31, 116  
" Houses, Water in, 49  
Greenhouses and Plant Cabinets, 354  
" " Glazing, 228  
" " Hints for, 65, 162, 195, 226, 269, 290  
Greenhouse, Roses in a, 60  
" Arrangement, 87  
" Boilers, 213  
Guzmannia tricolor, 93

**H.**  
Hand-glass, New, 21  
Hanging Basket, A Fancy, 218  
Heating Economy, 77  
Hedges, Osage Orange, 124  
Hedging in Tazewell County, 373  
Helianthus, 281  
Heliotropes for Winter Bloom, 142  
Hemlock, The, 295  
Heterocentrum album, 370  
Hints—January 1; February 33; April 97; May 129; June 161; July 193; August 225; September 257; October 289; November 321; December, 353  
Hints, A Chapter of, 4, 146  
Hobb's Early Peach, 87  
Hollyhocks, Improved, 124  
Holly Tea, 169  
Horticulturalists, Suggestions for, 88  
Honey Locust, 342  
Horticulturist and Farmer, The, 50  
" The, 55  
Horticulture in France, 31  
" in Eastern New York, 111  
" Progress of in Egypt, 112  
" on the Mississippi, 141  
" in California, 241  
" Partisans in, 273  
Horticultural Progress, 261

**HORTICULTURAL SOCIETIES.**  
January—New Haven Lectures; Maury Co. (Tenn.) Society; Society at Hannibal, Mo.; Fruit-growers' Society of Eastern Pennsylvania; Pomological Convention; Meeting of the Ohio Pomological Society; Hints for Fruit-growers' Societies, 32  
February—Yale Ag. Lectures; Illinois Horticultural Society; Meramec Society; Chicago Gardeners' Society; Conn. Grape-growers' Convention, 63  
March—Fruit-growers' Society of Eastern Pennsylvania, 95  
April—do. do. 126  
May—Pennsylvania Horticultural Society; Missouri Fruit-growers' Association; American Pomological Society; St. Louis Vine and Fruit-growers' Association; Botanical Society of Canada, 160  
June—Pennsylvania Hort. Soc.; Brooklyn Hort. Soc.; Cincinnati Hort. Soc.; Philadelphia Progressive Gardeners' Society; Keokuk Horticultural Society, 190  
July—Pennsylvania Horticultural Society; Montreal; Massachusetts Horticultural Society; Susquehanna and Channing Valley Horticultural Society; Bangor (Me.) Horticultural Society, 224  
August—Pennsylvania Horticultural Society; Fruit-growers' Society of Western New York, 256  
September—Pennsylvania Horticultural Society; American Institute Farmers' Club; Cincinnati Horticultural Society, 286  
October—Pennsylvania Horticultural Society, 320  
November—Grape-growers' Convention at Lancaster, Pa.; Pennsylvania Horticultural Society; Exhibition of the Massachusetts Horticultural Society; Brooklyn Horticultural Society; Toronto Horticultural Society; Keokuk (Iowa) Horticultural Society, 346  
December—Pennsylvania Horticultural Society, 376  
Horticultural Societies, 339  
Horticultural Societies, Hints for the Improvement of, 138  
Hothouses for Grapes, 30  
Hothouses by the Aero, 31  
" etc., 244

# The Gardener's Monthly.

Hot Drains in the Open Air, 50  
" Water Propagating Tank, A Cheap, 101  
" " and Gas-Tar for Peach Trees, 117  
" " Tank, 121  
Hotbeds, Restoring Heat to, 169  
How to Dissolve Bones, 218  
Hunemannia fumarifolia, 284  
Hydrangea cyanea, 249

**I.**  
Ice-houses, 252  
" Preservation of, 268, 307  
" Theory of the Preservation of, 279  
Ice-house, A Successful, 360  
Impatiens Walkerii, 157  
Impossibility, 199  
Influence of Flowers, 68  
Indian or Chinese Azalea, The, 263, 311, 335  
Indiana Vineyards, The First, 29  
Information Given and Desired, 359  
Inga pulcherrima, 88  
Injurious Insects, 237, 265, 291, 329  
Insect and Weed Destroyer, The, 60  
Insects and Vine Mildew, 17  
" 187, 278, 314  
Introduction of the Catawba Grape, 28  
Ivy and Damp Walls, 28  
" 201

**J.**  
Jackson Apple, 53, 87  
Japan Burdock, The, 31  
" Plum, 86  
" Dwarf Fir, 292  
" Wax Tree, 235  
" Lilies, 245  
Jethro Till's System, 119  
June-berry as a Stock for Dwarfing Peas, 190  
June-berry as a Stock for the Pear, 229  
June-berry and other Stocks for the Pear, 300  
June-berry, The Dwarf, 361  
Junipers, Management of, 238

**K.**  
Kilmarnock Weeping Willow, 319  
Kitchen-garden, The, 302  
Knox Fruit Farm, Visit to the, 333

**L.**  
Lawn Mowing-machine, 281  
Lawns—their First Year's Management, 272  
Large Nursery Establishment for Sale, 243  
Landscape-gardening, 13, 33, 78, 90, 102, 114, 148, 176, 195  
Landscape-gardening, Observations on Taste as Applied to, 81  
Landscape-gardening, Lessons on, 85  
Largest Gardens in the World, 374  
Larix microsperma, 370  
Leaf Plants for a Wardian Case, 59  
Lemon Tree, 87  
Letter from California, 300  
Lessons from the Flowers, 202  
Lily of the Valley, The, 375  
Lima Beans and Bean-poles, 373  
Lime, Leaves, &c., 213  
Linnæus and Linnaea borealis, 131, 168, 200, 280

Lombardy Poplar, Introduction of the, into America, 9  
Lombardy Poplar, Introduction of, 80  
London Nurserymen, 159  
Lysimachia, 87

**M.**  
Maple, The Oregon Sycamore, 372  
Manetti Rose Stock, 332  
Manure, A Special, 28  
Manures, The Nature of, 359  
Marion Port Grape, 52  
Maxatawny Grape, The, 341  
Mead's Seedling Grape, 147  
Methonica superba, 25  
Metrosideros not Flowering, 120  
Micania speciosa, 369  
Mildew, Effects of Dew on Producing Rot and, 43  
Mildew, Grape, 60, 152  
Mildew on the Grape, 137  
Mole Traps, 369  
Mountain Ash Seed, 213  
Moore Pear, The, 27  
Mount Vernon Pear, 27  
Mowing Machines, Lawn, 281  
Mulberries, 120  
Mulching, 29  
Muscatoe Growing, 124  
Muscat Hamburg Grape, 343  
Myrtaceous Plants, 376

**N.**  
Names of Plants, 19, 59, 88, 154, 214, 280, 314, 363  
Nectarine, Peach from the, 373  
Nelumbium Intemum, or Yellow Egyptian Lotus, The, 310  
Nelumbium, History of the, near Philadelphia, 364  
New and Rare Fruits, 26, 52, 82, 117, 188, 215, 249, 284, 344, 370  
New Dress, Our, 18  
New or Rare Plants, 25, 61, 91, 188, 248, 369  
New Plants Exhibited at the Recent London Shows, 283  
New Fruit from China, A, 27  
New York Pippin and Ben Davis Apples, 56, 85, 116, 136, 154  
New Vegetable, A, 221  
Next Volume, Our, 366  
Newtown Pippin Apple, The, 375  
Noble Oak, A, 254  
Nomenclature of Fruits, 136, 187  
Nothing New under the Sun, 153  
Notes on, English Sources, Grapes, 264  
Notes, Miscellaneous, 268  
Notes on Pears and Grapes about Syracuse, N. Y., 305

Oaks, Hybridizing, 157  
Obituary, Ex-President Walker of Mass., 62; J. E. Rancel, Brooklyn, N. Y., 155; Prof. Hochstetter, Prof. J. G. C. Lehman, G. H. Von Schubert, Dr. J. F. Klotzsch, Louis De Villmorin, J. B. Payer, John I. Le Conte, 219.  
" Hun Selah Matthews, Mr. V. Hartwiss, 253  
" Dr. E. James, 373  
Ohio Vineyard, The First, 28  
" Beauty Apples, The, 124  
Oleanders, 87  
Old Canes in the Vinery, Cutting down of the, 15  
" Is it imperatively necessary to cut down, 39  
" Renewal of, 72  
Oncidium longipes, 27  
Oporto Grape, The, 27

Orange Trees, 20  
Orchards, Apple, 137  
Oregon Sycamore Maple, The, 182  
Osage Orange Hedges, 124

**P.**  
Packing Fruit, 44  
" Plants, Nurserymen's charges for, 163  
Packing Fruit for Long Distances, 375  
Paeony, The, One of the most Northern Plants, 358  
Paeonies, Ants about, 213  
Paper Plant, New, 30  
Pansies, New, 79  
Pansy, Improved, History of the, 152  
" The, 158  
Parks, Belted, 41  
Partisans in Horticulture, 273  
Pavium elatum, 214  
Pear, Mount Vernon, 27  
" The Moore, 27  
" Stocks, 28  
" Ritter, 82  
" Du Solis, 82  
" 342  
" Nouveau Poiteau, 344  
" Walker's Mount Vernon, 368  
Pear, Orange, again, 371  
Pears, Dwarf, 120,  
" 120  
" Dwarf, Swamp Muck and Saw Dust as a Mulch for, 120  
" New, of fine quality, 148  
" How the English ripen late, 217  
Peach-borer, Remedy for the, 3  
" Van Buren's Golden Dwarf, 53  
" Grand Admirable, 56  
" Hobb's Early, 87  
" Trees, Gas, Tar, and Hot Water for, 117  
" Black-knot on the, 213  
" Pullen's Seedling, 215  
" Cromwell's Seedling, 280  
" Varieties for Orchard house Culture, 285  
" Troth's Early Red, 314  
Peach Seedling, 313  
Peaches, Forcing for Profit, 89  
" for Orchard-house, 314  
Peat for Strawberries, 342  
Pelargonium, Grafting the, 374  
Pelargoniums, 127  
" Endlicherianum, 248  
Penstemon spectabilis, 318  
Phalaropsis rosea, 25  
Picea nobilis, 158  
Pine Tree Insect, 244  
" Apple Preserve 250  
Pines, Names of, 315  
Pinks and Carnations, 222  
Pinus densiflora, 214  
" parviflora, 214  
" Sinclairii, 255  
" Friesana, 256  
Pistillate Strawberries in England, 338  
Pits, Cold, 313  
" &c., 322  
Plants and Plant-houses, Hints for, 2, 35, 322  
" Names of, 19, 59, 88, 154, 280, 314, 188, 368  
" Patent Office, 213  
" Pot, Hints for, 162  
" Packing, 175  
" Drying Specimens of, 183  
" Spirals of, 255  
" Vital Forces in, 274  
" from Pike's Peak, 280  
Planting, A Successful, 267  
Plum, Richland, 59  
" Japan, 86  
" Jayer's Gage, 314  
Plums, Large, 346

Plum Stocks, Grafting Large, 369  
Pomological Society, Am. Cat. Fruits, Revision of the, 146  
" Spirit, 251  
" Pot-carrier, Sheppard's, 36  
" Vines, Profit and Durability of, 30  
Pots, Parlor, 367  
Prairie Flowers, 121  
Premiums for Gardeners, 255  
Preserving Food, Methods of, 251  
" Quinces and Pears together, 337  
Primrose, The Chinese, 375  
Prince Albert and Barbarossa Grapes, 19  
Propagating Box, The, 74, 134  
" &c., 85  
" Improvements in, 366  
Propagation, 84  
Protection of Trees, 251  
Protecting Wallflowers, 342  
Pruning Evergreens, 16, 45  
" Grapes, Bright's System of, 121  
" &c., 18  
Pteris cretica, 25  
Pyrus, New Varieties of, 157  
Public Gardens, The Patent Office, 240  
" Park in Kansas, 337

**Q.**  
Quince Stools, 120  
" Stocks, Diseases of the, 271

**R.**  
Rare Evergreens, Notes of Experience with, 220  
Raising Seed, 54  
Raspberry, Belle de Fontenay, 13  
" The Allen, 37, 117, 331  
" Black Cap or Doolittle, 75, 119  
" English Black, 134  
" Joycelan's Black Cap, 284  
Raspberries, 28  
Rathvon's (Mr.) Essay, 58, 208  
Report of the Missouri State Fruit Growers' Association, 219  
Reinette Diel Apple, 150  
Recipes for Fruits and Vegetables, 29  
Red Spider, The, 94  
Retarding Fruits, 206  
Retinospora obtusa, 214  
" pisifera, 215  
Revision of the Pomological Society's Catalogue of Fruits, 145  
Review, 164  
Rhododendrons, 239, 294, 331, 361  
Rhubarb, 73  
" New English, 95  
" Drying, 124  
Richland Plum, 59  
Road-making on Private Estates, 230  
Roofs, Cheap, 218  
Rot, Effects of Dew on Producing Mildew and, 43, 86  
Rose Pruning, 113  
" Leaves, Diseased, 211  
" Stock, Manetti, 332  
oses, Shrubs and Grapes, 58  
" in a Greenhouse, 60  
" Standard, 76  
" New, Some of the best, 91  
" The New, 99  
" A Fine Bloom of, 141  
" Standard, 167  
" Protecting in Winter, 198  
" 254  
nbus laciniatus, 120

## The Gardener's Monthly.

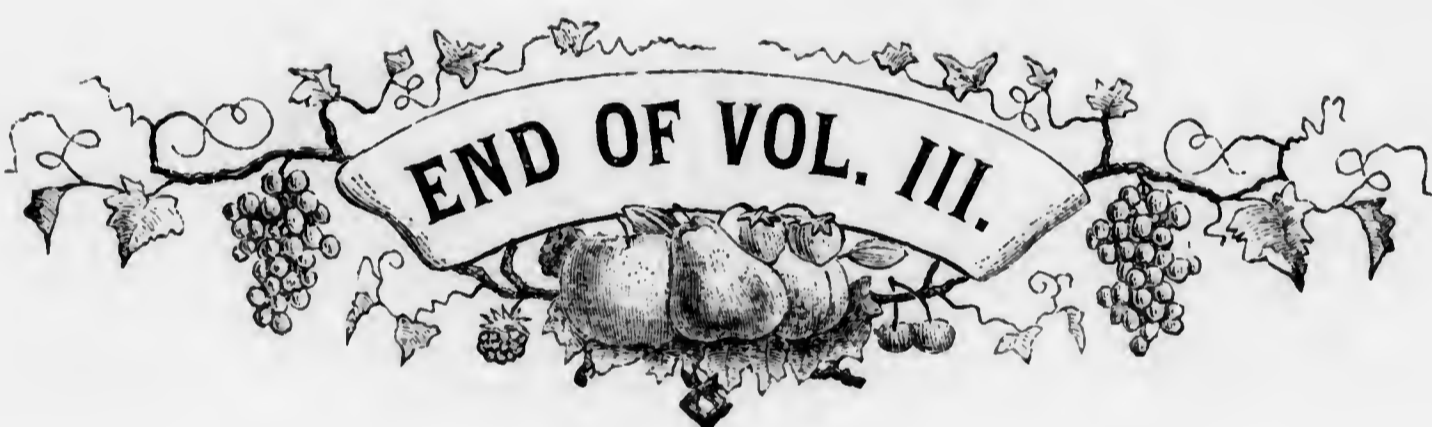
|   |   |   |   |
|---|---|---|---|
| <p>Rustic Adornments, 147<br/>" Baskets, 174<br/>Rutter Pear, 82</p> <p style="text-align: center;"><b>S.</b></p> <p>Salt for Manure, 231<br/>" Turnips, 158<br/>Salvia scabroscifolia, 25, 52<br/>Sarcanthus Parishii, 62<br/>Sawdust and Swamp Muck as a<br/>Mulch for Dwarf Pears, 120<br/>Scarlet Beans through the Win-<br/>ter for an Early Crop, To Pre-<br/>serve, 319<br/>Schoonemank Grape, The, 147<br/>Schizopitys verticillata, 188<br/>Scorching Grape-vine Leaves, 308<br/>Scotch Heath in the United<br/>States, 372<br/>Scraps and Queries, 18, 58, 85,<br/>119, 152, 183, 211, 243, 279, 312<br/>Seed of Plants, Office of the, 31<br/>Seeds, Raising, 54<br/>Seedlings, Raising, 280<br/>Seedling Nuisance, 241<br/>Sedum, Fabaria, 156<br/>Separate Offices of Tap Roots<br/>and Surface Roots, 36<br/>Severe Frosts in San Jose, 29<br/>Shade Trees in Paris, 319<br/>Shrubby and Trees, 322<br/>Shrubs and Trees of Tennessee,<br/>19<br/>Shrubs, Roses and Grapes, 58<br/>Silk-worm, The Ailanthus, 95,<br/>214<br/>Skeletonizing, &amp;c., 216, 250<br/>Soil and Climate of Central Min-<br/>nesota, 29<br/>Soap, Whale Oil, 153<br/>Snails and Slugs, 154, 159<br/>Solanum capsicastrum, Culture<br/>of, 30<br/>" runcinatus, 93<br/>" cabiliensis argenteum,<br/>157<br/>" Fendleri, 219<br/>Spawn of Fungi, The, 255<br/>Special Manure, A, 28<br/>Spergula pilifera, Notes on the<br/>Lawn Grass Substitute, 103<br/>Sphaerostemma marmorata, 370<br/>Spinach in Consomme, 29</p> | <p>Spinach, New Zealand 158<br/>Spiracas, Hybrid, 295<br/>Spring Flowers Blooming through<br/>the Season, 376<br/>Sprouting Broccoli, Lee's New<br/>White, 156<br/>Stephenson, George, as a Horti-<br/>culturist, 293<br/>St. Louis Botanical Garden, 7<br/>Stocks, Pear, 28<br/>Stop Leakage in Hot Water<br/>Pipes, To, 219<br/>Strawberry Worm, 60<br/>" New English, 20<br/>" View, 208<br/>" Feast's Fillmore, 315<br/>" The Bunce, 345<br/>Strawberries, Fertilizing, 89<br/>" All About, 236<br/>" Pistillate, 256, 362<br/>" " in Eng-<br/>land, 339<br/>" Growing, 243<br/>" " English,<br/>346<br/>" Description of the<br/>Newer, 284<br/>Strawberries, New White, 371<br/>Straw Mats, To make, 307<br/>Stuartia pentagynia, 108<br/>Subscribers, To, 16<br/>Surface Roots, Separate Offices of,<br/>36<br/>" Manuring, 86<br/>Swamp Muck and Saw Dust as<br/>a Mulch for Dwarf Pears, 120<br/>Sweet Potatoes, The Nansmond,<br/>120</p> <p style="text-align: center;"><b>T.</b></p> <p>Table Designs and Decorations,<br/>274<br/>Tap Roots, Separate Offices of, 36<br/>Tartarian Maple, The, 209<br/>Theory of the Preservation of<br/>Ice, 279<br/>Thuja Wareana or plica, 122<br/>Thujopsis dolabrata, 189<br/>Tomato, The Perfected, 89<br/>" Vilmorin's New Up-<br/>right, 89<br/>" Chowder, 221<br/>Tomatoes, Early, 90</p> | <p>Tomatoes, Baked, 221<br/>" Stewed, 221<br/>Tomb of Repton, the Landscape-<br/>gardener, 374<br/>Torreya nucifera, 189<br/>Transformations, Vegetable, 343<br/>Travelling Agent, 242<br/>Trees and Shrubs of Tennessee,<br/>19<br/>" " Propagating,<br/>230<br/>" New Japan, 188<br/>" and Shrubbery, 322<br/>Tree Seed Raising, 122<br/>" Ivy, 239<br/>Trip to Wilmington, Del., 228<br/>Tritomas, 245<br/>Triumph of Cumberland Cherry,<br/>249<br/>Turnips, Salt for, 158<br/>Turtle, An Old, 291</p> <p style="text-align: center;"><b>U.</b></p> <p>Under-draining, 144<br/>" &amp;c., Science and<br/>Practice, 172<br/>Union Village and Ontario<br/>Grapes, 369</p> <p style="text-align: center;"><b>V.</b></p> <p>Van Buren's Golden Dwarf<br/>Peach, 53<br/>Vegetable Forcing in the Field,<br/>19<br/>" Garden, Hints for, 2<br/>35, 98, 131, 163, 194,<br/>226, 355<br/>" Transformations, 297<br/>Vegetables and Fruit Forcing in<br/>the Open Ground, 57<br/>Vegetation and Ammonia, 272<br/>Veitchia Japonica, 215<br/>Verbenas, Wintering, 90<br/>" Through Winter, 187<br/>Verbena Disease, The, 133<br/>" Growing, 233<br/>Vinery, Cutting down Old Canes<br/>in the, 15<br/>" Is it Imperatively Ne-<br/>cessary to Cut down<br/>Old Canes in the, 39</p> | <p>Vinery, Renewal of Old Canes<br/>in the, 72<br/>Vineries, First Year, 369<br/>Vineries, Cold, 20<br/>Vineyard, The First Ohio, 28<br/>Vineyards, The First Indiana, 29<br/>" Wine Vaults of N.<br/>Longworth, of Cin-<br/>cinnati, O., 45<br/>Violet in the East, The, 253<br/>Vital Forces in Plants, 274</p> <p style="text-align: center;"><b>W.</b></p> <p>Wallflowers, Protecting, 342<br/>Wardian Case, Leaf Plants for,<br/>59<br/>Water in Greenhouses, 49<br/>" " and the Crops, 186<br/>Weather at New London, 134<br/>" and the Crops, 186<br/>Weed and Insect Destroyer, The,<br/>60<br/>Wellesby, the Seat of H. H.<br/>Hunnewell, 217<br/>Wellingtonia sequoia gigantea,<br/>94<br/>Whale Oil Soap, 153<br/>Willow Apple, 83<br/>Wine, Black Currant, 28, 31<br/>" From the Hammondsport,<br/>N. Y., Wine Co., 187<br/>" Vaults and Vineyards of<br/>N. Longworth, Cincin-<br/>nati, Ohio, 45<br/>" Grapes for Michigan, 244<br/>Winter-blooming Plant, A New,<br/>Plants for Win-<br/>dows, 304<br/>" at Meadville, Effects of,<br/>231<br/>" Gardens without Glass,<br/>338<br/>Work on Fruit, New English, 31<br/>Writing, Bad, 281</p> <p style="text-align: center;"><b>Z.</b></p> <p>Zinnia, The New Double-flow-<br/>ered, 25</p> |
|---|---|---|---|

## The Gardener's Monthly.

### ILLUSTRATIONS.

|   |  |
|---|--|
|   |  |
| <p style="text-align: center;"><b>Frontispieces.</b></p> <p>January ..... Insects<br/>February ..... Grand Admirable Peach<br/>March ..... Insects<br/>April ..... Insects<br/>May ..... Rustic Adornments<br/>June ..... Insects<br/>July ..... Insects<br/>August ..... Buckingham Apple<br/>September ..... Table Designs and Decorations<br/>October ..... Kilmarnock Weeping Willow<br/>November ..... Maxatawny Grape<br/>December ..... Carver Apple</p> <p style="text-align: center;"><b>A.</b></p> <p>Archway under Traffic Road for Foot-path<br/>S. E. of the Mall..... 21<br/>Ananas d' Ete ..... 148</p> <p style="text-align: center;"><b>B.</b></p> <p>Bottle-holder ..... 49</p> <p style="text-align: center;"><b>C.</b></p> <p>Caladium Belleymeii ..... 61<br/>California Mammoth Trees ..... 189, 190<br/>Celery ..... 309<br/>Cop's Heat (Van Mons Pear) ..... 148<br/>Cocklin's Favorite Cherry ..... 249</p> <p style="text-align: center;"><b>D.</b></p> <p>Delices de Jodoigne Pear ..... 148<br/>De Tongres Pear ..... 149<br/>Dibble ..... 146<br/>Doyenne de Comice Pear ..... 149<br/>Downing or Doyenne Downing Pear ..... 149<br/>Drosera rotundifolia ..... 201<br/>Du Solis Pear ..... 82<br/>Dwarf Arctic Raspberry ..... 170</p> <p style="text-align: center;"><b>E.</b></p> <p>Entrance to the St. Louis Botanic Gardens ..... 7<br/>Extemporaneous Hanging Basket ..... 205</p> <p style="text-align: center;"><b>F.</b></p> <p>Figs, Mode of Layering ..... 312<br/>Floral Decoration ..... 275, 276<br/>Frogmore Late Pine Strawberry ..... 123<br/>Fuchsia Mammoth ..... 91</p> <p style="text-align: center;"><b>G.</b></p> <p>Garden Decorations ..... 235, 36<br/>Gastrophysa—Insects ..... 237<br/>Geranium, Grafting ..... 374<br/>Gipson's Kentucky Seedling Apple ..... 123<br/>Glazing ..... 146, 147</p> | <p style="text-align: center;"><b>H.</b></p> <p>Hand-barrow ..... PAGE.<br/>Hot-water Propagating Tank ..... 101, 102<br/>Improved Pansey ..... 152<br/>Insects ..... 237, 265, 291, 329</p> <p style="text-align: center;"><b>J.</b></p> <p>Jackson Apple ..... 53</p> <p style="text-align: center;"><b>L.</b></p> <p>Larix microsperma ..... 370<br/>Lee's New White Sprouting Broccoli ..... 156<br/>Linnaea borealis ..... 133</p> <p style="text-align: center;"><b>M.</b></p> <p>Mats, Straw ..... 307</p> <p style="text-align: center;"><b>O.</b></p> <p>Oregon Sycamore Maple ..... 182</p> <p style="text-align: center;"><b>P.</b></p> <p>Park, Central, New York ..... 343<br/>Peach Tree in Pot ..... 276<br/>Pear, Mount Vernon ..... 27<br/>Pear, Nouveau Poiteau ..... 344<br/>Pear, Orange ..... 371<br/>Plan for Flower-garden ..... 34<br/>Plant Supporter ..... 206<br/>Plant Trellis ..... 205<br/>Pot Plants ..... 163<br/>Propagating Pot ..... 367<br/>Pullen's Seedling Peach ..... 215</p> <p style="text-align: center;"><b>R.</b></p> <p>Rustic Baskets ..... 174</p> <p style="text-align: center;"><b>S.</b></p> <p>Seed Drill ..... 146<br/>Shepherd's Pot-carrier ..... 36<br/>Specimen Drying Apparatus ..... 183, 185<br/>Stuartia pentagynia ..... 103</p> <p style="text-align: center;"><b>T.</b></p> <p>Tartarian Maple Leaf ..... 210<br/>Tree Protectors ..... 251, 252<br/>Triumph of Cumberland Cherry ..... 249</p> <p style="text-align: center;"><b>V.</b></p> <p>Van Buren's Golden Dwarf Peach ..... 53</p> <p style="text-align: center;"><b>W.</b></p> <p>Wellingtonia, or Sequoia argentea ..... 94<br/>Willow Apple ..... 83</p> <p style="text-align: center;"><b>Z.</b></p> <p>Zinnia, New Double ..... 25</p> |

The Gardener's Monthly.



**End of  
Volume**